# activating

# indo futurism

## APPLYING A LENS ADAPTED FROM POSTCOLONIAL FUTURISMS

PRIYA BANDODKAR

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# ABSTRACT

In this research, I envision what a speculative future for India might look like without its colonial past to activate a largely unexplored futurism discipline for India, called "Indofuturism". Serving a multifold intent, the lens of Indofuturism imagines an alternative future for India without a history of colonisation, reclaims aspects of its pre-colonial culture that were lost through colonialism, and highlights pressing social conditions and critiques prejudices prevalent within contemporary Indian communities. Considering the overlaps in postcolonial experiences of Indian people and historically colonised people worldwide, the emerging methodological lens of Indofuturism seeks insights from existing Postcolonial Futurisms. I apply Speculative Design and its subsets Critical and Dark Design as methodologies, and Thought Experiments as a method, to create five Indofuturist artefacts that illustrate this proposed vision of Indofuturism. These artefacts are built as interactive installations using virtual reality, 3D art, creative coding, physical computing, volumetric video, and dance performance with the intent of creating multiple avenues of engagement for the audience. They are narratively linked in a storyworld using a World Building framework, which leads to the tenets of Indofuturism distilled through this research and disseminated as an Indofuturist Manifesto.

# ACKNOWLEDGEMENTS

# TABLE OF CONTENTS

List of Figures and Illustrations

# FIGURES

# ILLUSTRATIONS

# CHAPTER 1: INTRODUCTION

| जहाँ डाल-डाल पर, | *Jahan Daal Daal Pe,* | On every branch of a tree, |
|---|---|---|
| सोने की चिड़ियां करती है बसेरा, | *Sone Ki Chidiya Karti Hai Basera,* | Where the golden sparrow dwells, |
| वो भारत देश है मेरा... | *Wo Bharat Des Hai Mera...* | That is my country India... |

I recall numerous occasions from my childhood when my grandmother called India *Sone Ki Chidiya,* or the "Golden Bird". She often told stories of ancient India, describing a time from history when India had no poverty, was rich in resources, and was one of the wealthiest nations in the world. At the time I found this hard to believe because of the dramatic contrast with the India I knew. I was wrong, as it happens: the history books of my elementary school told the same tales. It was indeed true that ancient India had a plethora of resources and wealth. It was, some might say, a utopia.

Born and raised in a post-colonial India, all that was left to me was a third world country with a government barely able to meet the basic needs of the populace. Culturally, I saw a vivid divide between the pre-colonial Indian generations struggling and forcefully trying to retain a glorious cultural heritage and their post-colonial offspring, by-products of the colonial education system and a new-found democracy, shunning enforcement of a culture they did not relate to. I too spent most of my youth with this incomprehensible growing dissociation towards the culture of my country.

Moving to Canada for my master's degree, I encountered the concepts of Afrofuturism and Indigenous Futurism. I found these frameworks of speculative future world design rooted in cultural histories novel and fascinating. Beyond developing an artistic and aesthetic framework for critical theory, I was amazed at how these Futurisms brought together artists, scholars, writers, technologists, and more, to form a community of futurists. This phenomenon seemed to provide a revived perspective, creating a possibility for reconciling the culture of the past in a vision of the future. I wondered if a similar idea of cultural revitalisation for India would help me develop the same kind of connectedness towards my own culture.

Similar to African and Indigenous people, Indian people have a history of colonisation, which led me to investigate the existence of a similar futurism discipline for India. I was surprised that although the idea was not completely absent, there was very little academic discourse around

"Indofuturism", as I had come to think of it. I asked myself, if there was Afrofuturism and Indigenous Futurism, then why not Indofuturism?

## ABOUT THE RESEARCH

Inspired by existing Postcolonial Futurisms (see ch. 2), this research imagines a speculative future world for India by re-envisioning its colonial past, reclaiming cultural heritages that were lost due to colonialism, and critiquing postcolonial prejudices of contemporary India, through the lens of Indofuturism. While there is little existing discourse or analysis of explicitly Indofuturist origin, this research explores and expands on what does exist, with the intention of eventually bringing Indofuturism into shared conversations of extant Postcolonial Futurism practices.

This research consists of the creation of five Indofuturist artefacts that aim to decolonise colonial artefacts, reincarnate elements of Indian culture that were lost through colonialism, and critically highlight post-colonial biases prevalent in contemporary India. These artefacts are digital and physical prototypes built using interactive digital media. They are designed to prompt speculation in the viewers about different aspects of the Indofuturist worlds, such as the people, their relationships to one another, the culture, societal influences, and technological advancements. These artefacts are linked narratively by an Indofuturist storyworld. The research concludes with a call-to-action in the form of an Indofuturist Manifesto, summarising the ethos and tenets of Indofuturism as derived from the process of this research.

This research is designed for and best comprehensible to international youth of Indian descent, that is, an audience familiar with the ancient as well as the contemporary Indian cultural and societal status quo, including those who may not have been born in India. Although the artefacts are accessible and might have meaning to any persons, people coming from a non-Indian perspective might not have the same relationships to subjects like color, gender, and colonialism.

This research primarily focuses on exploring the question "How might contemporary digital media artefacts be used to depict a vision of Indofuturism for international youth of Indian descent, situated within a lens inspired from existing Postcolonial Futurisms?". It asks, "How might Indofuturism be used to critically and artistically reincarnate Indian cultural artefacts that were lost due to colonialism?" and "How might Indofuturism be used to highlight and condemn post-colonial prejudices in the Indian community?"

As I belong to the post-colonial Indian community, I undertake this research with a disruptive anti-colonialist intent of creating an avenue for a discourse on Indofuturism in the western-dominated field of Future Studies (see ch. 2), and to consequently give the Indian community a face in the future. Using the future as a medium of revival for lost pre-colonial Indian culture, I seek to open up this space for other Indian artists and designers to delve into and hope to inspire a feeling of community in them.

The *OCAD University Academic Plan 2017-2022* prioritises decolonisation with a view to help reclaim and reflect the human spirit to foster societal growth (13 and 50). My research tackles colonisation and challenges the colonial reconstruction of cultural and societal norms in India by critically and artistically presenting them in a speculative future world. This research supports OCAD U's mandate of decolonisation as well as my own practice and the developing discussion of Indofuturism.

## SCOPE AND LIMITATIONS

This research is limited to exploring Indofuturism through the lens of cultural futurist decolonising practices of Afrofuturism and Indigenous Futurism. The artefacts are designed to conceptually and aesthetically contribute to the Indofuturist lens, as inspired by existing postcolonial futurist practices. A sociological and/or political analysis of the subjects covered by these artefacts is outside my area of expertise and beyond the scope of this paper.

The narratives in these artefacts are resonant with my experience as Indian and expressed in my capacity as an artist, designer and researcher. Other Indian artists, designers, scholars and creators might adapt these examples to express their cultural connections or different perspectives. This research is not about resolving the social conditions expressed in the narratives. This research engages critically with these subjects with the intent of inciting discussions that might pertain to the deeper systemic causes or ramifications of these social conditions.

The notion of utopia is denoted by an ideal imaginary world that is not constrained by the difficulties and challenges that we face in our everyday lives (Levitas 1). It is deemed as the purest form of a fictional world (Dunne and Raby 73), which is "unconstrained by realistic considerations of human psychology and social feasibility" (Wright 5). As Indofuturism is a reimagination of realistic considerations such as existing culture and postcolonial experiences,

I do not intend to portray a perfectly utopic Indofuture through my research or design. This research refuses to recreate the fabled "Golden Bird" era (see ch. 2), as this would be a utopic depiction of India and would not address the social situations that beset the present-day reality of India.

## ABOUT THE PROJECT

The artefacts serve as means to activate the lens of Indofuturism and this research contributes an analysis of the efficacy of Indofuturist artefacts in communicating a vision for Indofuturism, Indofuturist concepts, and Indofuturist aesthetics. As the intents of Indofuturism are manifold, some artefacts are used to depict decolonisation narratives, while some are embedded with a critical or dark narrative for a discursive intervention from the audience. The artefacts created as a part of this research are as follows:

- a virtual reality realisation of a decolonised artefact that reimagines a colonial architectural gateway as an Indian-inspired, Indian-built gateway

- a physical installation comprised of a tactile interface that mimics the design of digital augmented makeup applications, asking the user to select their preferred skin tone

- a speculative social media application from the future that lets the user assume the role of a coloniser from future India, set to colonise a space planet

- a virtual reality installation inspired by a story from India's ancient literature, where an unending saree keeps reappearing as it gets unwrapped off a woman, this artefact is a concept for a future fabric that self-replicates as it gets pulled off the wearer

- a speculative design for an archive in virtual reality created for the preservation of the ancient Indian Sanskrit language that was lost through colonialism

These standalone artefacts are thematically linked by inserting them in an Indofuture storyworld narrative. This application of World Building is influenced by the Wakanda storyworld (from the movie *Black Panther*) that has served as a notable example of mainstream Afrofuturism. The Indofuture storyworld leads into the Manifesto that enlists the ideas and findings distilled from this research as tenets of Indofuturism.

# TERMINOLOGY

## INDOFUTURISM

The term *Indofuturism* represents a possible alternative creative vision for a future of India and its diaspora if it had not been colonised. It is a speculation about a future with no history of colonisation, a future where the Indian community has thrived in its natural environment. This speculative future is also in dialogue with India's cultural history. Indofuturism is a way of imagining a future for India while re-envisioning its pre-colonial past. This creative ideation can be used to confront prevalent post-colonial prejudices or celebrate past cultural heritages that were lost through the colonial era.

## PRE-COLONIAL, COLONIAL, POST-COLONIAL

I use the terms *pre-colonial* to denote the period before colonisation of India, *colonial* to refer to the period when India was under the British colonial rule, and *post-colonial* to refer to the period after the British rule and colonialisation in India ended.

## POSTCOLONIAL

I borrow the term *postcolonial* from Bill Ashcroft et al. in *Post-Colonial Studies: The Key Concepts, Second Edition (2007),* to denote the impact of colonisation across communities worldwide that were subjected to colonial rule and the resistance that emerged in these communities due to colonial impact in the form of various academic literatures (168). I additionally use it as part of the term "Postcolonial Futurisms" (see ch. 2) that I use to describe existing futurism practices.

## ARTEFACT

The term *artefact* is adapted from Coulton et al's paper, *Design Fiction as World Building (2017)* describing a diegetic prototype that acts as an "entry point" to a Design Fiction world (166 and 168). In the context of this paper, the artefact forms or leads to the speculation of the Indofuturist world.

## INTERNATIONAL YOUTH OF INDIAN DESCENT

*International youth of Indian descent* is a term that indicates Indian descendants, who are 18 years of age or above, not necessarily born in India, but are familiar with ancient and contemporary Indian culture and India's present-day societal status quo.

## BELONGINGNESS

*Belonging* is described as a psychological experience of yearning for interpersonal connection with others that does not depend on the proximity to others. It "comes from a perception of quality, meaning and satisfaction with social connections" (Allen ch.1). I use the term *belongingness* to describe the feeling of reconnection and reconciliation of the international youth of Indian descent with one another and the Indian community.

# CHAPTER OVERVIEW

Chapter 1 provides an overview of the inception of this thesis, what this research encompasses, and the questions that drive this research. It also outlines the scope and limitations of this research.

Chapter 2 discusses India's history under colonial rule and underlines the shared postcolonial experiences of Indian people and other colonised peoples around the world. It reviews the literature and context of Postcolonial Futurisms such as Afrofuturism and Indigenous Futurism, proposes the ethos Indofuturism, and presents an analysis of what currently exists as Indofuturism.

Chapter 3 provides insights into the research methodologies, conceptual framework and methods that shape this research.

Chapter 4 is a recollection of the journey of the studio-based pursuits of this research. It includes synopses of the stages of creation of each artefact from background, concept, wireframe to its realisation through prototyping and respective takeaways. It also contains an analysis of the user testing data. It discusses the creation of an Indofuture and the Manifesto on Indofuturism.

Chapter 5 is a summary of what the research accomplishes and the highlights of user testing. It outlines the long-term vision of this research.

# CHAPTER 2: LITERATURE AND CONTEXT REVIEW

I have a striking memory of India's colonial history from my history class during school. Most of my school curriculum descended from the colonial education system left behind by the British. I have since realised that little to no effort has gone into decolonising India after its colonisation ended. I seek to elucidate aspects of India's experience of British colonialism that overlap with experiences of other colonised peoples and highlight the overarching connections in shared postcolonial experiences.

## INDIAN COLONIAL EXPERIENCE

India was under colonisation by the British Empire, or the "British Raj" (Hindi for "British rule") for almost twenty decades from the mid-1700s to mid-1900. Prior to that, around 1700, India accounted for almost a quarter of the world economy (Tharoor ch. 1). The British arrived in 1757. 200 years later India's contribution would be slashed down to just over 3 percent (ch. 1). It was plundered, and at the end, left with a precarious scaffold of extreme poverty and destroyed self-sufficiency through a systematic process of economic exploitation. This economic paralysis was largely a result of a deliberate decimation of Indian industries through biased revenue systems and policies that favoured the British. Raw materials such as cotton from India were sent to Britain to manufacture fabric, which was then exported back and sold in India. This eventually destroyed India's textile industry; in the same fashion, other industries were also destroyed (ch. 1). India was turned into a source of, and a market for, Britain's overpriced goods.

In the mid-1700s, the transportation of convicts to underpopulated colonies had become a method of dealing with overcrowded prisons in England. This policy was introduced in colonised India as well, around 1787. Indian convicts, most charged with minor crimes, like theft or debt, were sent for indentured servitude to build infrastructure in new-found British colonies. Destitute Indians joined voluntarily, or helplessly, as a result of the impoverishment they experienced under the British Raj. Millions of Indians were shipped across the globe as indentured labour as a part of the colonial venture. Subjected to long harrowing journeys, many died en route. The ones who made it lost contact with the families they left behind and eventually any hope of returning to India, owing to tweaks in the regulations of their contracts. (ch. 5)

Colonial rule in India incited the phenomenon of landlessness by introducing exploitative revenue systems (ch. 1 and 2). The policies turned land-owning farmers into loanees and indentured labourers, thereby destroying self-sufficiency (ch. 2). Many farmers were forced to migrate, and their lands were seized for the cultivation of opium (ch. 5). By the 18th century, Indian artisans, farmers and traders were stripped off their independence and were turned into tenants and dependent labourers (ch. 2).

Charles Grant, a British evangelist, published a report in 1792 which drew Britain's interest in the Indian education system. Grant said the "introduction of Western education and Christianity would transform a morally decadent society," and "produce those reciprocal feelings of regard and respect which are essential to the permanent interest of the British Empire in India". With this motive, the English language was introduced into the Indian education system. It was initially used as a tool to brainwash selected Indians to serve the colonial agenda and mediate between (in other words, manipulate) the remaining Indian populace (ch. 6). English was made the official government and court language, which further deprived non-English speaking Indians (the majority) from participating in these areas. Though this changed over the years, the essence of the colonial education system in India was never about promoting analytical or creative thinking, but to impart dependence on the English language (ch. 6).

The colonial rule to India meant an absolute exploitation of its economy, destruction of its industrial and inter-state trade, and the elimination of any Indigenous Indian government (ch. 7). A consequence of this was the deprivation of Indian people from opportunities to compete and grow amongst one another, which directly impacted the feeling of worth as a community and as an individual. Grant's report paints a clear picture of how the British considered Indian cultural values as "morally decadent" (ch. 6) and unworthy of existence. By disrupting the foundations of the ways of living and thriving that had existed in Indian communities, colonialism instigated a reboot of self-identity for Indians at many untold many levels.

The exploitation of resources during colonisation that occurred in India was not unique; it was a tried-and-tested method that was reused many times against many peoples, all over the world. Indian people, similar to other colonised people around the world, were subjected to forced displacement which permanently disrupted the demography of these lands. Severing the relationship of the colonised subjects to their land by seizing ownership or by forcibly removing them – a key tool in disempowering colonised peoples – was applied in India. Formalised education from colonisers, while framed as empowering, was fundamentally meant to create a

dependence on the colonising imperial power and alienate young people from their cultures – with the eventual goal of diminishing them. A side-effect of all this was a loss of self-identity in colonised people and their descendants.

## SHARED POSTCOLONIAL EXPERIENCES

The alteration of how colonised peoples perceived themselves led to far-reaching cultural and psychological consequences in generations descended from colonised ancestors. In *A Critique of Postcolonial Reason: Toward a History of the Vanishing Present (1999),* Gayatri Spivak describes the experience of imperialism for the colonised as "the story of a series of interruptions, a repeated tearing of time that cannot be sutured" (208). Spivak in her essay *Can the Subaltern Speak? (1988)* uses the analogy of a "subaltern", a word which describes an inferior military rank, to denote marginalised people in society, such as the people of third world countries who were colonised in times past. Spivak, herself a woman from a colonised land, expresses the difficulty she feels while positioning herself as a voice for the subalterns (287), and implying postcolonial studies is a field dominated by western people where her voice may go unheard.

A profound linguistic alienation has been commonly observed in communities whose pre-colonial cultural conventions (such as language) were forcibly replaced during the colonial project. In *The Empire Writes Back: Theory and practice in post-colonial literatures (2007)*, Ashcroft et al present examples of postcolonial theorists like Indian writer Raja Rao and Nigerian writer Chinua Achebe who, although were not subjected to geographical displacement, had to struggle to adapt the English language in order to overcome its inadequacy in supporting or representing their environments and contexts (10 and 38). "Such alienation is shared by those whose possession of English is indisputably 'native' (in the sense of being possessed from birth) yet who begin to feel alienated within its practice once its vocabulary, categories, and codes are felt to be inadequate or inappropriate to describe the fauna, the physical and geographical conditions, or the cultural practices they have developed in a new land" (Ashcroft, et al 10). This linguistic alienation is a synecdoche of a person's disconnect from a pre-colonial culture forcibly replaced through colonialism.

While the specific postcolonial experiences differ, there is a clear overlap of consequences in terms of postcolonial identity and cultural alienation in those that have suffered colonisation. It follows, then, that there may be an overlap in the ways that have emerged in these communities to decolonise and heal.

# POSTCOLONIAL FUTURISMS

Futurism practices sprung up in response to colonial aftermaths faced by various communities worldwide that were historically colonised, ill-treated, and even dehumanised in social conditions. These practices have helped empower their diasporas to respond to colonialism, deal with its continuing impacts in post-colonial times, and by placing them in the centre of the future, reorient their post-apocalyptic present. For the purpose of this paper, I use the term "Postcolonial Futurisms" as a catch-all to refer to existing futurism practices that emerged specifically in response to colonialism, such as Afrofuturism and Indigenous Futurisms. It is not my intention to consider these practices as a singular concept, but instead to suggest that since there are overlaps in colonial and postcolonial experiences, there may be insights to be gleaned from how these futurisms tackle this trauma, which can be adapted by other communities that have had a history of colonisation.

## AFROFUTURISM

Afrofuturism helps realise a new present and possible future for the African diaspora and has raised awareness of African community and culture all over the world – however, the tradition of Afrofuturism puts African-American experiences front and centre. More disciplines, such as Africanfuturism (discussed later in this section) are emerging with a focus on the experiences of Indigenous people from the African continent and their descendants.

Afrofuturist Ingrid LaFleur in her 2011 talk for TEDx defined Afrofuturism as a way of imagining possible futures through a Black cultural lens (00:01:13-00:01:20). LaFleur sees Afrofuturism "as a way to encourage experimentation, reimagine identities, and activate liberation," (00:01:20-00:01:27). She goes on to note that "the fact that Afrofuturism embraces the unknown, encourages the creation of futures without boundaries and recognises the power to manifest that which is imagined, I believe…this is essential in altering the here-and-now thus providing direction into a brighter future" (00:11:34-00:11:55).

The term "Afrofuturism" was coined by Mark Dery in 1994 in *Black to the Future,* an essay comprised of a series of interviews with African American science fiction writers, where he defined it as "speculative fiction that treats African-American themes and addresses African-American concerns… signification that appropriates images of technology and a prosthetically enhanced future" (180). Although Dery was the first to employ the term, the notion of Afrofuturism can be traced as far back as the 1950s. Sun Ra and George Clinton, whose work

"came to the forefront" in the 1950s and 1970s respectively, continue to be referenced as inspiration by many of today's Afrofuturists for their contribution that laid the groundwork for Afrofuturism (Womack 57).

Ytasha Womack in the book *Afrofuturism: The World of Black Sci-Fi and Fantasy Culture (2013)* uses LaFleur's thoughts as a starting point and further pulls together the voices of Afrofuturists across disciplines like literature, visual arts, music and movies to define Afrofuturism (9). Womack underlines how early Afrofuturists tackled the trauma of African slave trade through their works. African slaves were legally encoded as "not full humans" and deemed as being only three-fifth humans in the first version of the US constitution (30). Afrofuturism theorists recognised this framework of "dehumanisation" in the quest of power that seeded early African colonisation (31) and started using alien abduction as a metaphor for depicting the transatlantic slave trade in their writings (32).

Kodwo Eshun, one of the early Afrofuturists, asserted this analogy in his 2003 article *Further Considerations of Afrofuturism*: "Afrofuturism stages a series of enigmatic returns to the constitutive trauma of slavery in the light of science fiction" (299). In this article, Eshun asks readers to imagine a team of African archaeologists who have arrived from the future. Using a fictional future that positions African people as key initiators and creators of modernity, Eshun adjusts the "temporal logics" that were otherwise used to condemn Black people (297) and reconstructs the role of African diaspora in the present by altering perceptions of the future. Eshun urges contemporary African artists to draw cues from the "dual nature" of the "critical and utopian" vision to create work that reframes futurism to forecast and reorient African dystopia (293).

Moving to contemporary digital media work, Kenyan film director, Wanuri Kahiu's internationally recognised *Pumzi (2009)* is a striking representation of Afrofuturism in a short film. *Pumzi* not only "denounces the presumed foreignness of science fiction in Africa" (Durkin, 231), but also paints a picture of a decolonised future with non-white people. The film uses a science fiction framework showing Africans in a dystopian future fighting for survival after water wars (Seibel). The concluding shot gives an optimistic audio-visual glimpse of growing trees and approaching thunderstorm, which connects back to Eshun's "critical and utopian" vision of Afrofuturism.

As the specific colonial experiences of people from the African continent differ from the experiences of the African-American people, a new discipline, Africanfuturism, which is related to but distinct from Afrofuturism, has emerged. While Afrofuturism is concerned with the experience of African-American people, Africanfuturism is concerned with situating its work in the diaspora of the African continent. The term has been coined by Nnedi Okorafor, a Nigerian-American author of African-based science fiction, who describes Africanfuturism to be "similar to 'Afrofuturism' in the way that blacks on the continent and in the Black Diaspora are all connected by blood, spirit, history and future. The difference is that Africanfuturism is specifically and more directly rooted in African culture, history, mythology and point-of-view as it then branches into the Black Diaspora, and it does not privilege or center the West" (Okorafor).

These futurisms are more than flavours of speculative science fiction. They have emerged as useful tools and catalysts for African and African-descended communities to engage with the trauma of colonisation, by envisioning a future that repositions these people as empowered agents instead of subjects.

## INDIGENOUS FUTURISMS

Indigenous Futurisms include a range of futurism practices that imagine speculative futures for different Indigenous Peoples all over the world by applying their respective Indigenous cultural lenses. It puts forward "a vision of the world" (Fricke 109) that is entwined with Indigenous values and cultures. Similar to Afrofuturism, Indigenous Futurism offers a space for people of Indigenous origin to respond to the trauma that has haunted various Indigenous communities across the globe over centuries in the form of lasting impacts of colonialism, destruction of biodiversity on Indigenous lands, horrors of racism, assimilation and genocide (108 and 110).

The term "Indigenous Futurism" was explored by Indigenous scholar Grace L. Dillon in her academic text *Walking the Clouds: An Anthology of Indigenous Science Fiction (2012)*, an anthology of science fiction works by global Indigenous writers. Dillon states that her book "…weds sf [sic] theory and Native intellectualism, Indigenous scientific literacy, and western techno-cultural science, scientific possibilities enmeshed with Skin thinking" (2). *Walking the Clouds* weaves Indigenous traditions into scientific discourses enabling them stretch boundlessly and "reenlist the science of indigeneity in a discourse that invites discerning readers to realize that Indigenous science is not just complementary to a perceived western

enlightenment but is indeed integral to a refined twenty-first century sensibility" (3). It helps establish how science fiction is not alien, but integral to Indigenous perspectives.

The ingenuity of Indigenous Futurism does not restrict itself to the future but can also be employed to visualise an alternate present. "Indigenous Futurisms offer a place away from colonialism, or sometimes a place in which colonialism never occurred" (Fricke 110). It may suggest an alternate perception of time to the one we conventionally use (116): one of the intriguing features of the Indigenous lens is the way it perceives time. Suzanne Newman Fricke quotes Adrienne Keene, Professor of American and Ethnic Studies at Brown University: Indigenous Futurism "reflects all space timelines and sees how they are all connected" (118). Excerpts in Dillion's anthology are testimony to the unique approaches Indigenous writers brings to science fiction, for example the Native Slipstream: a form of speculative fiction assimilating ideas of time travel, alternate realities, multiverses and alternate histories (Dillon 3).

Indigenous Futurism is expanding beyond traditional media. Indigenous artists are engaging in contemporary digital media technologies for their practice. Skawennati is an Indigenous artist from the Kahnawà:ke Mohawk Territory, and a part of the Institute for Indigenous Futurisms, who uses new a media creation technique called "machinima", or the use of a digital gaming tool, to create films. She uses this technique to address a range of difficult topics on Indigenous history and depicts them as machinima stories or episodes. Her storytelling positions Indigenous views in a way that inspires change. Her machinima *She Falls for Ages (2017)* draws from Haudenosaunee storytelling and intertwines it with science fiction. It connects the deep past and the far future (Skawennati). Apart from bringing Indigenous perspective to new technologies, Skawennati's practice of adapting culture and history into science fiction contributes to the continuity and evolution of Indigenous cultures.

Indigenous Futurism has helped raise awareness of the forward-thinking nature and scientific thought processes that have been intrinsic to Indigenous cultures for centuries. Works by Indigenous artists connecting pasts to the future through the medium of science fiction have helped reorient the perspectives of Indigenous youths towards their culture.

# PROPOSING INDOFUTURISM

## INSPIRATIONS FROM POSTCOLONIAL FUTURISMS

Considering the overlap of postcolonial experiences between Indian diaspora and the diasporas worldwide that were historically colonised, the ethos of Postcolonial Futurisms, that emerged in these communities to address postcolonial issues, can be adapted to develop the vision for Indofuturism.

Just as one of the intents of Afrofuturism is to present a vision of African people in the centre of a future to help reimagine social conditions of African people in the present within its community and worldwide, Indofuturism has the potential to extend a similar intent for India. An example of this aesthetic of Afrofuturism is seen in the Marvel movie *Black Panther (2018)*. Although a commercial venture, the outreach and interest generated by the movie in global audiences about African lifestyle and culture suggests that it is worthy of analysis outside of its mainstream appeal. *Black Panther* is an "empowering depiction of Black characters" (Becker 2) as it communicates a decolonised picture of Black people thriving and living fully with honour and dignity. The fictional Afrofuturist utopia in *Black Panther,* Wakanda, emblematises a thriving African nation: a merging point of technological and societal advancement with cultural values, and a subversion of race and gender norms and assumptions (Shillingford, Aisha et al). I envision Indofuturism as seeking inspiration from this decolonisation approach, especially from the use of Wakanda, as a medium to communicate empowerment and to reimagine the evolution of India in its natural environment towards a thriving Indofuture.

I propose Indofuturism also draw upon works of Indigenous Futurists, such as Skawennati, that embed cultural references within the narratives and thereby contribute a refreshed perspective of the culture and aid its adaptation into the modern world. This approach might be useful in addressing the issue of alienation of the contemporary Indian community, especially the youth, towards their pre-colonial culture.

## UNIQUE CHARACTERISTICS OF INDOFUTURISM

Considering the fact that India has already lived a fabled utopia prior to its colonisation, or the "Golden Bird" era, it would be rather convenient to reproduce this era (with a futuristic flavour) and present it as the Indofuture. However, this approach would fail to address any of the social challenges that haunt contemporary Indian communities. The present-day situation necessitates

the inclusion of an approach, unique to Indofuturism, that critically highlights social predicaments that are toxic for these communities.

The disadvantage in calling direct attention to these social issues is that it might incite rejection instead of acceptance, due to the levels of sensitivity people might associate with them. Marina Gorbis in her article, *The Future as a Way of Life (2016)*, states "the future is often a safe place," where people can imagine new possibilities through the medium of the fictional world (Gorbis). This idea also seems to be employed in an initiative started by a community of cultural strategists called Wakanda Dream Lab. This initiative called, *Black Freedom Beyond Borders: Re-imagining Gender in Wakanda* uses the fictional world of Wakanda as a medium to seek response to questions on safety, wellbeing of Black and Indigenous women, trans people and gender non-conforming people (Shillingford et al.).

I propose Indofuturism to utilise this unique and vital quality of safe space within the medium of "future" to critically situate difficult social issues that have been infesting the contemporary Indian community. These can be pressing issues that may not necessarily be directly rooted in colonialism but might have surfaced or intensified during post-colonial times.

A distinct characteristic of Indofuturism that distinguishes it from other Postcolonial Futurisms is that it hails a diaspora, which in spite of its regional cultural flavours, shares a relatively uniform cultural experience. Indofuturism speaks to this connected culture and creates room for a majority of the people in the community to partake.

## WHAT CURRENTLY EXISTS AS INDOFUTURISM

There has been very little academic discourse around alternative futurism for India. Ryan D'Souza, in his article *Imagining a desi future (2019)*, touched upon this idea when he called it "Desi-futurism". The article proposes that similar to Afrofuturism using a black cultural lens, Desi-futurism applies a "desi" lens to understand futuristic artefacts belonging to the India and its diaspora (D'Souza 47). The desi lens is used as a method to interpret past, present and future artefacts of India, and propose a critical perspective in the current whitewashed imaginations of the future (48). D'Souza's proposition of adapting from Afrofuturism aligns to the intent of my research. However, the term "desi" which is derived from the Sanskrit word deśa (meaning country) is loosely referred to the people and culture belonging to the Indian subcontinent and its diaspora (Merriam-Webster). Due to the ambiguity of this term from colloquial usage, and lack of global familiarity, I will not use the author's term "desi" to articulate India's cultural lens

or alternative futurism and will continue to use the term Indofuturism for my research. Without disregarding D'Souza's premise of using the lens to interpret futuristic Indian artefacts, the intent of my research is to dive deeper in this area and propose a vision of Indofuturism that might lead to reviving of lost connections with India's pre-colonial culture and reorienting of toxic present-day biases in the Indian community.

Examples of relevant contemporary Indian cultural reclamation exist. *Sanjay's Super Team (2015)* is a Pixar short film created by Sanjay Patel, an American illustrator and animator with Indian roots. In this film, a young Indian boy daydreams Hindu Gods as superheroes (Pixar Animation Studios). Although not explicitly situated in a Futurism genre, *Sanjay's Super Team* is an example of reimagining cultural beliefs in a modern world context. What is also fascinating to me about this short film is Patel's use of color skin in the character illustrations which brings it closer to reality as opposed to whitewashed portrayal of Indian people in some other comics. Critiquing colorism and obsession with fair skin color within the Indian community that emerged during colonialism is a part of my research, and Patel's artwork is inspirational in this respect.

Kapil Sheshsayee is an Indian classical, art rock, R&B "Desi-futurist" musician from Glasgow, Scotland. Sheshsayee's concept album "A Sacred Bore" depicts and critiques oppression from the caste system in India (Seshasayee) that intensified during colonisation and continues to haunt its diaspora. The manifestation of Seshasayee's musical vision overlaps the ethos of my research.

While tentative steps toward a vision of Indofuturism have been taken, the examples I have discovered are largely concerned with visual and artistic style. This research intends to formalise and expand the scope beyond, and into a methodological lens to stand alongside other Postcolonial Futurisms.

## SIGNIFICANCE IN FUTURE STUDIES

The field of future studies has been dominated by western patriarchal thinking to the extent that it has led to the marginalisation of non-Western ideas and cultures from the future (Sardar 179). Beyond developing an artistic aesthetic and framework for critical theory, the Afrofuturist viewpoint contributed to world knowledge by voicing perspectives of a group that was often deleted from the discourse (Womack 191). I propose the lens of Indofuturism with a similar

intent of giving Indian people a space in the future by creating an opportunity for Indofuturist discourse in future studies.

I apply Gorbis' thought from *The Future as a Way of Life*: of the future "maybe [being] the only safe place for highly charged discussions…where people can glean a bit from each other's thinking, unpack each other's assumptions, and start to build shared understanding" to provide a safe room for discussion for difficult topics that haunts the contemporary Indian diaspora. By using the future as a medium for critically situating these subjects, I create this space for reflection, discussion and understanding. Through these discussions, I hope to inspire a feeling of belongingness in the people, especially youth of Indian descent.

With the intent of bringing Indofuturism into shared conversations with Postcolonial Futurisms through its similarities and distinctions, I propose the lens of Indofuturism might be used to imagine an alternative future for India without its colonial past, reclaim aspects of its pre-colonial culture that were lost through colonialism, and critique social prejudices prevalent in contemporary India communities that might have emerged during colonisation or surfaced during post-colonial times.

# CHAPTER 3: RESEARCH METHODOLOGIES, CONCEPTUAL FRAMEWORK AND METHODS

Though Indofuturism involves imagining alternative, fictional future artefacts and storyworlds, it is not a complete fiction. The fictional concepts that form the inspiration of Indofuturism are based upon India's postcolonial experiences and are rooted in its cultural histories and might include critical narratives for the audience to speculate and interpret. This necessitates the application of methodologies that allow this kind of discursive intervention. Since the project utilises my skills as a multidisciplinary artist and designer, the methodologies and methods compliment a process of construction of ideas using different media.

## RESEARCH METHODOLOGIES

### SPECULATIVE DESIGN

I have been an artist by instinct and designer by practice, and until recently, I perceived these disciplines as disparate approaches that serve distinct purposes. I believed design implied unravelling a problem and finding solutions, and art suggested expression of an artist's imagination. It was disappointing to not have exposure to a practice where these co-exist that could benefit from both. I discovered an opportunity when I got acquainted with the idea of Speculative Design in Anthony Dunne and Fiona Raby's book *Speculative Everything: Design, Fiction, and Social Dreaming (2014)*: an approach to design that taps into imagination. Dunne and Raby describe it as a form of design that "thrives on imagination and aims to open up new perspectives on what are sometimes called *wicked problems*, to create spaces for discussion and debate about alternative ways of being, and to inspire and encourage people's imaginations to flow freely" (2).

Dunne and Raby have contributed to making Speculative Design vivid and visible; however, it has existed in different formats prior to their discussion and has been referenced by creators in their own ways. Alex McDowell, while underlining similarities between storyworlds and approaches in future studies in the article *What in the World? Storyworlds, Science Fiction, and Futures Studies (2015)*, categorises storyworld futures emerging from "Cautionary tales", "Thought experiments", "Literalized metaphors" and "Explorations of new science and technology", which largely overlap with ways of thinking contained in Speculative Design.

Dunne and Raby state that "Speculative Design "can act as a catalyst for collectively redefining our relationship to reality" (2). I employ this approach to speculate what an alternative future for India might look like if it was not colonised, depict a vision of Indofuturism through artefacts that critique prejudices in the contemporary Indian community and reimagine valuable cultural aspects that disappeared over colonialism, and lead the audience to rethink these realities.

Since this form of design is characterised by imagination and "speculating how things could be" (2), the inspiration can be sought from areas beyond conventional ones such films, literature, science, art etc., embracing unconventional crafting techniques like fictional worlds, cautionary tales, what-if scenarios, thought experiments, and so on (3). I apply this approach to retrieve inspiration from India's cultural history, mythological tales, and the aftermath of colonialism in contemporary India, in a way that resonates with my experience as an Indian. The concepts envisioned through this process are realised as interactive prototypes. Since the intent of this research is to inspire other Indian artists, designers and technologists, this approach does not just fit the purpose of envisioning an alternative future, but also becomes a transferrable framework that other creators might work with.

Speculative Design as a methodology compliments the interdisciplinary nature of this research. Its versatile scaffold can be used to generate outcomes using multiple disciplines and mediums to generate a greater efficacy. Aspects of Speculative Design that are relevant to my research are Critical Design and Dark Design.

## CRITICAL DESIGN

Dunne and Raby describe critical designs as "testimonials to what could be...that highlight weaknesses within existing normality." It is not just critical thought, but a manifestation of critical thought through materiality. The application of Critical Design is described in three levels, the first two being mainly challenging assumptions of technological inventions and consumer products. The one I pursue through my research, however, is the third level that critiques social situations and ideologies with the intent of creating a space for discussion. (35)

My research employs Critical Design to critique biases and prejudices on colorism and gender norms prevalent in post-colonial Indian community. Through interactive prototypes, I intend to spark a critical engagement in the form of a conversation between the audience and these subjects.

## DARK DESIGN

Dark Design is a subset of Critical Design that uses dark themes embedded in a design to engage with the complexities of human thinking (38) in a meaningful, compelling way. It portrays a seemingly negative idea to draw attention to a discomforting "scary" possibility and serves as a cautionary tale (38). The key differentiation of Dark Design from Critical Design is the use of satire to create unsettling emotions that might prompt a change in perception. Dark Design must be approached with a light touch of satire to make it appealing to the imagination of the audience. Making it too ironic or obvious may reduce its effectiveness (39).

# CONCEPTUAL FRAMEWORK

## WORLD BUILDING

It could be argued that Indian communities have a long history of understanding ideas through the medium of storyworlds. World Building has been at the core of Indian literature for centuries, considering that the *Rāmāyaṇa* and *Mahābhārata* are ancient Sanskrit scriptures situated within storyworlds.

In the article *What in the World? Storyworlds, Science Fiction, and Futures Studies (2015)*, Alex McDowell underlines the correlation between development of storyworlds and alternative futurisms. He describes how World Building techniques can be adapted into future methodologies to gain deeper insights future studies (30).

This research uses World Building as a conceptual framework and as a method (see 'Methods' section of this chapter) to narratively tie together the Indofuturist artefacts into a storyworld. Using World Building, these artefacts are embedded coherently in a timeline of an alternative possible future that might have emerged if India was not colonised. In *What in the World? Storyworlds, Science Fiction, and Futures Studies,* McDowell discusses sense-making as a way in which people derive meaning from their experiences and the world around them (27). Storyworld narratives aid sense-making by providing context to information for effective and meaningful comprehension (27 and 28). Use of World Building in my research does not only lend a narrative for one possible Indofuture, but also helps the audience in sense-making, as emphasised by McDowell.

Illustration 1 is an early Thought Experiment (see Methods) visualising the synergy between Speculative Design and World Building to imagine different facets of the Indofuturist world.
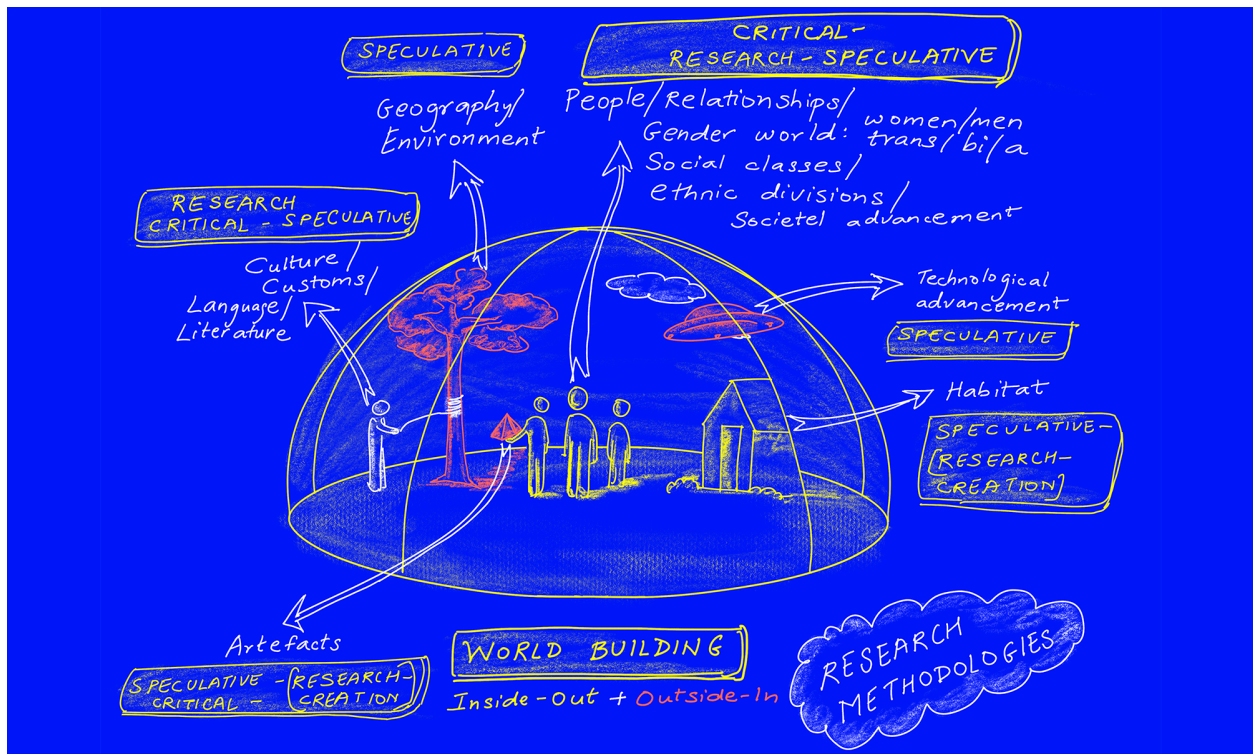


Illustration 1: An early sketch created for visualising research methodologies.

# METHODS

## THOUGHT EXPERIMENTS

Neil Salkind in *Encyclopedia of Research Design (2010)* defines a Thought Experiment as "an experiment that aims to persuade by reflection on its design rather than by its execution" (30). Since the focus of creation of Indofuturist artefacts is primarily around conveying conceptual ideas through the design of the prototypes and interactions embedded in them, I use Thought Experiments as a method to visualise them. Concept art, 2D and 3D illustrations, and prototypes to support probes in the research take the form of Thought Experiments or "constructions crafted from ideas and expressed through design" (Dunne and Raby, 80). Sketching in order to explore Thought Experiments and to visualise research is inspired by Sanjay Patel's process in *Ramayana: Divine Loophole (2010)*, an illustrated rendition of the ancient Indian text, *Rāmāyaṇa*.

# WORLD BUILDING

## DESIGN FICTION

Although the significance of World Building in envisioning alternative futurism is being recognised, I found very limited resources on the methods of World Building in design. Coulton et al. in their paper *Design Fiction as World Building (2017),* outline a method inspired by Charles and Ray Eames' *Power of 10 (1977),* a film about relative size of things in the universe unravelled by magnifying an outdoor scene in powers of 10. The film demonstrates how changing scale acts as a prompt for viewers to reengage with and reconsider the scene in view. Coulton et al.  propose to apply this concept to Design Fiction for World Building. Each artefact in the Design Fiction is created to represent a world at a different scale. The artefacts act as metaphorical "entry points" to this fictional world (Fig. 1), and together form a series of entry points at different scales to depict the world (Coulton et al. 168).
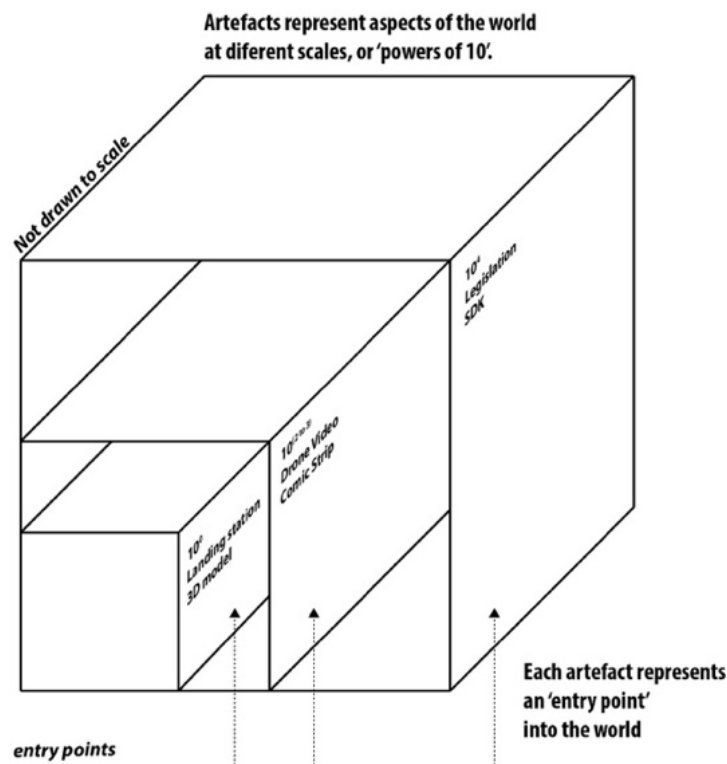


Figure 1: Coulton, P., et al. "The artefacts that build design fiction worlds represent views of those worlds from a range of scales while also acting as 'entry points' to the world". *Design Fiction as World Building. 2017. In: Proceedings of the 3rd Biennial Research Through Design Conference, 22-24 March 2017,* Edinburgh, UK, Article 11, p. 167 (licenced under CC).

The artefacts represent distinct views of the fictional world from different perspectives, that are mutually consistent and congruent with one another. This method envisions a fictional storyworld at one point in time, however, it is not effective in depicting what I am trying to pursue: artefacts spread across different points on a fictional timeline.

## INSIDE-OUT AND OUTSIDE-IN

In the article, *An Introduction to World-Building (2015),* Kristen Kieffer talks about two complimentary ways of World Building frequently used by writers of fictional worlds called Inside-out and Outside-in (Illustration 2). Inside-out involves first crafting the most essential part of the world, that is, the artefact, and then envisioning other facets of the world that emerge from its influence. Outside-in implies first developing a general understanding of the world and narrowing down towards increasingly specific details of its elements (Kieffer). As the artefacts created in this research are integral to the Indofuturist world, the Inside-out approach described by Kieffer is adapted to tease out aspects of the world that surrounds these artefacts.



Illustration 2: A mind map illustrated to summarise my initial understanding of the Inside-out and Outside-in World Building approaches.

## MICROSCOPE (ROLE-PLAYING GAME)

Although the Inside-out approach helps describe the micro view of each artefact, it wasn't useful in visualising the overview of the fictional timeline that contains them all. In order to effectively develop a macro view of the Indofuture, I engaged in the multi-player role-playing game

*Microscope (2011)* by Ben Robbins, that involves creating a fictional universe by mocking up a chronology of its evolution using broad segments of eras, that can be narrowed down to events and scenes using index cards. I use this game to explore an overarching timeline that might lead to narrative of the Indofuture storyworld (see ch. 4).

This research project uses Speculative Design and its subsets Critical and Dark Design as methodologies to conceptualise, design and create Indofuturist artefacts that portray aspects of Indian culture and postcolonial experiences. It employs Thought Experiments as a method for quick construction of ideas as designs. It uses World Building as a conceptual framework and method to facilitate sense-making of these otherwise standalone artefacts and unites them in an Indofuture storyworld.

# CHAPTER 4: INDOFUTURIST ARTEFACTS AND MANIFESTO

This chapter details the creation of a series of five interactive prototypes, or Indofuturist artefacts, built using contemporary digital media technology. They are created for various mediums; one interaction is embedded in a tactile touch interface, one in a digital interface and a few others in virtual reality. The subjects addressed through the artefacts are distinct but are all rooted in Indian culture and postcolonial experience of its people. The underlying concepts are visualised and designed as Thought Experiments applying Speculative Design and its subsets, Critical and Dark Design. Critical and Dark Design are applied, with intentionality, to explore the tension of asking a participant to reproduce toxic ways of thinking while critiquing these notions.

Each artefact in the series illustrates a different intent of the Indofuturist lens that emerged through this research and can be viewed as standalone piece. The embedding of interactions has been done with the intent of inviting active engagement from the audience. The technologies have been chosen because they best allowed me to create avenues for the audience to effectively engage with, and their accessibility to me during the pandemic lockdown.

## GATEWAY TO THE WORLD

### BACKGROUND

Growing up in Mumbai a lot of my outdoor trips involved going to the southern waterfront of Mumbai, and often visiting the historic arch monument "Gateway of India" (Fig. 2).



Figure 2: The Gateway of India (Shutterstock)

The style seemed peculiar to me because it was unlike other Indian architecture. I learned it was a British-built structure that borrowed Indian architectural elements and combined them with British-favoured architectural styles: this Indian monument was a British person's interpretation of Indian architecture, for British eyes. It was built to commemorate the visit of King George V and Queen Mary to India in 1911 and became emblematic as a doorway to India. The Gateway of India is a coloniser's vision for the entry point to the "othered" India.

## CONCEPT

*Gateway to the World* is a reimagination of the Gateway of India using Speculative Design to envision an Indian-inspired, Indian-built portal belonging to a speculative future in which India has thrived and was never colonised. By imagining this world without a history of colonisation, the artefact repositions colonised people from being subjects to becoming people with agency. As the viewer passes through the Gateway of India and reaches the other side, they see it replaced by the *Gateway to the World* (Illustration 3). The concept is visualised as an interactive experience in virtual reality. The medium of virtual reality helps situate the user's body in a transitional space from the real world to the decolonised Indofuture world.
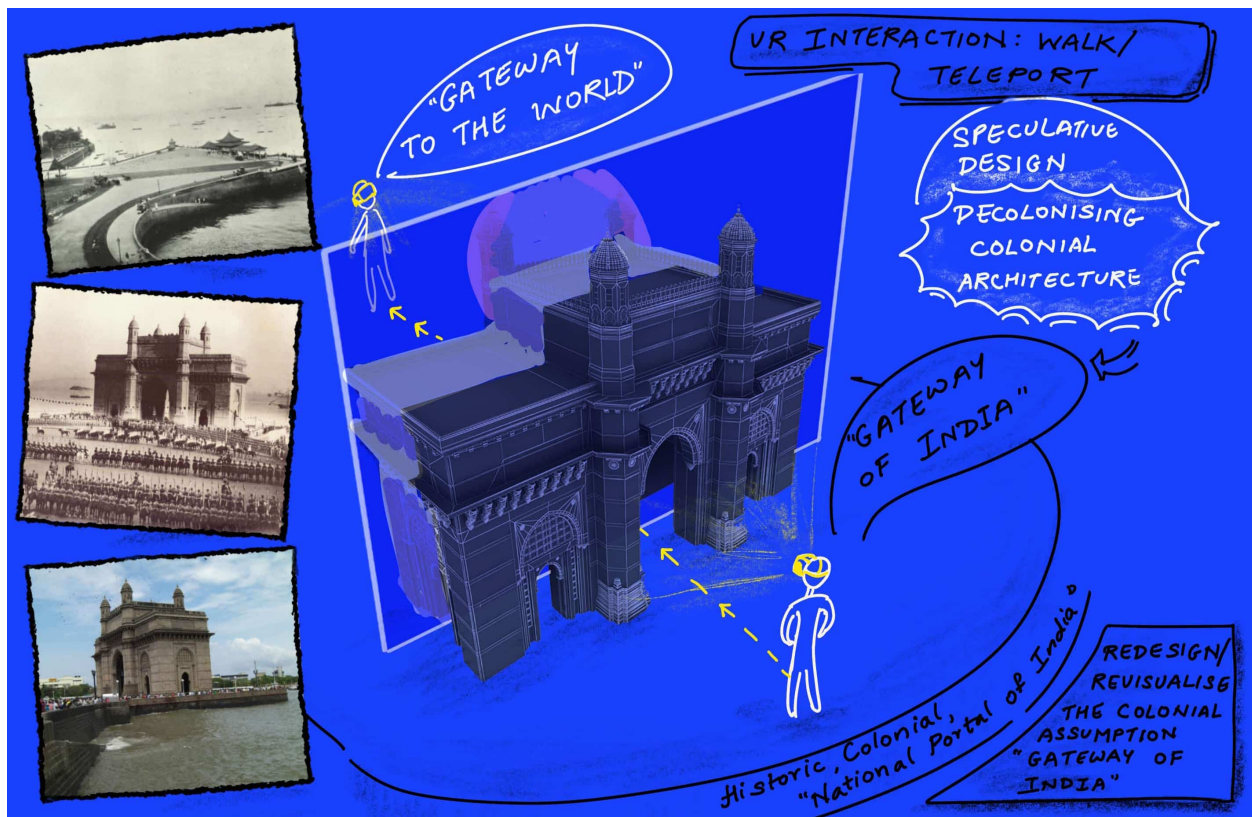


Illustration 3: Concept art for *Gateway to the World.*

## WIREFRAME

The wireframe (Illustration 4, next page) illustrates the aesthetic for the design of *Gateway to the World*. This design came about from the notion of a "gateway" from an ancient Indian cultural viewpoint. The concept of the gateway has a deep religious and cultural significance in India. It is known as a *Torana* or *Toran* and is a free-standing arched gateway used as a sacred entrance to a Hindu temple (Fig. 3 A) or a Buddhist shrine (Fig. 3 B). It commonly consists of two pillars carrying two or three transverse beams extending beyond the pillars on either side. It resembles the symbolic gateway marking the entrance to the sacred precincts of a *Shintō* shrine in Japan (Encyclopaedia Britannica). *Torana* of different forms have been used in the past to symbolise entrance to doorways of cities and palaces in India. In India, a particular kind of floral garland *Torana* is hung on a door to a residence to symbolise the entry point (Fig. 3 C).
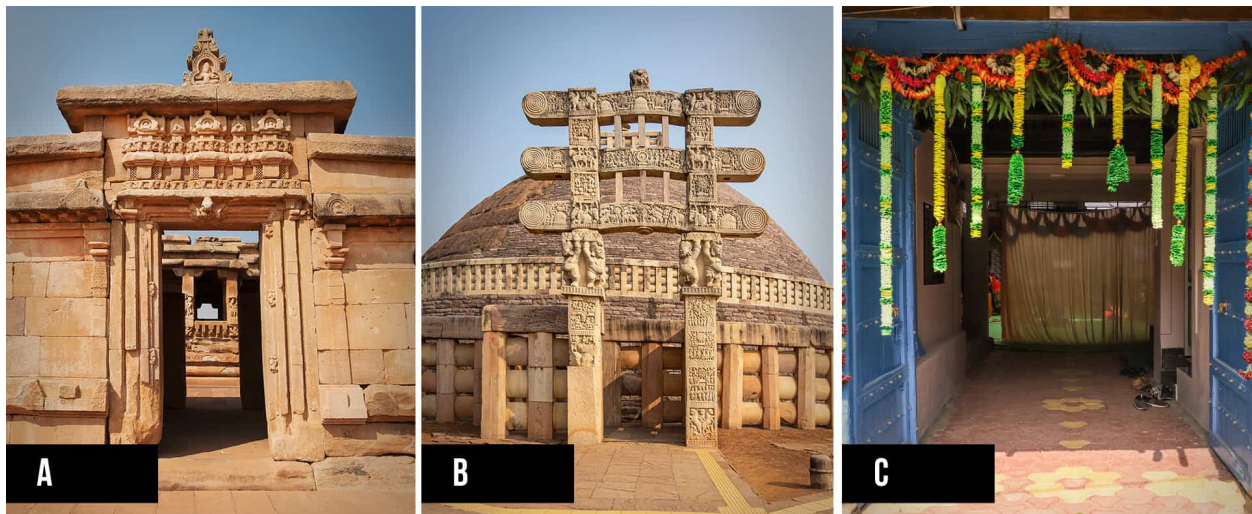


Figure 3: A) *Torana* at the entrance of a 7th century temple in Aihole, India. B) *Torana* at the entrance of the Sanchi Stupa, India. C) Marigold flower *Torana* at the entrance of a house. (Shutterstock)

Manifesting the significance of the *Torana* from traditional Indian conventions to an Indofuturist vision, India's *Gateway to the World* is inspired by, and called, the *Torana*. In this speculative world, the *Torana* is a literal entry portal: a technological device that transports people and freight instantaneously and stands as a testimony to India's technological progress, bringing India to the centre of science and commerce.
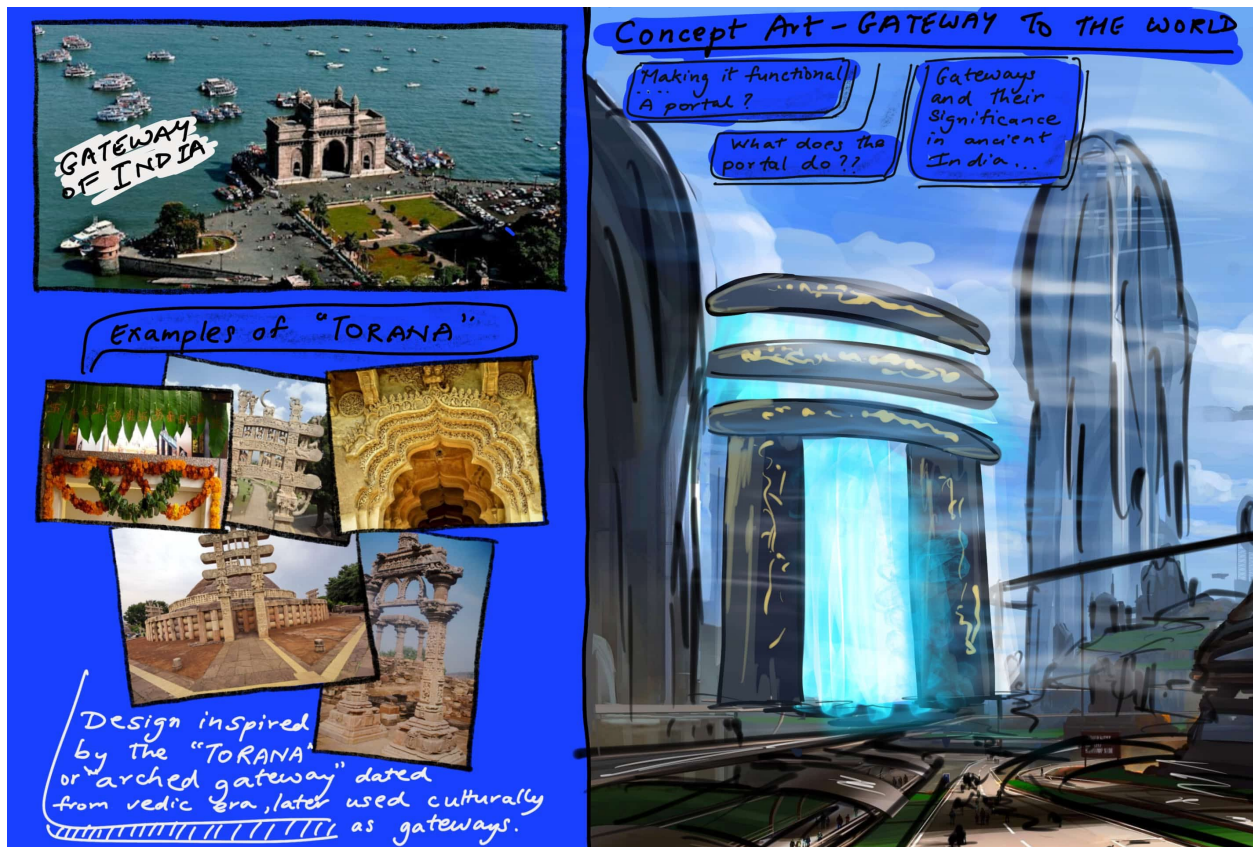
Illustration 4: Wireframe for *Gateway to the World* inspired by the concept of a *Torana*.

## PROTOTYPE

Leveraging my skill of 3D painting in virtual reality, I created my vision of *Gateway to the World* as a 3D painting using the virtual reality tool Tilt Brush (Google). I used the freehand painting affordance of Tilt Brush to paint a city inspired from the wireframe sketch. (Illustration 5)
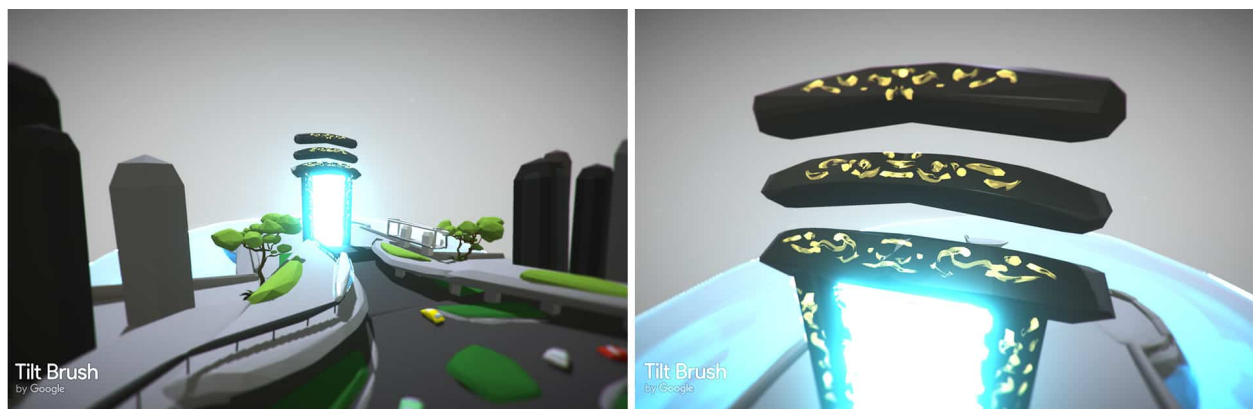


Illustration 5: 3D painting of *Gateway to the World* in Tilt Brush.

The 3D painting was then uploaded to Poly (Google) and imported into Unity3D (Unity Technologies) using the Poly Toolkit plugin. In the initial version, I painted the Gateway of India in Tilt Brush and later replaced it with a high-detail realistic 3D model of the Gateway of India (Figure 4).
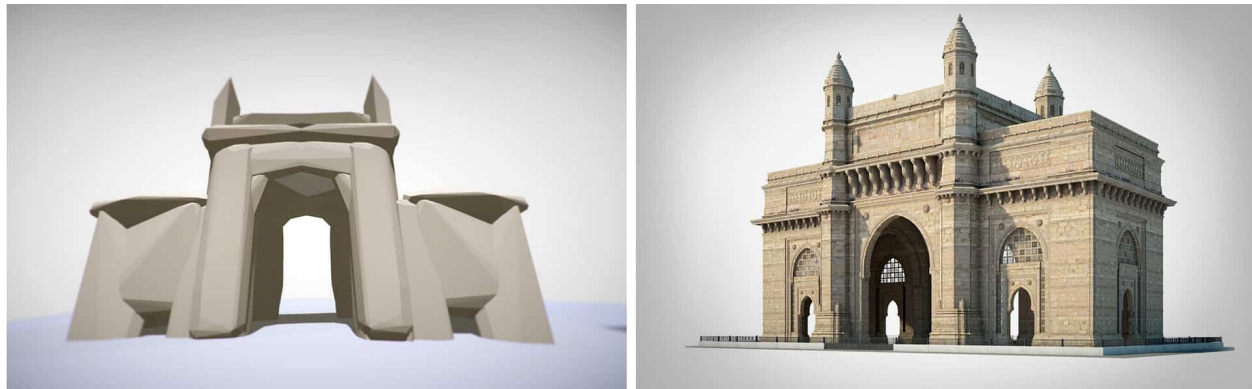


Figure 4: Gateway of India painted in Tilt Brush versus its realistic 3D model.

I was skeptical about the aesthetic of Tilt Brush as compared to a realistic 3D model. However, the two distinct aesthetics for the Gateway of India (realistic) and *Gateway to the World* (surreal), create a striking visual contrast. (Fig. 5)
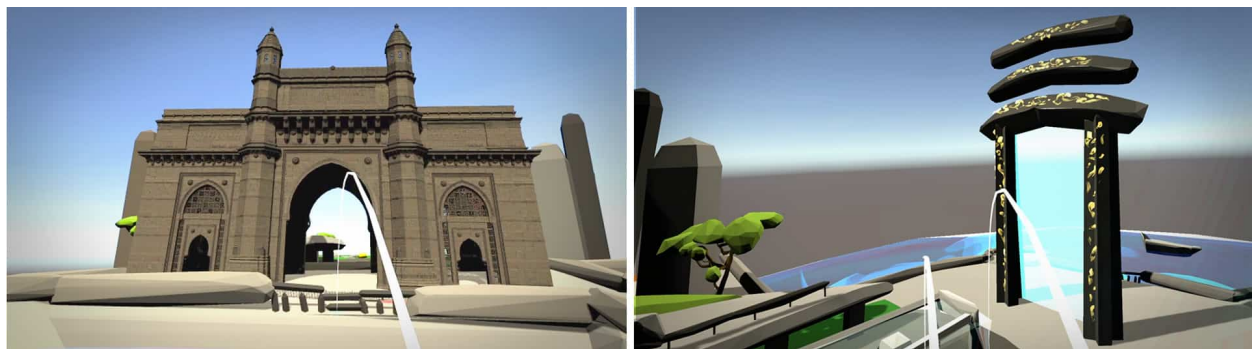


Figure 5: Contrasting visual aesthetic of Gateway of India and *Gateway to the World* 3D models.

For locomotion in virtual reality, the viewer can teleport around the scene using the hand controllers from the virtual reality gear, programmed using Unity's XR Toolkit with the help of Nick Alexander. Footprints, attached to each controller, were embedded in the interface to indicate the surfaces that users could teleport to in the virtual Indofuture realm. Elements such as trees, skyscrapers were enabled as teleporting surfaces to allow users to view the *Torana* and the city from different heights and angles. (Fig. 6)
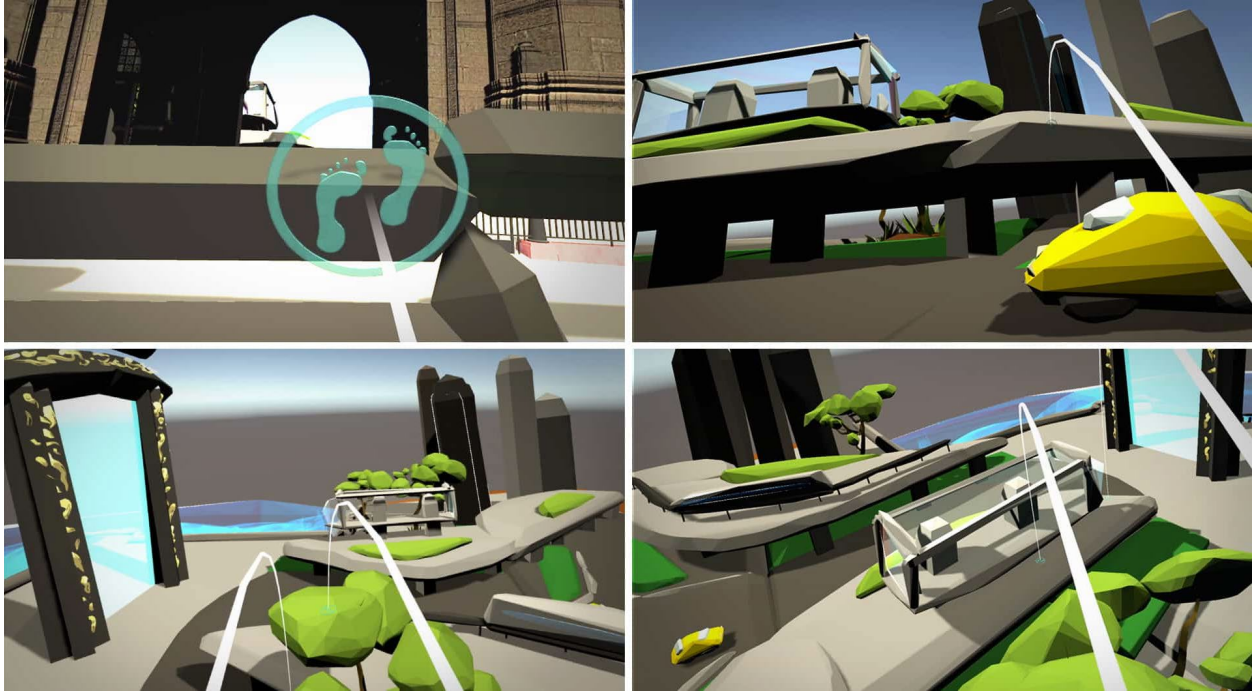
Figure 6: Locomotion in the virtual Indofuture realm.

📹 https://vimeo.com/521228251
*(Click the above hyperlink to view a video of Gateway to the World artefact)*

## REFLECTION

This is a crucial artefact in the Indofuturist world as it serves as a literal doorway into the alternative future for India I envision through my thesis. Instead of the Gateway of India, which was installed by the British Empire, the *Torana* is an Indian-built *Gateway to the World*. The transformation from Gateway of India to *Gateway to the World* as the viewer passes through it is symbolic to the viewer's entry in the Indofuture being imagined through this project. The absence of the Gateway of India on the other side is indicative that it has never existed, as India was never colonised.

# SKIN LAB

## BACKGROUND

I was so overexposed to the obsession with fair skin color in the Indian community during my time in India that I almost did not notice it. Recently, during my time in Canada, I came across a fabric print with art of Indian kings and subjects, all in light skin tones (Fig. 7 A). It occurred to

me that though a majority of the people on the Indian subcontinent have darker skin colors (Fig. 7 B), they are depicted in lighter skin more often than not.



Figure 7: A) Creator unknown. "Painting on fabric depicting Indian kings and their subjects in light skin tone." 1 Jul. 2020. Photo by Priya Bandodkar. B) Street scene from Old Delhi, India (Shutterstock).

Light skin is significantly preferred over dark skin tones in contemporary India. It is visible in marketing campaigns of beauty products, with Bollywood celebrities endorsing fairness products in television commercials (Fig. 8 A). When referring to skin, "fair" is widely understood to mean light skinned. As the use of fair in advertisements has recently been receiving backlash, "glow" has become the euphemism for fair. Fig. 8 B is another testimony to its presence in the modern-day: a matrimonial site allowing to filter profiles based on skin tones (complexion).
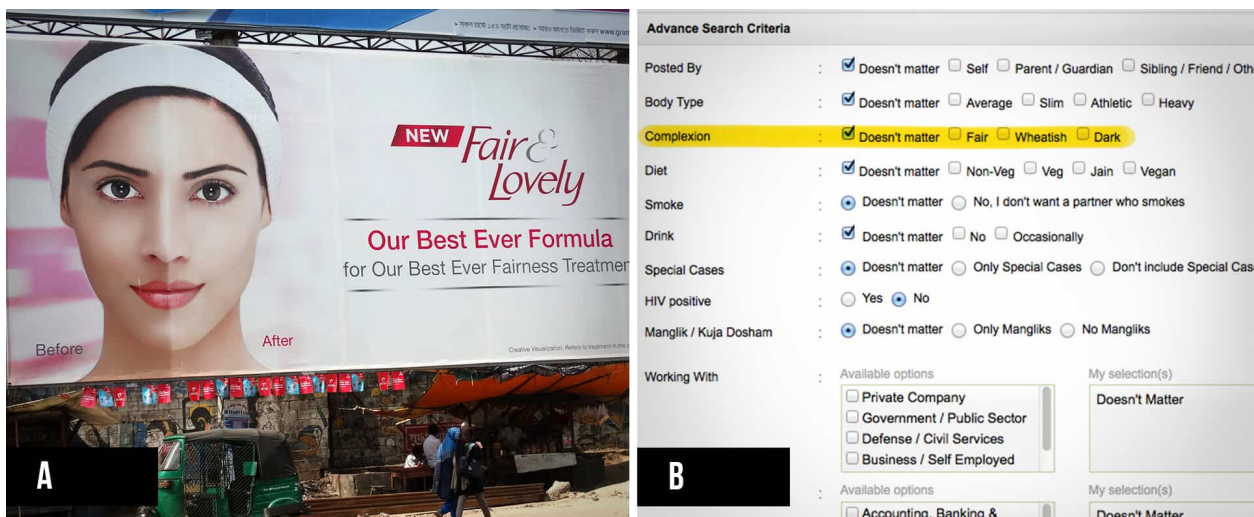
The preference might have existed pre-colonially but were strengthened during colonial times with the advent of western-inspired art styles such as the "Calendar Art", where Gods, Goddesses and their devotees were depicted in extremely light skinned complexion (Fig 9 A) on calendar paintings by Indian artists. In post-colonial times, comics by Amar Chitra Katha, read by Indian children over generations, use fair skin to depict mythological characters (Fig 9 B), and expose children to this attitude of colorism from a young age. (Mandala)



Figure 9: A) Varma, Raja Ravi. "Hansa Damayanthi." 1910. *Wikimedia Commons*. https://commons.wikimedia.org/wiki/File:Hansa_Damayanthi.jpg (public domain). B) Screenshot of a digital comics page by Amar Chitra Katha (purpose of criticism or review).

## CONCEPT

By employing Critical Design, *Skin Lab* intends to throw light upon and invite Indian people to confront the historically rooted prejudice of colorism in the Indian community. The concept has been visualised as an interactive physical installation consisting of a tactile interface and a featureless, genderless mannequin of a head. This technology was chosen with the intent of exposing the subconscious bias by giving it a physical form and making it tangible. The interface asks the user to select what they think is the "best" skin tone and color for facial features, the

user's selection is casted in real time onto the face of the mannequin using projection. (Illustration 6)
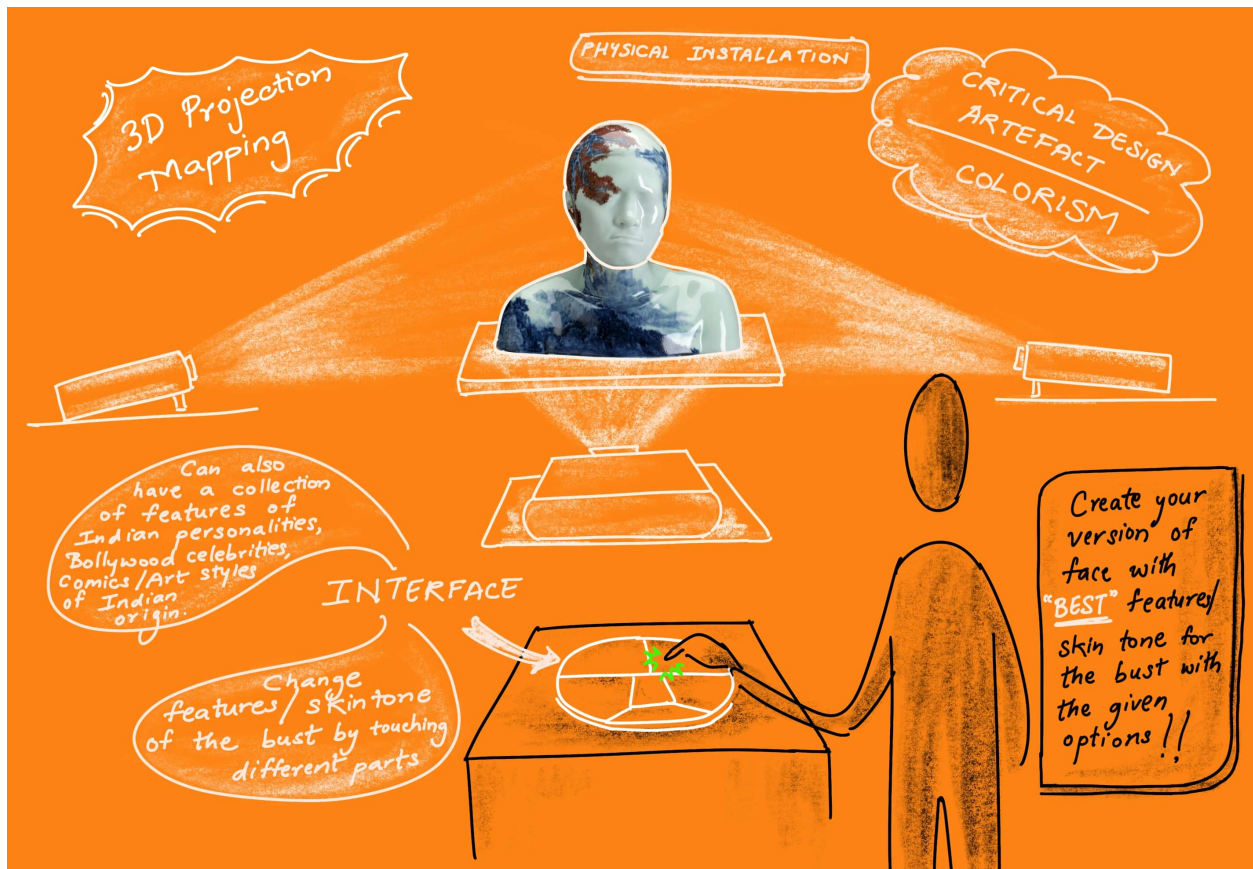


Illustration 6: Concept art for *Skin Lab*.

## WIREFRAME

The wireframe focusses on visualising the aesthetic of the interface and interactions with it. Different kinds of interactions such as single touch, multiple taps, and dial motion were explored to unearth the ones that might feel most intuitive. The initial aesthetic of the interface was made to mimic that of the mannequin (Illustration 7). The circuitry was envisioned as being made using conductive textiles in order to create a sleek interface.
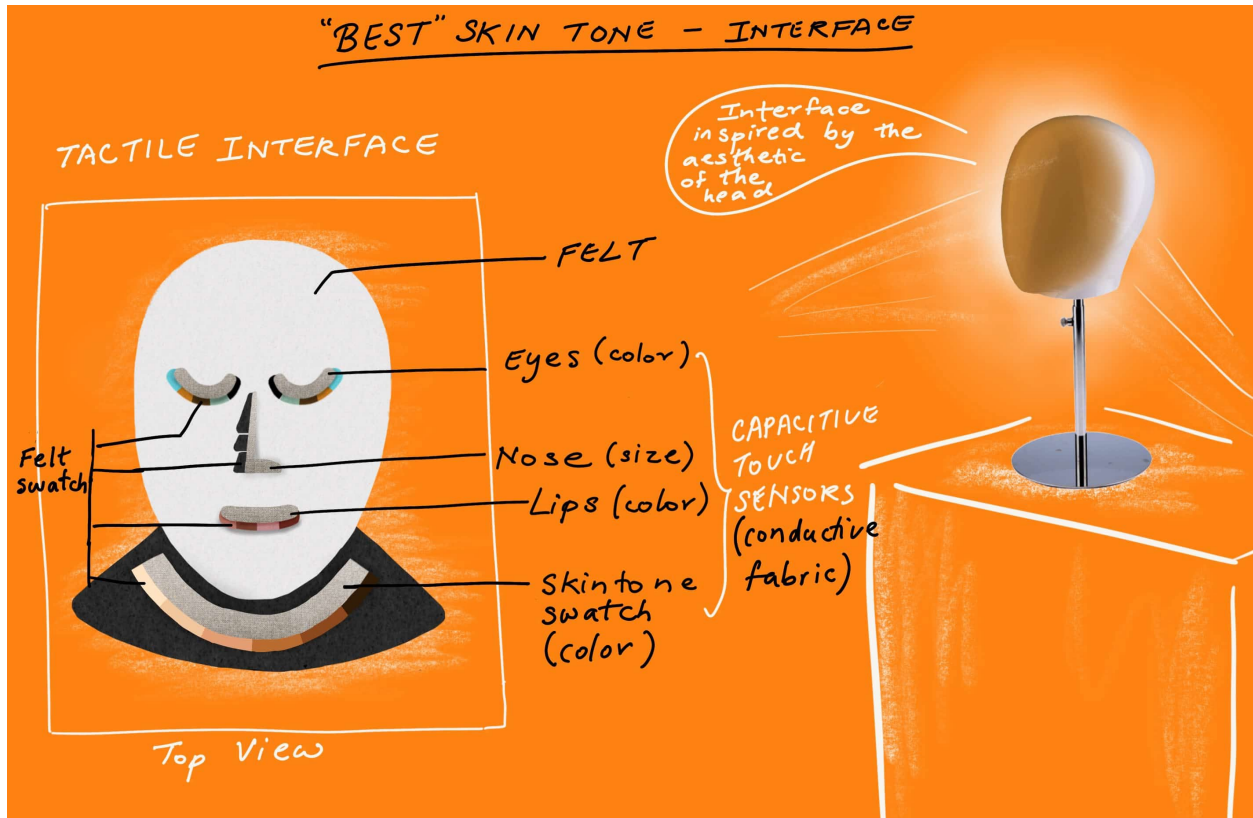
Illustration 7: Wireframe of interface exploration for *Skin Lab*.

## PROTOTYPE

The first prototype iteration tested the dial motion and button press for interactions. (Fig. 10)
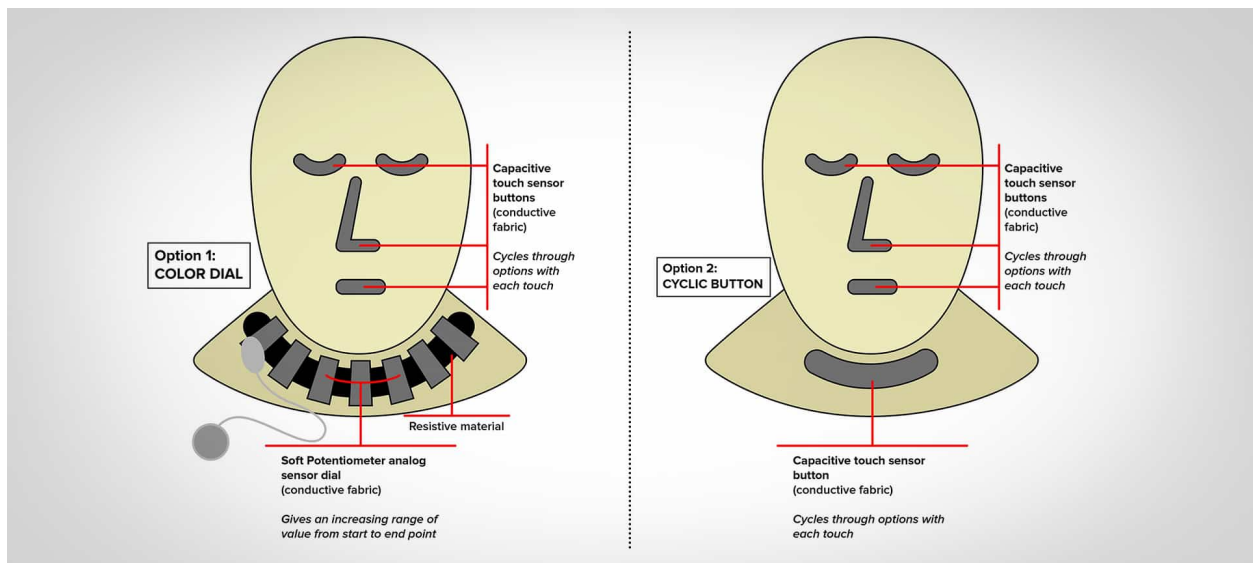


Figure 10: Circuitry visualisation for *Skin Lab*.

Figure 11: Circuitry built using felt and conductive fabric for *Skin Lab*.

The circuitry was built using felt and conductive fabric (Fig. 11) to create capacitive touch sensors and a circular Fabric Potentiometer (Perner-Wilson and Satomi). The connections to the Circuit Playground Express (Adafruit) board were secured using alligator clips. In this version the output of the interaction was displayed on a computer screen. (Fig. 12) The output on the screens in Fig. 12 were created through coding in Processing (The Processing Foundation). The visuals in Fig. 12 were placeholders. The focus, at this stage, was to explore the interaction with the tactile interface.
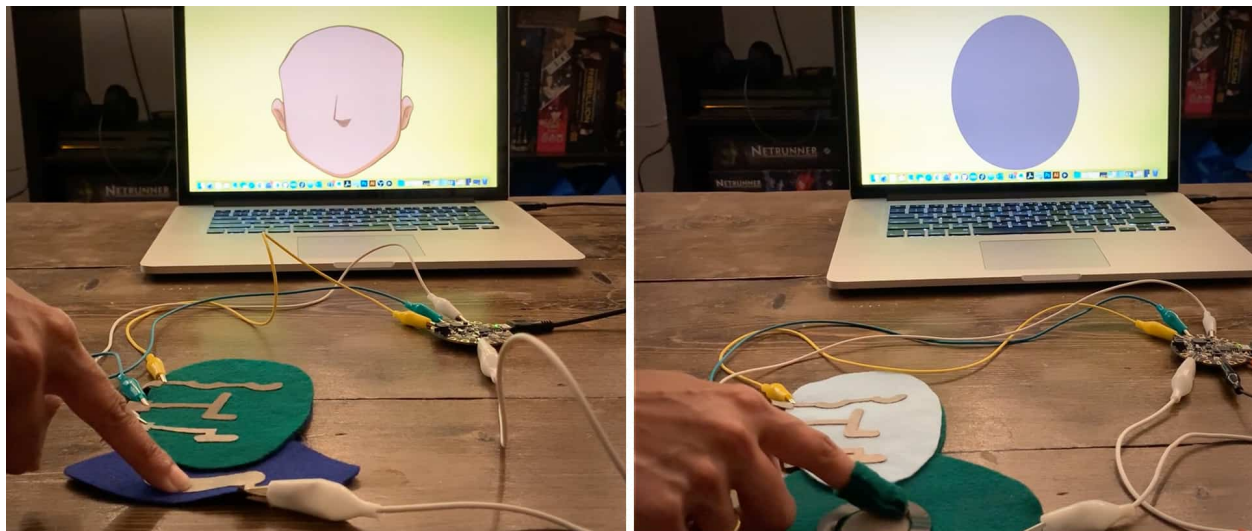


Figure 12: Interaction output from first prototype of *Skin Lab*.

In the next iteration, the visual design of the output was explored. A pool of eleven skin tones was created. These tones were selected to allow a range, starting from a light tone to incrementally darker tones. A similar rationale was applied to create a pool of five colors each for the eyes and lips. (Fig. 13)
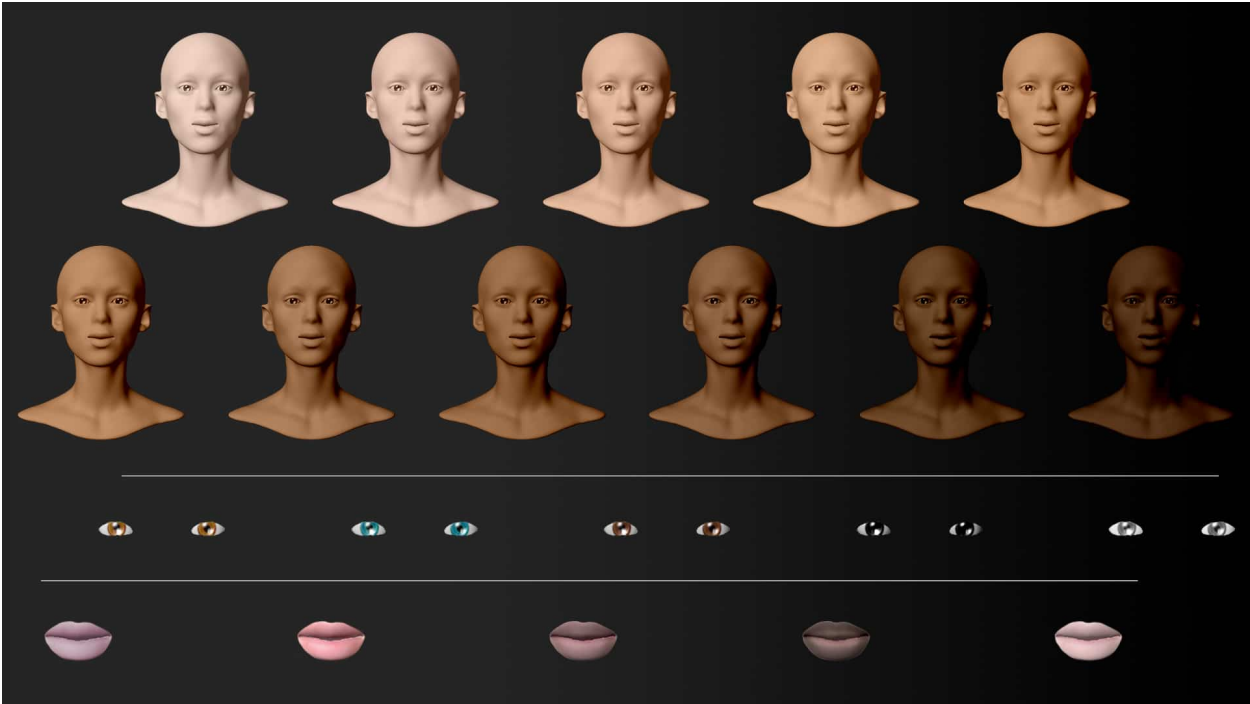


Figure 13: Visual design for tones for skin, eyes and lips.



Figure 14: Arbitrary combinations using available tones.

Options for the physical interface of the dial that incrementally changed the skin tone from light to dark were explored. The affordances of a Circular Ribbon-Sensor Soft Potentiometer (Spectra

Symbol) (Fig. 15 A) versus a Wired Potentiometer Breakout Board (Stemma) (Fig. 15 A) were tested. The Wired Potentiometer was preferred as it gave a more consistent reading and the motion of turning the dial to affect the skin color was more impactful. A Solid Machined Metal Knob (Adafruit) was attached to potentiometer to accentuate the functionality and appearance of this sensor.
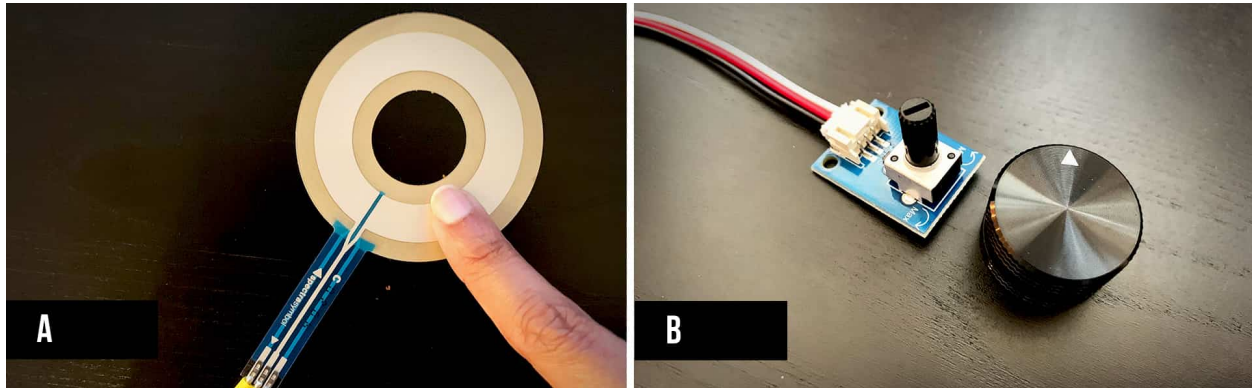


Figure 15: Options for physical interface of the dial: A) Circular Ribbon-Sensor Soft Potentiometer, B) Wired Potentiometer Breakout Board with a Solid Machined Metal Knob.

In this iteration, the aesthetic of the tactile interface was inspired by iconographies from emerging digital photo touch-up and augmented makeup applications. Due to lack of access to fabrication studios in the pandemic, this interface was fabricated using resources available to me, including an acrylic sheet, colored plastic art papers and conductive fabric. (Fig. 16) The choice of minimalistic user interface on a sleek, transparent acrylic sheet helped lend a futuristic appeal to the tactile device.



Figure 16: Making of the tactile interface using acrylic sheet, plastic art paper and conductive fabric.

I used a featureless, genderless mannequin of a head as the projection surface. In this stage of the workflow, I realised that real-time projection mapping would require moving the code from Processing to another programming tool like TouchDesigner (Derivative). I was able to achieve a result that was in line with the aesthetic I had envisioned with a conventional flat projection and was thus able to avoid a lengthy rework. (Fig. 17)



Figure 17: Projection on a mannequin of a head.

https://vimeo.com/521128174
*(Click the above hyperlink to view a video of Skin Lab artefact)*

## REFLECTION

By adding materiality to present-day digital experiences and bringing them into the physical, *Skin Lab* makes users, especially the Indian diaspora, confront colorism prevalent in contemporary India. It brings to the forefront a prejudice that might have been one of the unseen ramifications of the advent of western civilisation in India.

# COLONIZR

## BACKGROUND

In mythological tales, transgender people, commonly known as *hijras* on the Indian subcontinent, have been described as semi-sacred and their presence was believed to be auspicious. My brief encounters with them were mostly at the traffic signals of Mumbai, where they approached people and gave their blessings with a hope to be repaid in money. In contemporary India this is one of the few opportunities that *hijras* have to make a living. Despite *hijra* being recognized as a third gender from the Supreme Court of India in 2014, transgender people continue to face discrimination and be ostracised from opportunities to work and thrive due to their gender identity. What caused this change? Erasing this third gender off the colonised land was one of early agendas of the British colonisers in India. Laws were introduced that deemed this community as a "criminal tribe" ("How Britain Tried to 'erase'"). The community survived these attempts to bring their extinction, however, they still struggle to find a respected place in contemporary Indian society.

## CONCEPT

The concept uses Dark Design to imagine a digital game application (app) from a speculative future called *COLONIZR*. Influenced by western trends of colonising, this app has been made to teach this trade of Empires to its user through a fun gamified approach. As the narrative setup to this game the user is asked to assume the role of a coloniser who has acquired a new territory. Since the user is new to this occupation, the app is here to help bring structure in their Empire by following simple rules outlined in this app. This also helps organise their subjects in a way that aligns to the culture of the colonising power. The concept art has two options for the interface (Illustration 8). The first one, inspired by a popular dating app, makes the retaining or discarding process as simple as swiping right or left, while the second one uses icons to make the selection.

The tenets of a digital user application were applied to simplify, or rather oversimplify, the menacing acts of colonialism into a game, so users could engage with them with ease. The summary of the player's performance at the end of the game also revealed the impact of their decisions on the lives of those discarded as a climactic revelation.
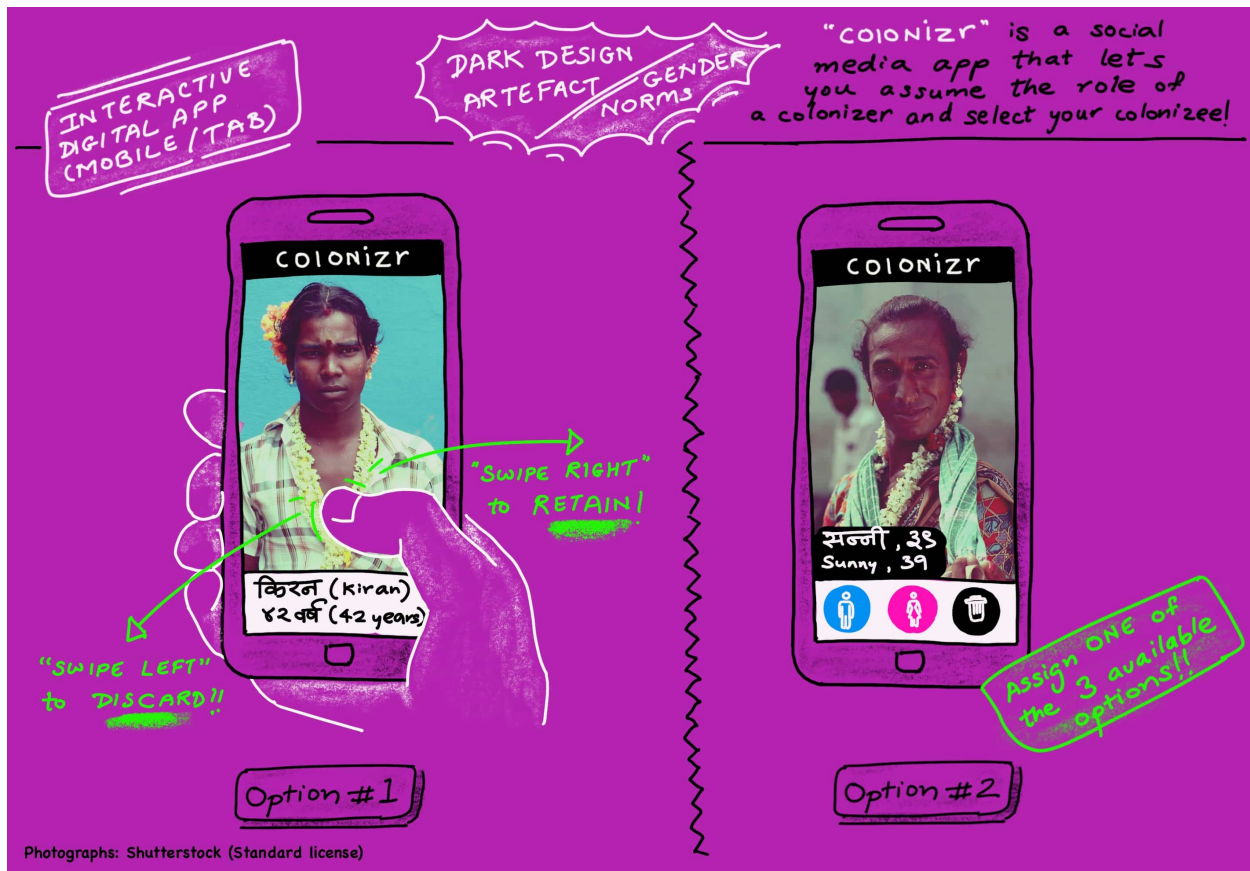
Illustration 8: Concept art for *COLONIZR*.

## WIREFRAME

The wireframe sketches the app interface and user journey (Illustration 9). It was important to frame these rules succinctly that could be viewed in one glance. To summarise the rules, the coloniser needs to "discard" a percentage of the colonised populace in order to bring order and decorum in the colonised land and, most importantly, make it profitable. It is completely up to the discretion of the coloniser to decide who is fit to be "retained" and who might be "discarded". As the coloniser has many more duties to fulfil, he needs to take this decision of selecting and discarding quickly by screening from a randomly selected pool of colonisees.

To avoid the game from becoming repetitive, another screen with the option to select a region within the territory was introduced in the wireframe. I imagined each region to have a distinct pool of pictures (stock photos) of Indian people of different genders, that would be presented one after another on the next screen.

Once the user expressed their choice to "Retain" or "Discard" using the buttons on the interface, the next picture is revealed. This continues until all pictures in the pool are used up. The result screen summarises the efficacy of the user's decisions as a coloniser, and allows an option to continue playing the game and keep improving.
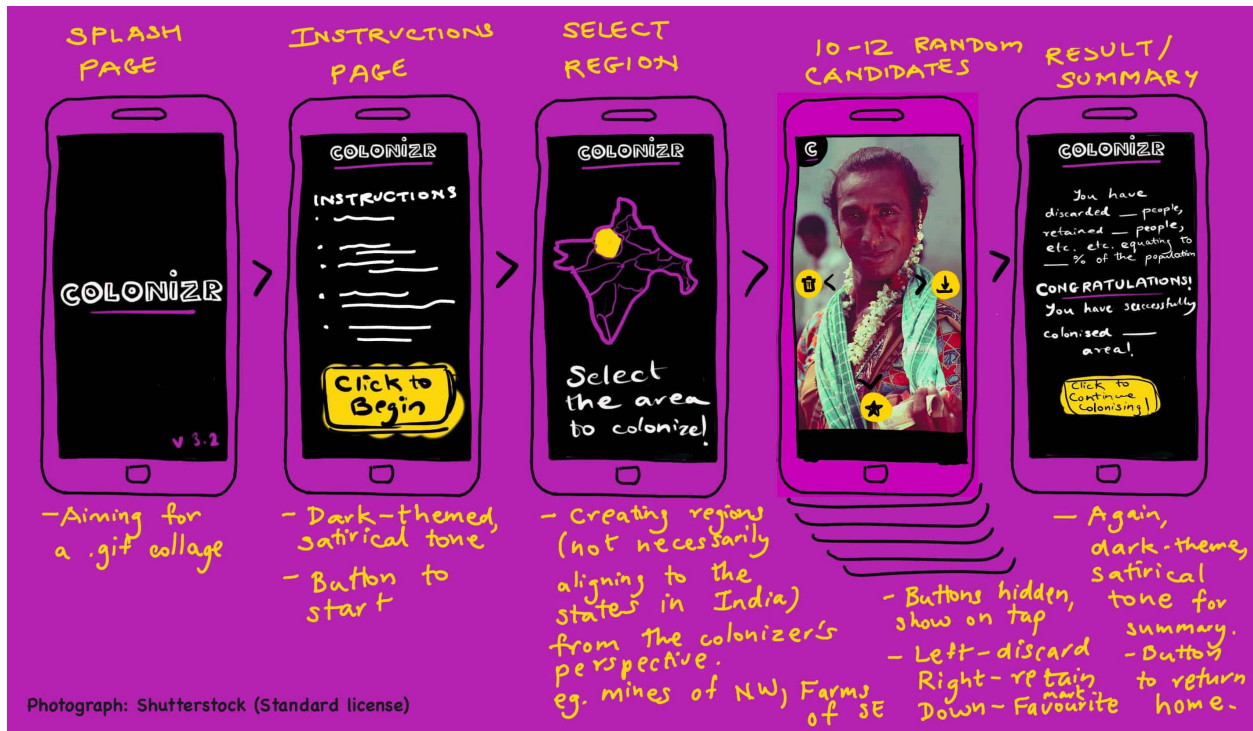


Illustration 9: Wireframe for the interface and user journey of *COLONIZR*.

## PROTOTYPE

The first iteration of the prototype involved designing the user interface (Fig. 18) and building the app using the p5JS web editor (Processing Foundation). The user interface was designed based on the wireframe. The focus was on the composition of the elements, the fonts used were placeholders. The app was designed such that the build could work on desktop, tablet or mobile device (Fig. 19).
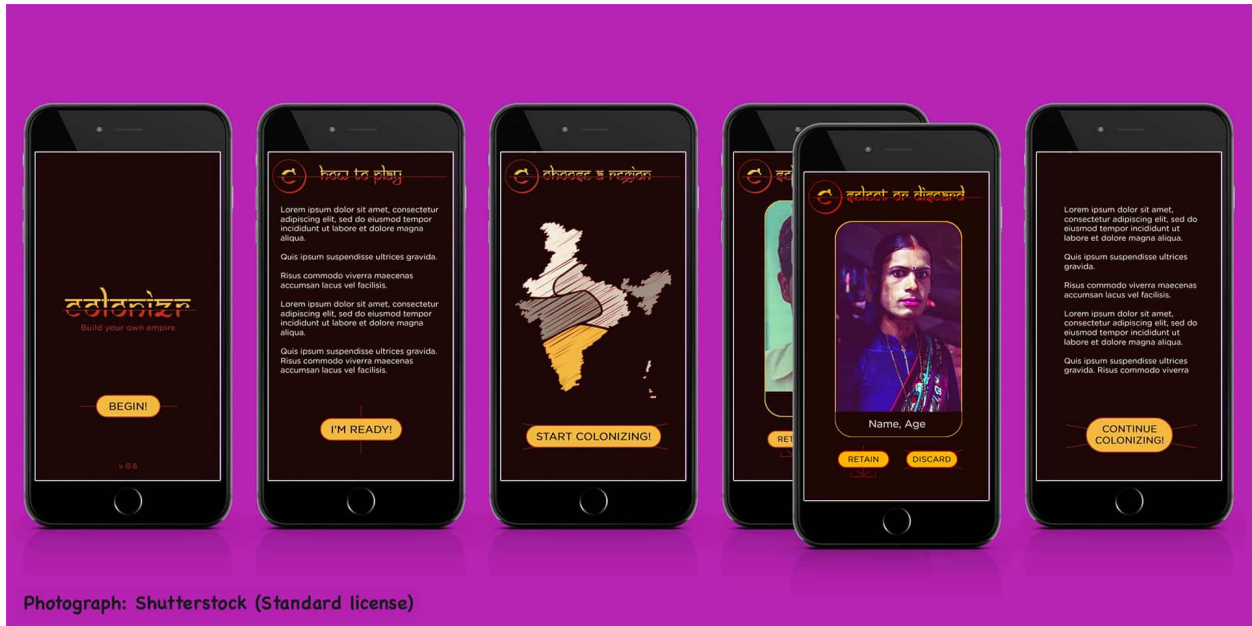
Figure 18: User interface of the first iteration of *COLONIZR*.



Figure 19: Playing *COLONIZR* on a mobile phone.

In addition to the user interface, the copywriting of the introduction with a satirical undertone was crucial and intrinsic to its inspiration as a Dark Design artefact. It needed to be satirical but not so dramatic as to not be taken seriously. (see Appendix A)

The first iteration which depicted the Indian populace as the colonised subjects lacked the ambiguity that might have been needed in Dark Design. It seemed more of an alternative present instead of a speculative future. Seeking inspiration from the Afrofuturist approach of applying space analogies to address difficult topics of the past and present, the concept of *COLONIZR* was reapplied to space colonisation (Fig. 20) – where the user assumes a role of a coloniser from future India who has colonised a planet in space.
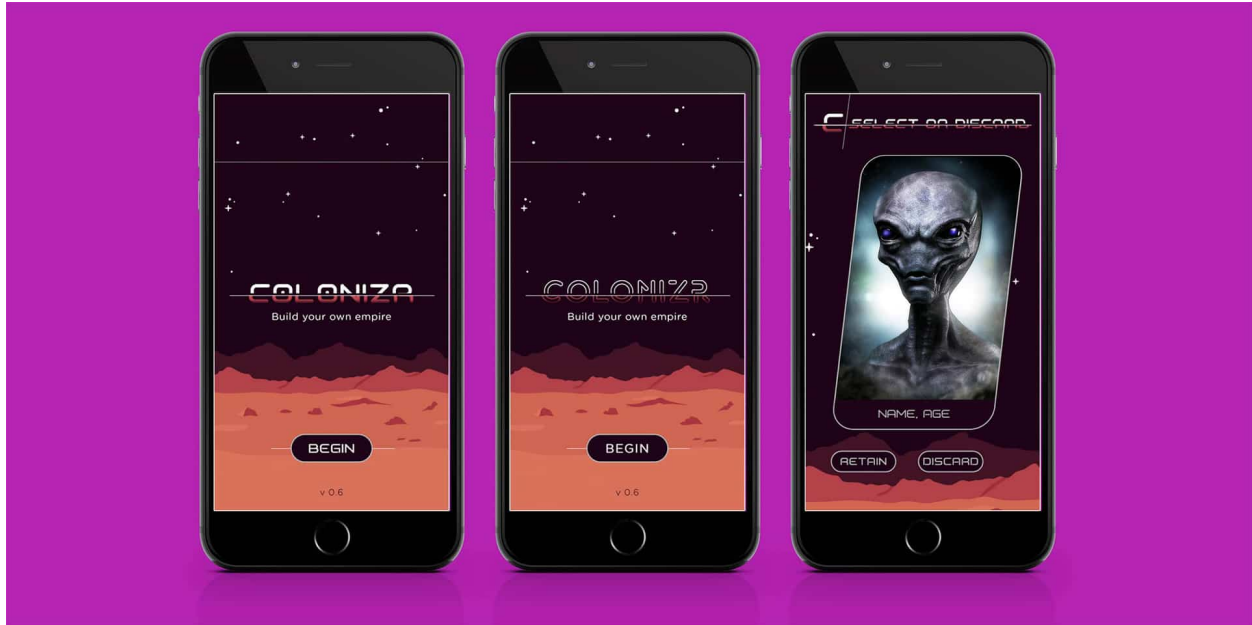


Figure 20: User interface mock-up for space colonisation iteration of the *COLONIZR*.

In order for the artefact to be believable, the pictures of aliens being used necessitated to seem original and realistic (non-cartoony and non-illustrated). To overcome this challenge, I purchased 3D alien heads sculpted in ZBrush (Pixologic) by user sawang-graphicart. I dropped them into ZBrush, (a tool that was new to me), applied shaders, textures and lights and rendered the alien heads in the requisite aesthetic. I added backgrounds to compliment the appearance of these characters using Photoshop (Adobe) (Fig. 21).
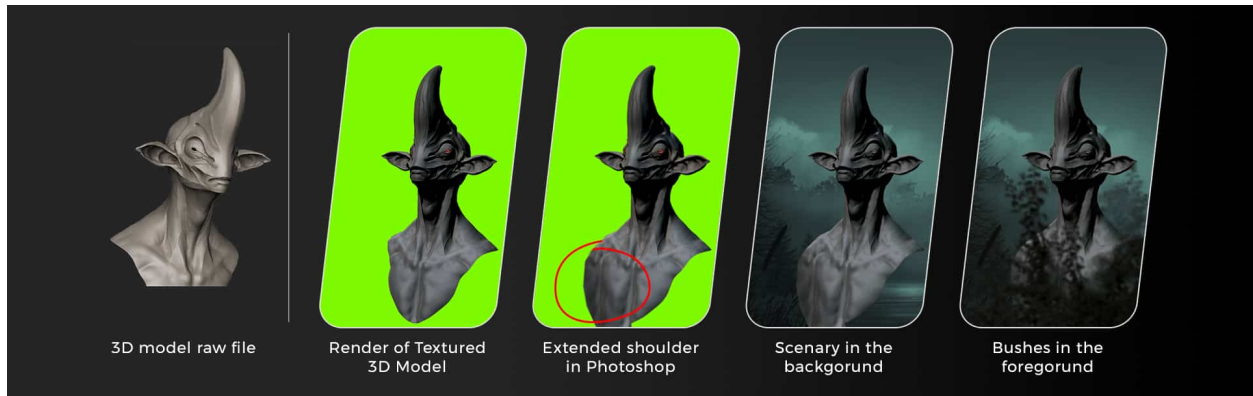
Figure 21: Making of an alien character.

I repurposed eight 3D models to create 20 alien character designs (10 per region) (Fig. 22).
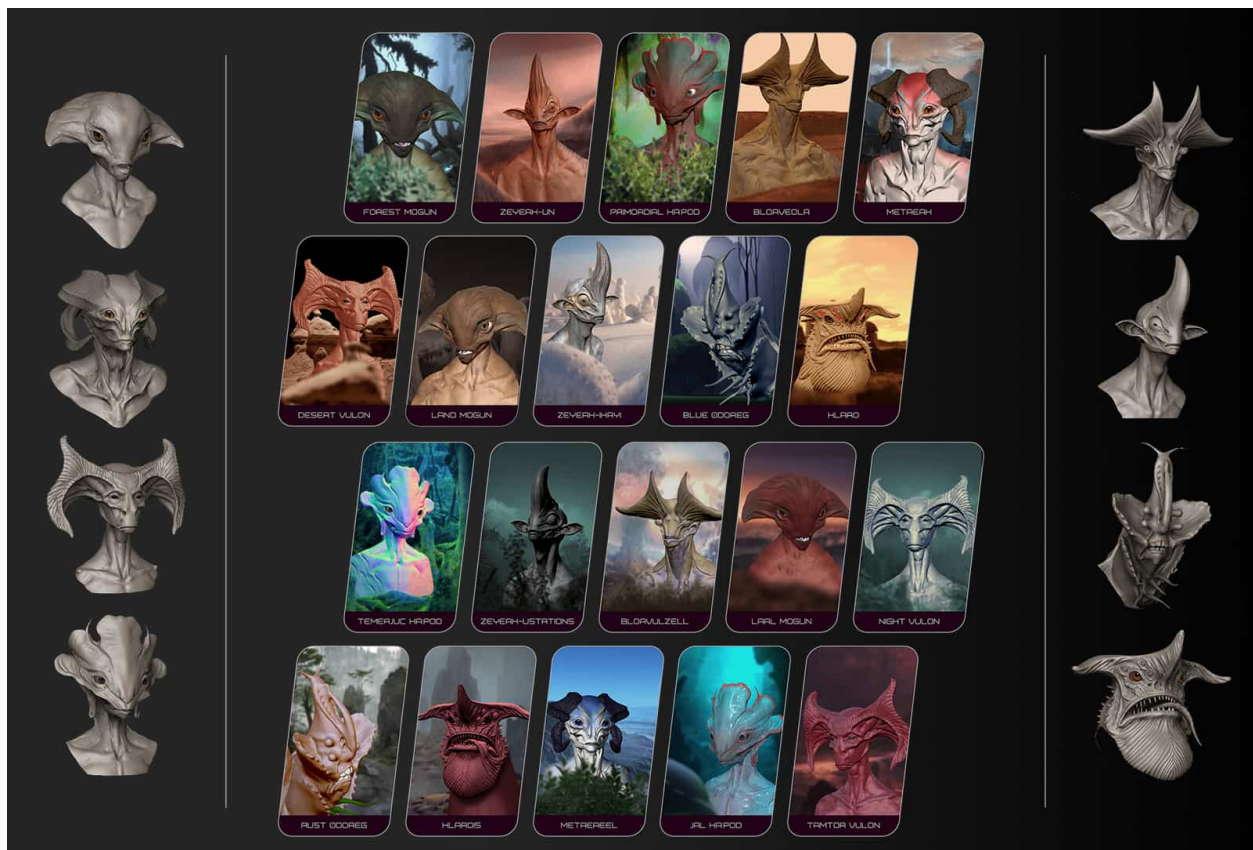


Figure 22: Alien character designs made using 3D models.

The user interface of the second iteration of the *COLONIZR* app was created using the same underlying wireframe as in the first iteration. The visuals of this iteration were designed to fit the space theme. Along with the "Play Again" button, two more buttons were added on the result/summary screen: "Learn More" and "Exit Game". The "Learn More" button took the user

to a data pad that gave a brief description of each alien included in the pool, and "Exit Game" button transitioned the user out of the fiction, to a hyperlink of a blogpost, that led into the discussion. Fig. 23 shows the user journey for this version of the *COLONIZR* app.
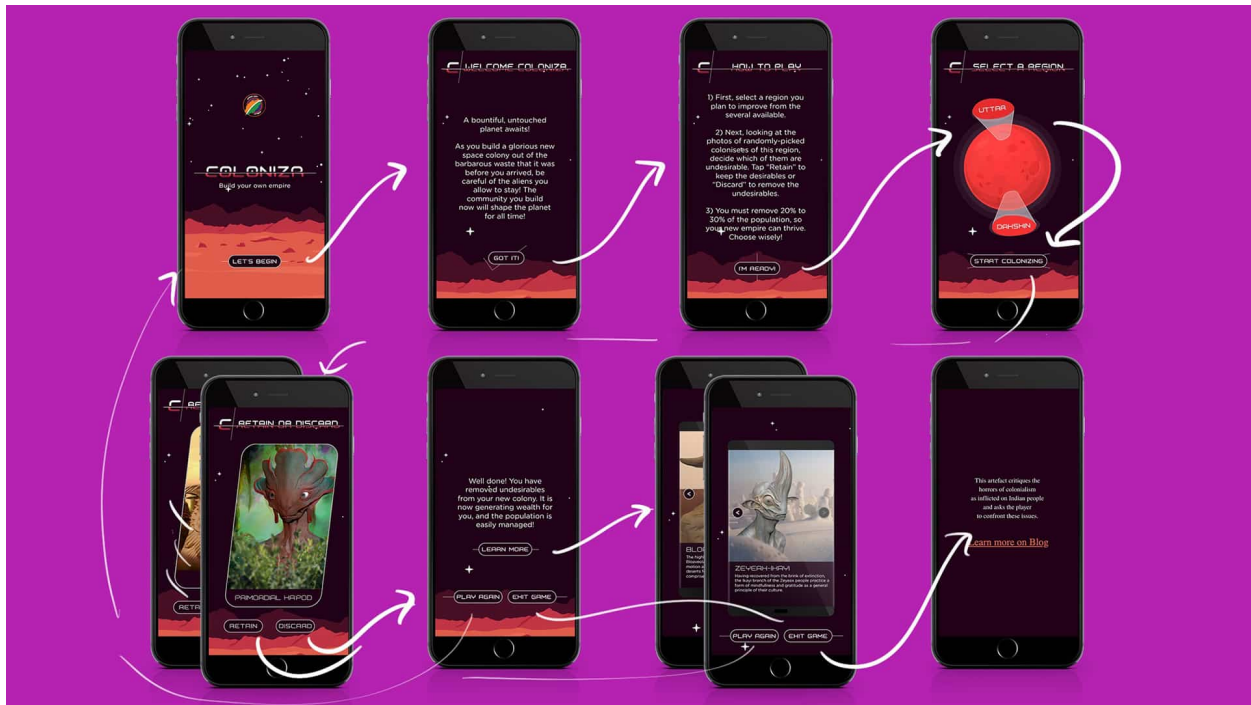


Figure 23: User interface design and user journey for *COLONIZR*.

https://editor.p5js.org/priyabandodkar/present/rOnRzIR71
*(Click the above hyperlink to play COLONIZR, optimized for desktop).*

## REFLECTION

The app puts the user in a position of passing judgement based on the appearance of the aliens, and the "Learn More" screen (at the end of the game) draws attention to the incomplete information the user had as they made their decisions, highlighting the intrinsic biases that users may have applied to "Retain" or "Discard" these aliens.

The focus of the design and build for this artefact is to not create a perfect gaming experience, but to use the game as a guise that embeds a discursive Dark Design narrative highlighting the devastation (informed and uninformed) of certain communities, especially the gender non-conforming people of India, that occurred during colonisation. By embedding dehumanising colonial policies into a fun, mindless game application, the design compels users to confront

these menacing acts of colonialism and its repercussions that haunt these communities even in the present day. Placing it in a speculative future helps provide a safer space for reflection and discussion.

# A SAREE LIKE *DRAUPADĪ*S

## BACKGROUND

The ancient Indian scripture of *Mahābhārata* by the sage Vyasa, written in 4th century BCE (Basu), is a voluminous description of the ethos of ancient India through a complex tale of Gods reincarnated as humans, sages, devotees and countless other characters. The scripture is an exhaustive resource of philosophical knowledge, and is regarded as a rich source of wisdom in India. I vividly remember watching an adaptation of the *Mahābhārata* on Indian television with my family, almost like a weekend ritual from my childhood days. I have a striking and unpleasant memory of what one might describe as one of the most shameful incidents in the *Mahābhārata*, the "disrobing of *Draupadī*". It was an immoral attempt by Prince *Duryodhana* to disrobe *Draupadī*, a reverential woman married to his step brothers, amidst a courtroom full of people (Fig. 24). When all attempts failed, *Draupadī,* who was an ardent devotee of *Kṛṣṇa* (lord Krishna), a demi-God from this tale, prayed to him for help. Krishna, with the aid of his wittiness and divine powers, provided *Draupadī* with an unending saree that continued to appear as it got unwrapped.

Figure 24: Astri, Ramanarayanadatta. "Draupadi Vastrapaharan." 1965. *Wikimedia Commons.* https://commons.wikimedia.org/wiki/File:Draup adi_Vastrapaharan.jpg (public domain).

## CONCEPT

This ancient tale inspired the concept for the Indofuturist artefact, *A Saree like Draupadī's,* that intends to critique a pressing predicament: the lack of security of women and at-risk people in contemporary India. Although this issue calls

for serious attention and action, very few concrete steps have been taken to amend it on a national level (Sharma). Even in present times, the issue of safety of women and at-risk people remains an ongoing, poorly-addressed concern in India. Although the roots of this issue might not directly be traced from colonialism, I use this opportunity to inspire how an ancient cultural reference might be applied to tackle a present-day plight through Critical Design. The artefact imagines a concept of a future wearable fabric which, just like *Draupadi's* saree in the story, self-replicates as it gets unwrapped from the wearer (Illustration 10).



Illustration 10: Concept art for *A Saree like Draupadi's*.

## WIREFRAME

The wireframe explores the technology and medium for creating and staging the artefact. Two options were explored (Illustration 11): first, a physical installation consisting of cloth drawn from a concealed cloth-roll, draped onto a mannequin, and together working as a theatrical setup for an infinite cloth, and second, a 3D rendition of the fabric in virtual reality that embodies the user's presence in the virtual space into the interaction. This was helpful in understanding the

scope of this concept in its true sense; it was not to devise the wearable itself, but to create its illusion through interaction and staging.
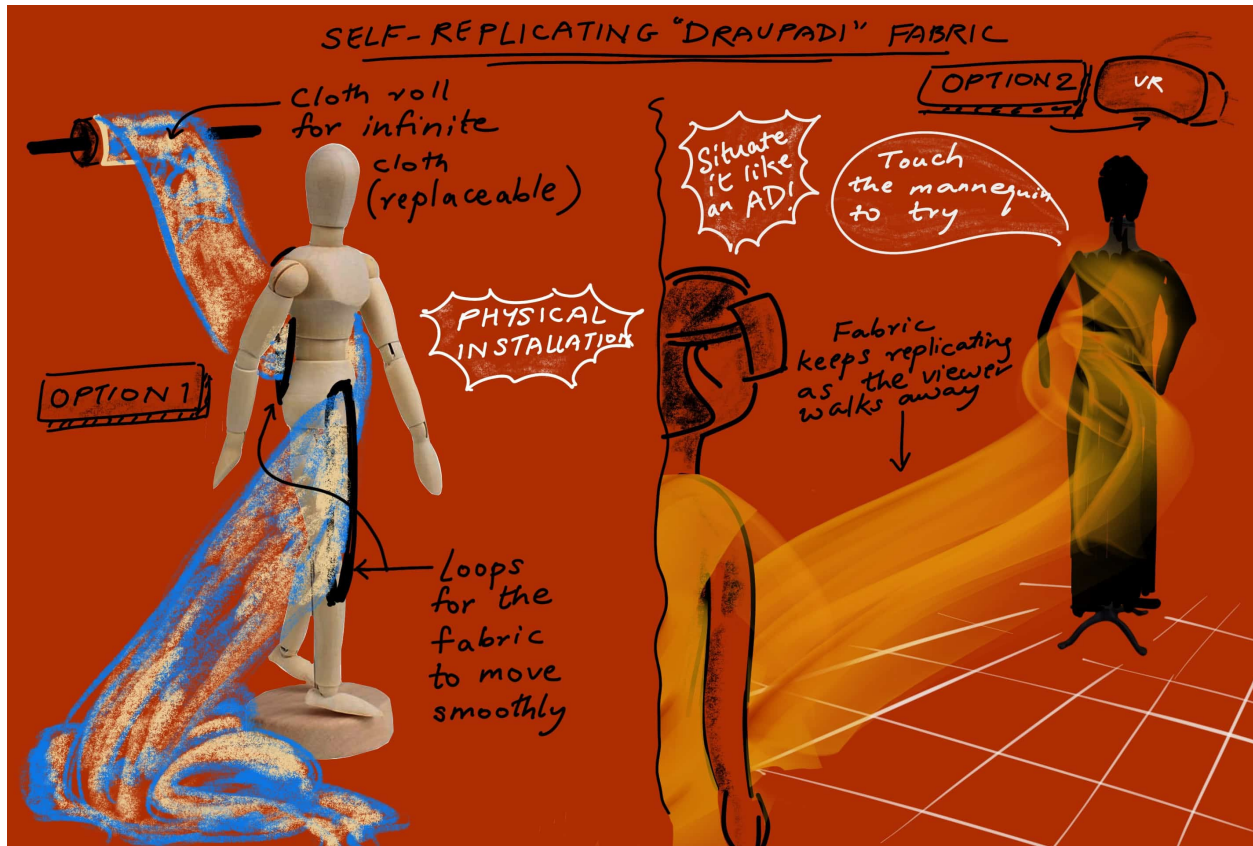


Illustration 11: Wireframe visualising *A Saree like Draupadi's* in physical and virtual mediums.

## PROTOTYPE

The option involving the physical installation was mocked-up using a mini mannequin (Fig. 25). The making of this installation would have required fabrication, which was a challenge to access during to the COVID-19 lockdown. Furthermore, the installation was not feasible as it would require constant supervision.

Figure 25: A makeshift mock-up of the physical installation.

The proof of concept in virtual reality made in Unity3D showed promise. In this exploration, when the cloth was moved beyond a specified distance, a new cloth was generated (Fig. 26).
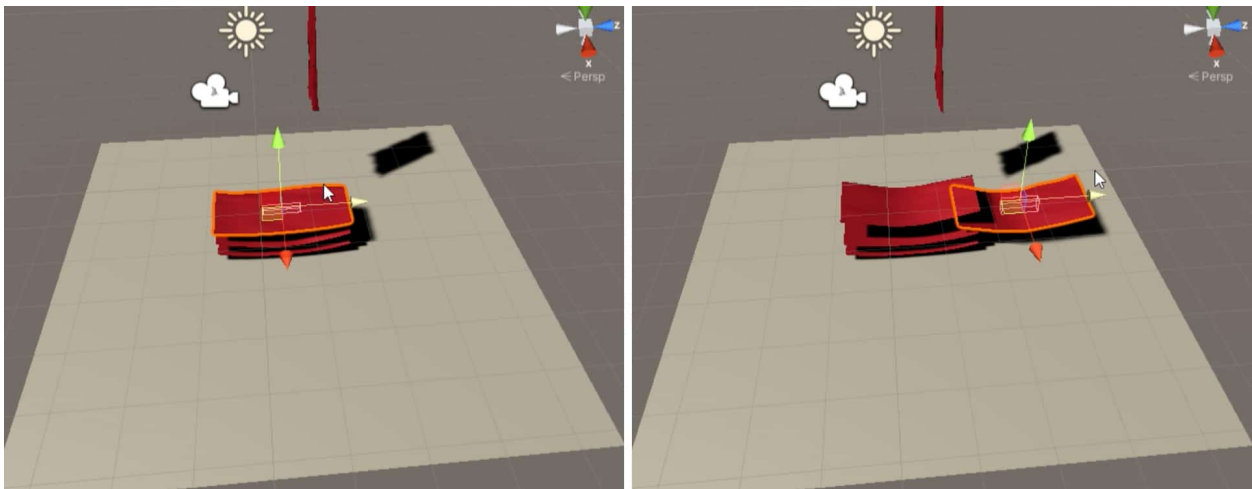


Figure 26: A proof of concept in Unity3D.

This path met a dead-end as it proved too difficult to write the code that would connect the generated pieces with one another. Another analogy that emerged during ideation was that of a conveyor belt, where the cloth feeds back to its origin cyclically. This idea was adapted into the virtual build: a circular loop of 3D cloth that rotates around its central axis was used to create the illusion of an unending fabric. The rotation was then connected to the triggers on both virtual reality hand controllers using code. Pressing the triggers and moving the controllers enabled the rotation of the looped 3D cloth, creating the intended illusion. (Fig. 27)

Figure 27: Interaction in virtual reality using hand controllers, and a long shot of the cloth loop creating the illusion of an unending saree.

I was unable to find a 3D model of a mannequin wearing a saree on any of the open-source platforms hosting 3D assets. I used NURBS surfaces in Autodesk Maya to model the saree and brought it into Unity3D (Fig. 28).
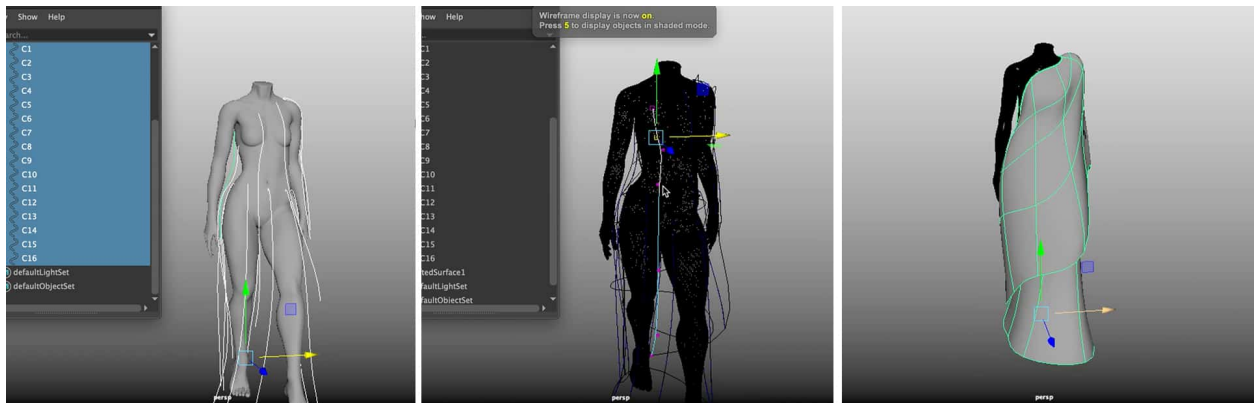


Figure 28: 3D model of the saree.

The next step was staging this act in virtual reality such that unnecessary elements would be concealed from the viewer's vision. This was achieved by placing the interaction inside the 3D model of a room that concealed the fabric coming from behind the mannequin. (Fig. 29)
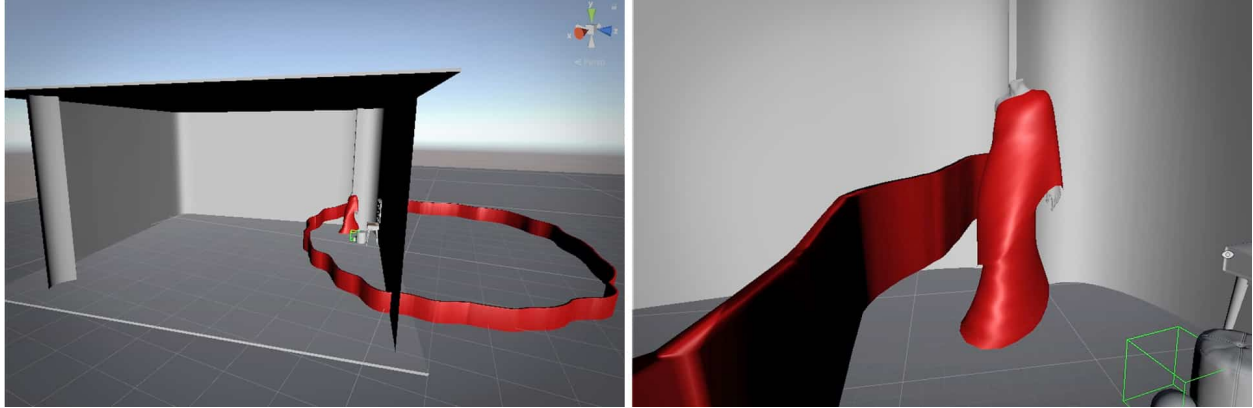
Figure 29: Staging of the interaction inside a 3D model of a room.

The viewer's perspective was staged in such a way as to ensure that the illusion of the self-replicating saree was sustained. A dim light setup was used to conceal the elements that were undesirable for effective functioning of the illusion. The sketch of *Draupadī Vastraharan* from the legend of *Mahābhārata* was mounted on the mirror of the dressing table besides the viewer in virtual reality. The mannequin was placed in front of the viewer. 3D models of hands were added to the interface by attaching one to each controller of the virtual reality gear. (Fig. 30)
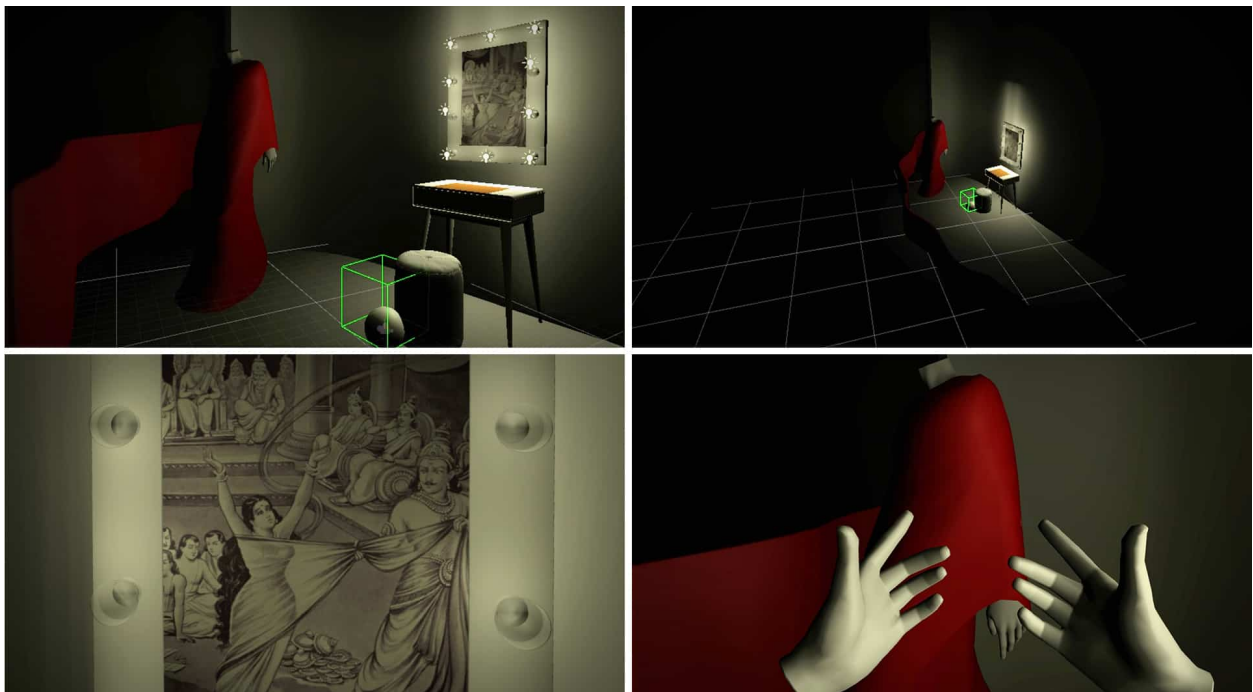


Figure 30: Lighting, environment and virtual reality interface.

To highlight the unwrapping motion further, a texture was added to the otherwise unembellished saree. Option A from Fig. 31 was preferred as it aligned to the aesthetic of the mock-up.
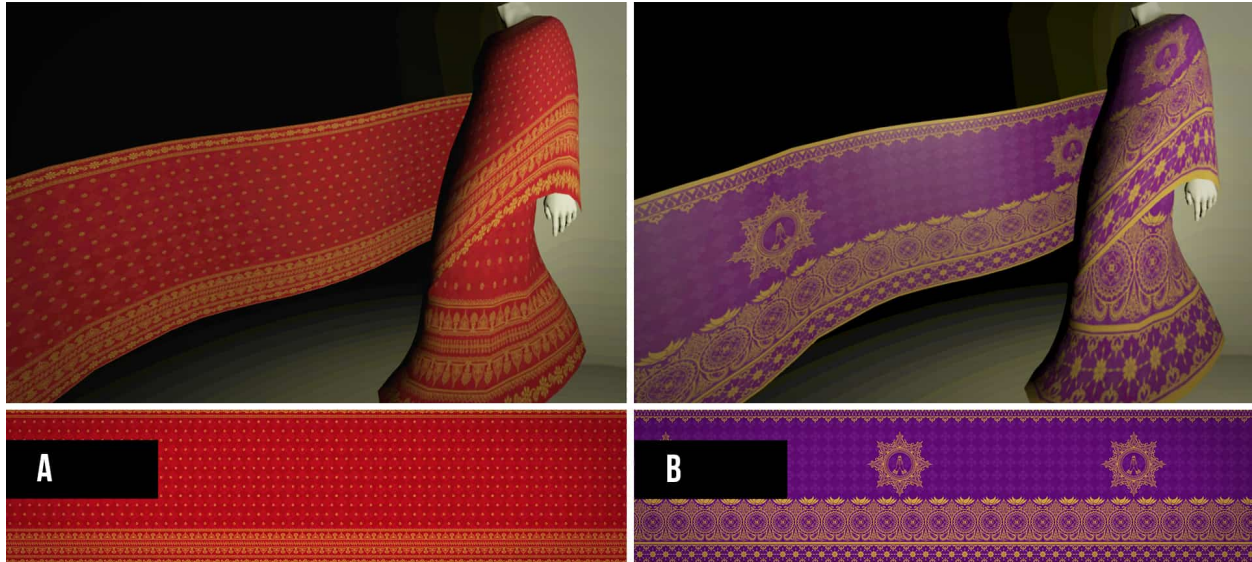


Figure 31: Options explored for saree texture.

https://vimeo.com/520990034
*(Click the above hyperlink to view a video of A Saree like Draupadī's artefact)*

## REFLECTION

The development of this prototype involved some back-and-forth due to the lack of access to fabrication labs, and the difficulty of achieving the ideal characteristics of the fabric in the time available using code. This led to an interesting design challenge of discovering ways to stage to overcome the limitations.

Addressing contentious social issues like the one highlighted through this artefact can be challenging in the context of the present and may evoke backlash instead of acceptance. Using Speculative Design and situating it in a fictional future world allows a safer space for discussion on this subject. The contributions of different voices and perspectives creates opportunities for deeper understanding of the issues, its causes and ramifications (see 'User Testing of Artefacts', below).

# VIRTUAL SANSKRIT ARCHIVE

## BACKGROUND

The colonial education system introduced the English language into Indian education. This was a strategic investment that was introduced with the intent of increasing the dependence on the English language in India and eventually causing the extinction of Indian-origin languages that were not beneficial to the colonial project. The ancient Indian language Sanskrit was once a language of the masses. It disappeared over the era of colonisation partially due to a lack of its inclusion in the education system. Although efforts are being made to revive Sanskrit as a spoken language, it is even more challenging now as the number of Sanskrit speakers become more scarce over each successive generation.

## CONCEPT

I recently learned about an existent, real-world artefact that is very relatable to what I was trying to pursue here: Indigenous musician Jeremy Dutcher's reclamation of the voices of historic Indigenous musicians, performing traditional Indigenous music in their native languages, stored in wax cylinder recordings. Dutcher's "reach across generations to a nearly forgotten history and bringing ancestral voices back to life" ("Voices from the Past") is an example of a decolonised restoration of a musical artefact. Using Dutcher's reclamation of ancestral music as a creative inspiration, I envisioned an archival tool for the preservation of Sanskrit language in a speculative future. I chose virtual reality because I was fascinated by the level of embodiment a virtual space could offer. It got me interested in testing its affordances as a medium for archiving across generations. This artefact leveraged the notion of presence in virtual reality to metaphorically indicate being in the presence of the ancient language. As the language may or may not be comprehensible in the Indofuture, in addition to speech, gestural performance was used to capture the essence and meaning of the archived verse.

## WIREFRAME

The wireframe (Illustration 12) visualised the setting of the performance video in virtual reality and an overview of the interaction with the viewer's movement. As the viewer moved close to the performance video, the superimposed letters would intensify, and as the viewer moved away, they would fade, mirroring how the language needs to survive through consistent usage.
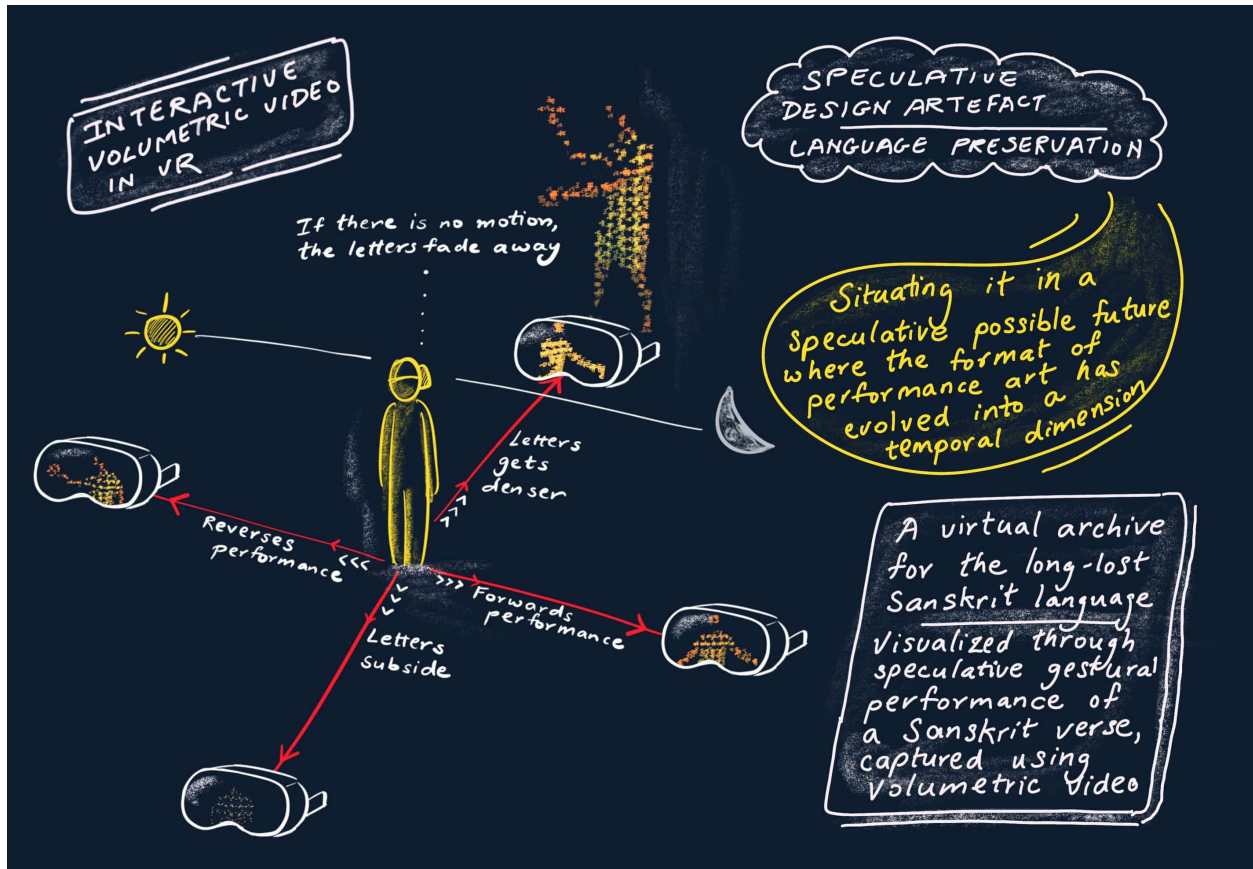
Illustration 12: Wireframe for *Virtual Sanskrit Archive*.

## PROTOTYPE

The prototype for *Virtual Sanskrit Archive* uses an ancient Sanskrit verse as a subject, and within the narrative, as a subject for preservation. The title of the Sanskrit verse used is *Usha Vandana* (translating to *Salutation of the Dawn* in English). It is attributed to the 5th century writer, *Kālidāsa*. In the artefact, the verse is spoken by my mother, Minal Bandodkar. (Fig. 32)

उषावन्दनम्

अद्य भावय सुदिनम्!
जीवभूतः काल एषः । प्राणस्य प्राणः ।
अस्मिन् स्वल्पकाले
सत्यमये तव सतः सत्यं तिष्ठति
विकासानन्देन
कर्मश्रिया
सौन्दर्यशोभया ।
ह्यस्तु स्वप्नः ।
श्वस्तु आभासः ।
कर्मकुशलतया आचरिते अद्य
गतदिनानि आनन्दस्वप्नमयानि भवन्ति ।
भाविदिनानि आशाप्रभया ज्वलन्ति ।
अतः सुदिनं अद्य सम्यक् भावय!
एषा उषाभिवन्दना!

Salutation of the Dawn

Look to this Day!
For it is Life, the very Life of Life.
In its brief course lie all the
Verities and Realities of your Existence;
The Bliss of Growth,
The Glory of Action,
The Splendor of Beauty;
For Yesterday is but a Dream,
And Tomorrow is only a Vision;
But Today well lived makes every
Yesterday a Dream of Happiness, and every
Tomorrow a Vision of Hope.
Look well therefore to this Day!
Such is the Salutation of the Dawn.

Figure 32: Sanskrit verse *Usha Vandana* attributed to *Kālidāsa*, and its translation in English.

The performance was to be captured using volumetric video and synced to the Sanskrit narrative in virtual reality. Being in a pandemic lockdown during the first iteration of the prototype, the shoot setup for volumetric video capture consisted of an Azure Kinect device, and a makeshift arrangement including a plain bedsheet (instead of a green screen), and a pan lid for the prop (that might be included in the performance as a metaphor for the title of the verse). (Fig. 33)
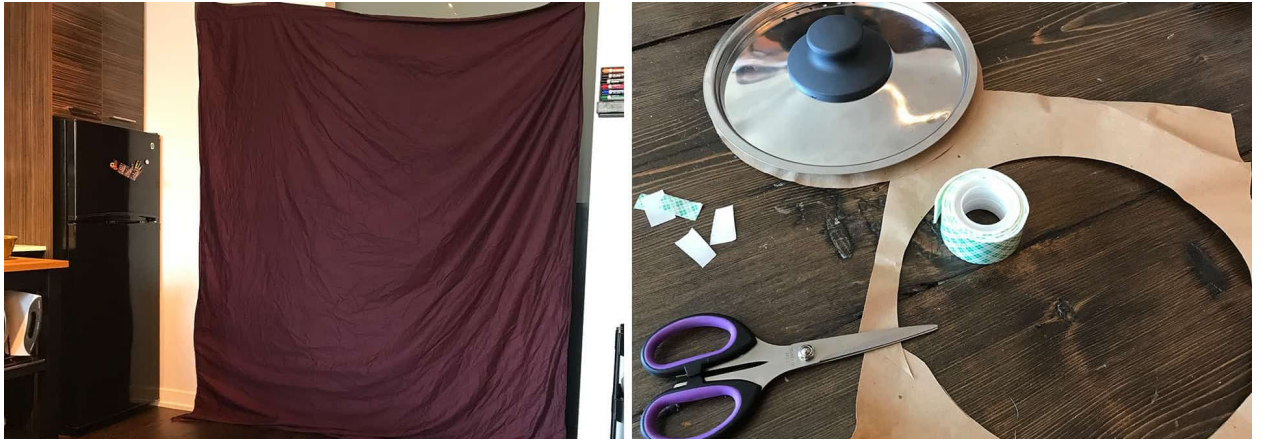


Figure 33: In-house shoot setup for volumetric video capture during the pandemic lockdown.

The Volumetric data was exported from Depthkit to key out the background elements, and the footage was brought into Unity3D (Fig. 32).
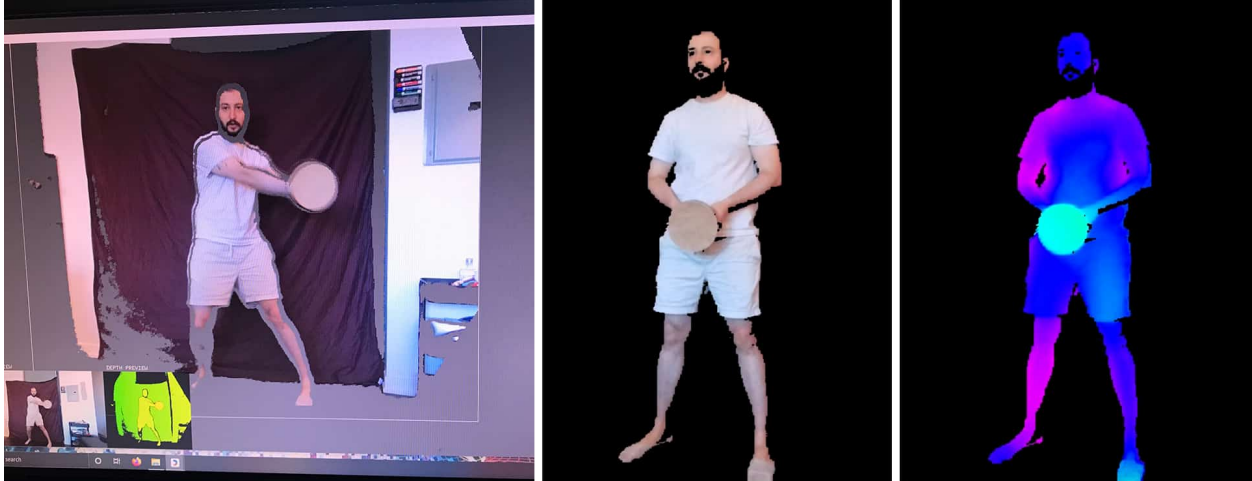
Figure 34: Volumetric video capture of Nick Alexander using the Azure Kinect, clean-up of depth data.

Different types of representation of this data, such as points and sprites, were explored. The aesthetic that emerged from the exploration was a superimposition of Sanskrit letters from the verse onto the points of the character's 3D mesh (Fig. 35).
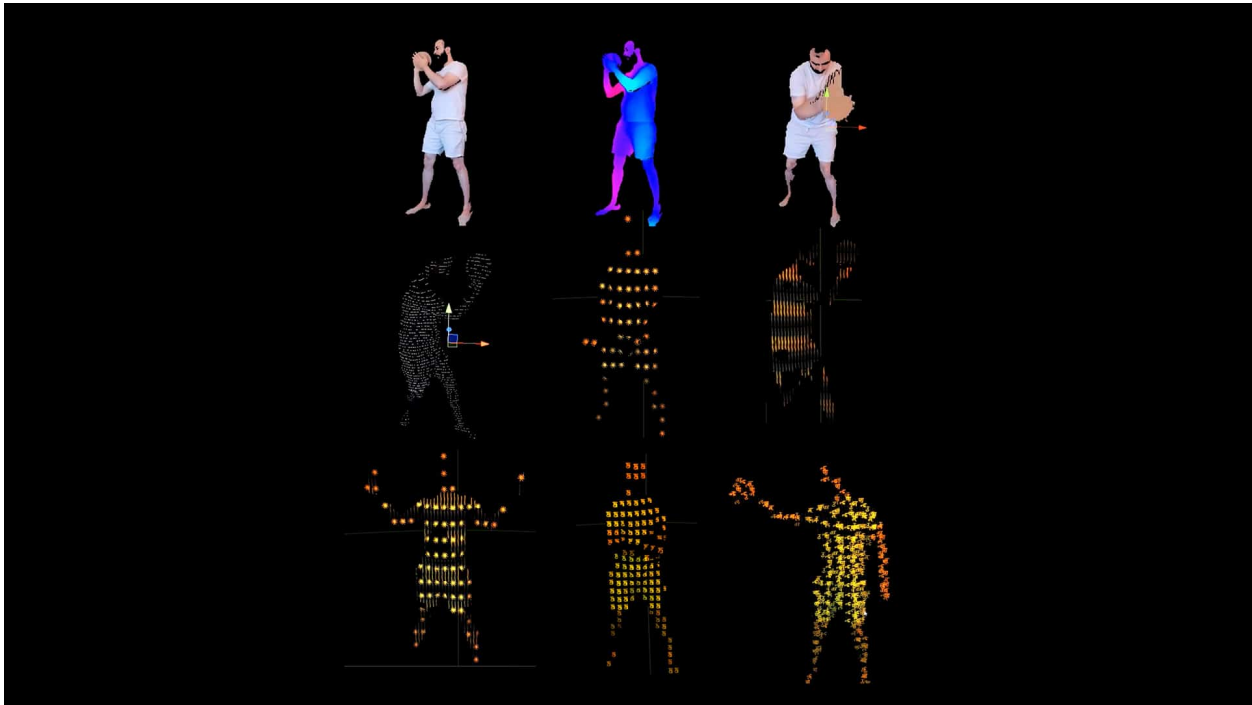


Figure 35: Exploration of textures superimposed on Volumetric data.

Interestingly, when I looked for Sanskrit fonts, I realised that the internet didn't have any! Unable to find a Sanskrit font resource, I adapted my writing skills from similar scripts such as Hindi and Marathi, and hand-drew the Sanskrit letters using iPad's Procreate (Apple) (Fig. 36).
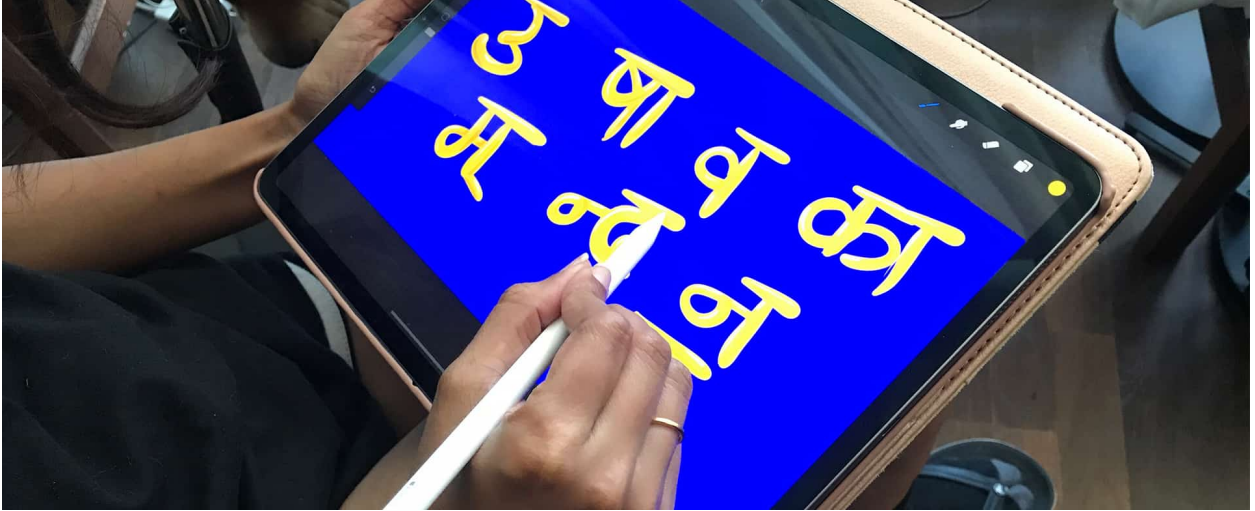
Figure 36: Sanskrit letters from the verse hand-drawn using Procreate tool.

Next, I planned on incorporating an audio narrative of the verse into the experience. I had to almost let go of this idea due to the lack of text-to-speech translators for Sanskrit. While discussing this project with my mother, she volunteered to recite the verse in Sanskrit as well as she was able to, as her command of the language is not exact. Her recitation of the verse went on to be integrated into the prototype. Comparing my mother's level of familiarity with Sanskrit with mine made me realise how the presence of this language is indeed depreciating with each generation.

I envisioned the second iteration of this prototype as a rendition of the Sanskrit verse choreographed in an Indian classical dance form. I collaborated with a *Kathak* performer of Bangladeshi origin, Tanveer Alam, for this purpose. This collaboration was an interesting journey from communicating my vision to watching it unfold through the movements of *Kathak*, and an opportunity to take on the role of a director.

The shoot for the second iteration consisted of a more professional studio setup which, besides the Azure Kinect, included a portable greenscreen and light kit (Fig. 37). This led to a better-quality volumetric data as compared to the first iteration. The shoot was arranged to be contactless adhering to the social distancing regulations during the COVID-19 pandemic.

Figure 37: *Kathak* performance by Tanveer Alam, choreographed to the Sanskrit verse *Usha Vandana*.

Since the performance involved elaborate spins and gestures, a large part of the captured movements exceeded the greenscreen area. These were keyed out manually frame-by-frame during greenscreen removal in post-production in After Effects (Adobe). (Fig. 38)
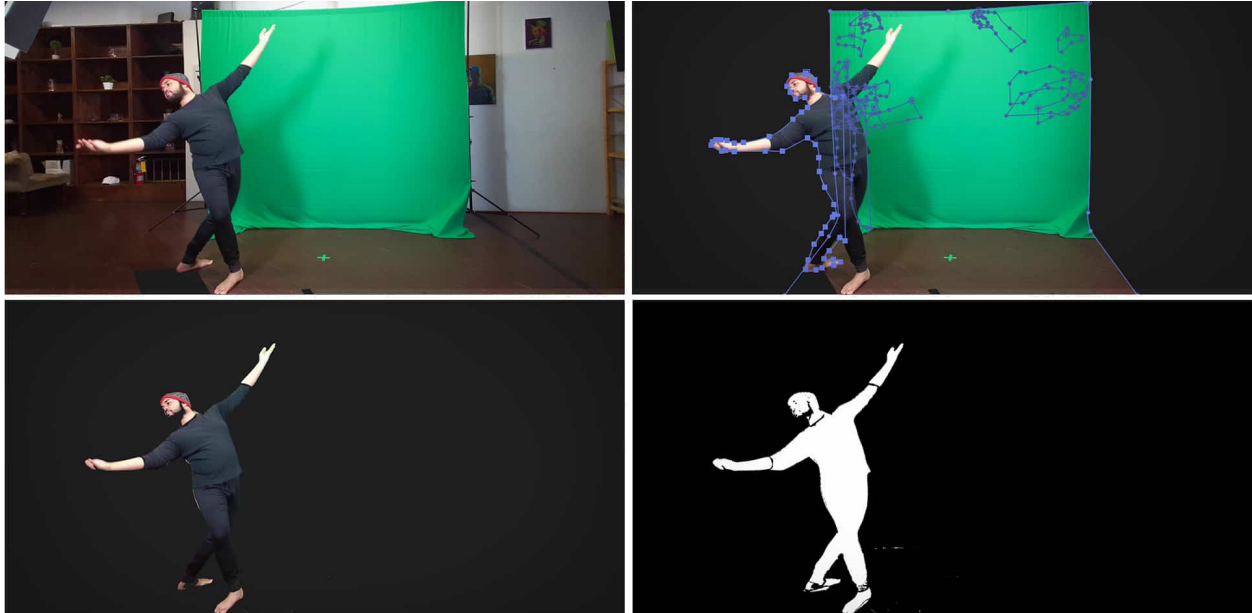


Figure 38: Manual greenscreen removal process.

I redrew a more refined version of the Sanskrit letters for the second iteration. Fig. 39 is the output of this hand-drawn letters superimposed on the volumetric data of Tanveer Alam's

*Kathak* performance. The virtual reality experience also includes an audio of the Sanskrit verse recitation by my mother and an ambient Sitar music from *Classical Rendezvous (2011)* by Fateh Ali and Murad Ali.
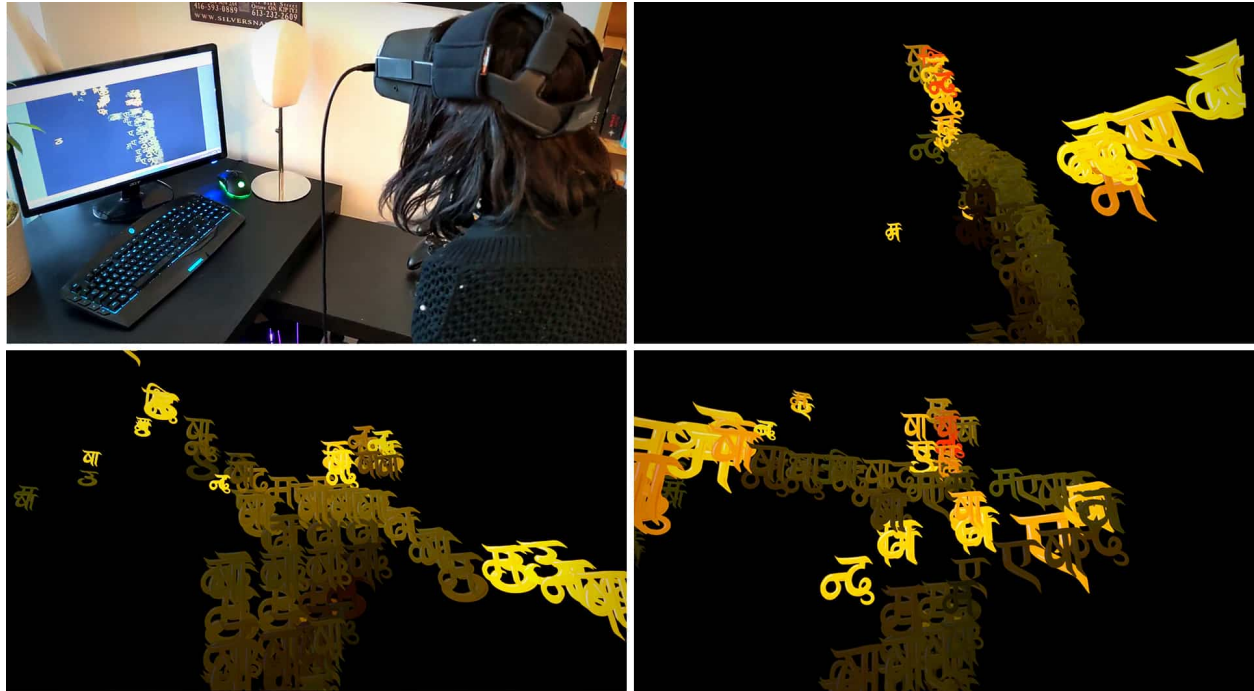


Figure 39: Snapshots of the output in virtual reality.

https://vimeo.com/521150403

*(Click the above hyperlink to view a video of Virtual Sanskrit Archive artefact)*

## REFLECTION

This has been one of the most experimental Indofuturist artefacts from this series, thanks to the versatility of Speculative Design. The aesthetic of the hand-drawn floating Sanskrit letters bound by an organic human motion was discovered by chance in the making process. The use of my mother's voice for recitation of the Sanskrit verse has opened a new avenue for probe: the role of intergenerational knowledge-sharing that might serve as a cue for speculation for viewers of this Indofuturist world.

Artefacts applying Speculative Design, such as *Virtual Sanskrit Archive* and *Gateway to the World* invite the audience to experience my vision of these artefacts through participation. While the other artefacts, such as *Skin Lab*, *COLONIZR* and *A Saree like Draupadi's*, that use Critical and Dark Design, set the stage for a discursive intervention from the audience. This

necessitated user testing of the artefacts by the intended audience group as a requisite for the analysis of their efficacy.

## USER TESTING OF ARTEFACTS

The five Indofuturist artefacts were user tested by candidates located globally who identified as the target audience, that is, international youth of Indian descent. The study consisted of focused one-on-one sessions with individual candidates. Each session was 1 hour and 30 minutes to 2 hours long. Due to the COVID-19 stay-at-home order in Ontario the study was not performed in-person. The workaround was a remote user testing session over video call, wherein the user directed me to carry out their desired interaction with the artefact through a running commentary. The sessions were video recorded, notes were captured during the discussions, and users were asked to fill out a short questionnaire about the user experience after the study (see Appendix B). This study was approved by and followed guidelines outlined by the Research Ethics Board (REB) at OCAD University. The analysis included participation from ten candidates.

I realised early on that the value of this user testing was not just restricted to assessing the quality of interaction design in the artefacts, but was also useful in studying the discussions and insights that emerged from these sessions. Using a remote digital communication medium for testing limited users from having tangible interactions with the artefacts. This lack of physical presence was a commonly observed limitation, especially for artefacts *Gateway to the World* and *A Saree like Draupadi's*, where presence in the virtual reality environment was crucial. Although the remote format posed a disadvantage, it proved valuable because it allowed me to gather voices located in different parts of the world (who would not have been able to travel to a physical installation).

*Gateway to the World* served as an introductory artefact to the idea of Indofuturism. As a literal as well as a metaphorical gateway to the Indofuture world, it helped familiarise those who might not have previously encountered futurism disciplines with the concept of a decolonised future. The Indian-inspired design coupled with elements from the culturally significant *Torana* was striking to most users. One user expressed this as a potential way of shaking off the "colonial hangover" that the Indian communities still suffer from. The insights from this testing suggested that this kind of an artefact is effective in introducing and onboarding a user who may not be familiar with the notion of decolonisation.

*Skin Lab* was the most impactful artefact to a majority of the users. It raised a subject that most people felt strongly about and expressed having a difficult relationship with. The consideration of this artefact generated a wide range of insights that came from individual experiences of the users with the subject of bias based on skin tone. When it came to selecting a preferred skin tone, it was observed that all users either went for their own tone or lighter. One of the candidates, without much hesitation, expressed that their preference ranged between their own skin tone or lighter, but certainly not darker. One participant, who is a mother, described from her personal experience the existence of colorism towards new-born babies in India. When she had a baby, there were passive comments about the child's skin tone. One example she shared was, a piece of advice she received on using saffron in the diet to make the child's skin "glow" (with glow understood as a euphemism for light skin). She added that every baby appearing in advertisements for baby products seems to have fair skin. Another user, who self-identified as dark skinned, expressed how particularly hurtful this bias was to them. They noted that they had internalised it and even started to believe that it was wrong to have dark skin. Some participants critiqued Bollywood cinema and celebrities who create a deceptive standard of beauty for Indian people. They identified the Bollywood stereotype of using light skin to indicate well-to-do people and heroes, and dark skin to portray downtrodden people and villains. In spite of the general understanding that all humans are crafted in a manner that is best fit for their survival, the Indian diaspora continues to be plagued by an ignorant preference for lighter skin tone.

The artefact *COLONIZR* was introduced using a background story where in a fictional future India has discovered a space planet and is about colonise this land currently inhabited by different alien species. The use of this fictional scenario was effective to acclimatise users with the digital app and its context. All participants were asked to make judgements by merely looking at photos of aliens and their environment. Participants used a running commentary to express their thought process during selection. Although most users sportingly adapted to the Dark Design setting of the game, one user expressed how the act of discarding felt wrong even in the context of a game, and some others tried to mitigate this by aspiring to be a fair coloniser and morally justifying their immoral decisions. While some participants indicated that having information about each alien at hand during selection would be helpful, most participants found its disclosure at the end of the game to be an impactful climactic revelation. This segued well into a discussion of the subjects being addressed through the artefact. One of the candidates identified that in North Indian cities, though third gender people are believed to have spiritual powers, they continue to be socially undesirable, making it difficult for them to seek education

and work opportunities. If they do get an opportunity, they find a need to pretend to be one of the two binary genders. Although the premise of *COLONIZR* put the users in a difficult, uncomfortable role, the use of a storyworld narrative to introduce the game, followed by the intricacies of Dark Design, proved effective for users to switch to the mindset of a coloniser, engage, and transition to a discussion of the underlying societal challenges.

Just like the *Skin Lab* artefact, the subject highlighted in *A Saree Like Draupadī's* was identified as being one of the most pressing social challenges that haunts India's reality. One user commented on the mysterious, dingy ambiance of the room in virtual reality to reflect the darkness of *Draupadī's* story. While some users gave a thumbs up to the inventiveness of the self-replicating fabric, others believed that the unfortunate lack of security of women and at-risk people in India necessitated the incorporation of a more vicious technology, like a taser, within the invention. One participant identified the "shameful portrayals" of women ill-treatment in Indian cinema playing a role in immunising people towards these heinous acts. Another user highlighted the shift in Indian societal structure from matriarchal to patriarchal during the 200 years of colonial rule as one of the plausible reasons for change in attitudes towards women. A woman participant described the sad present-day reality, where women have to rely on their male partners for safety. The helplessness in Indian women has reached such an extreme that the only solution, especially for many single women, is to move out of the country. One of the users presented a unique perspective on this artefact: they wished to assume the role of the mannequin of which the saree was being pulled off, instead of being the one to pull it off, to experience and empathise with the ramification of these actions on the victim. With the use of a future speculative artefact, *A Saree Like Draupadī's* was able to throw light upon a sensitive topic, which is complex to depict to an audience that has been helplessly dealing with or witnessing this issue for decades. The artefact triggered a range of emotions in participants that included resentment, frustration, helplessness and empathy based on individual relationships with the subject.

The participants unanimously described *Virtual Sanskrit Archive* as the most simplistic, but still impactful, artefact for depicting the beauty of Indian culture. A few users self-identified as having studied Sanskrit in school, yet not being able to comprehend the poem in the artefact due to lack of usage of the language. A comment from one of the participants, who also moved out of India recently, resonated with my experience of disengagement with the culture while being in India. The participant owed their disconnection to the redundant and forceful ways in which the culture was introduced to them as a child. One of the candidates, who learned Sanskrit as a part

of their education of the Ayurveda medicine system, provided eloquent insights about the construction of this language. They described the phonetics of Sanskrit as constructions that embody the feelings and expressions which naturally occur while speaking the words, this being deeply connected to emotions. "It is almost like Sanskrit words have feelings," they said. This helped me understand why, in spite of not knowing the language, the recited Sanskrit verse in the artefact instilled a flurry of emotions in me. One participant posed a question to me: "Do you think our official language would be different from English if we were not colonised?" I replied that I believed it would. However, with the present-day reality, it was unrealistic to propose bringing back Sanskrit in day-to-day use. Another participant's suggestion came to mind: keeping it alive through artistic forms, such as music, art, dance and making its "cool" aspect visible to the youth with the use of marketing. *Virtual Sanskrit Archive* opened up a novel avenue for realising and "embracing the beautiful side of Indian culture", which in turn uncovered a curiosity in participants to learn more and revive other aspects of Indian culture that might be losing their presence.

The user testing of Indofuturist artefacts led to a series of rich discussions. In spite of these sessions being remote, the energy and enthusiasm of the participants was strong. Situating the artefacts in the context of a speculative future helped participants to safely engage with difficult issues and provide insights from their personal experiences. The vivid perspectives that emerged from this study helped me to further unearth aspects of my research and increased my understanding on the subjects covered in the prototypes. The study helped add more voices to this emerging discussion and gave a glimpse of the potential conversations that Indofuturism can instigate.

## INDOFUTURIST MANIFESTO

The Indofuturist Manifesto encapsulates the ethos of Indofuturism as discovered in this research. The Manifesto takes the form of a video. The narrative of the video commences with a preamble describing my vision of an Indofuture, communicated through a speculative future world of my own devising that connects the Indofuturist artefacts by situating them over a fictional timeline. It then leads to the tenets of Indofuturism that elaborate the Indofuturist lens, and a call-to-action that hails the Indian diaspora to participate in this movement. (see Appendix C)

Apart from English, there was a consideration of using Hindi (the national language of India) for writing the Manifesto. However, I realised that a lot of Indian communities such as people from South and North-East India do not prefer using Hindi in their daily lives but comprehend English. Hence, the decision of using English was made. This also helped in making it accessible to descendants of India who are located internationally and may not be fluent in Hindi.

## INDOFUTURE STORYWORLD

At this point of the research, the Indofuture world I created is accessible only through the Manifesto. The narrative of the storyworld is used as a tool to unify the artefacts on a fictional future timeline and, following the discoveries of user testing, contextualise the artefacts for people to engage with them meaningfully. The storyworld is also a means of activating the tenets of Indofuturism.

The five created artefacts explore distinct intents of the Indofuturist lens. While some demonstrate a more hopeful and optimistic outlook of Indian culture, others depict critical, dark tones to address contemporary societal issues. In order to unite these contrasting tones under one storyworld, I situated them over a fictional timeline. During an independent study on World Building, my supervisor introduced me to the role-playing game *Microscope* by Ben Robbins as an approach for developing a fictional world across a chronology. Playing *Microscope* helped me understand the possible underlying construct of building such a world, establish an overview of the narrative and discover a series of prompts for situating my artefacts.

Fig. 40 is an overview of the result of this activity. The period that this storyworld ended at was a positive period in which "An Indofuture flourishes" wherein social equity is achieved, the economic future of Indian people is secure, there is a return to "unity in diversity", and young artists, musicians, designers, technologists have become the new generation of thought leaders in India.
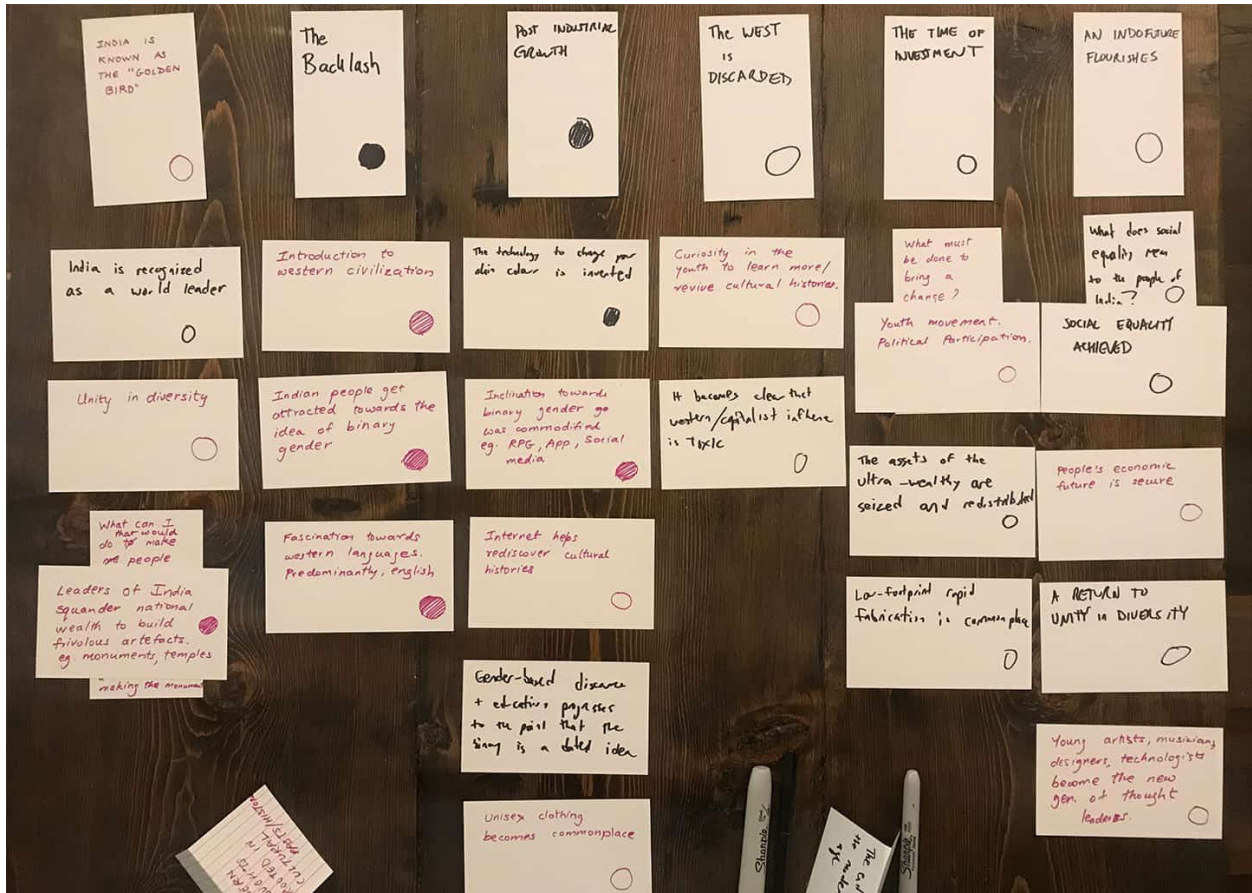
Figure 40: Overview of the result of *Microscope* game activity.

Fig. 41 depicts elements of the game that were used to set the parameters, focus and goal of the Indofuture storyworld to be imagined. "Indian culture escapes colonialism and flourishes" was the proposed big picture for this world. The "Yes" palette suggested inclusion of alternative history, cultural references and the prototypes created in this research, while the "No" palette suggested exclusion of nationalism and absurdism. (more details in Appendix D)
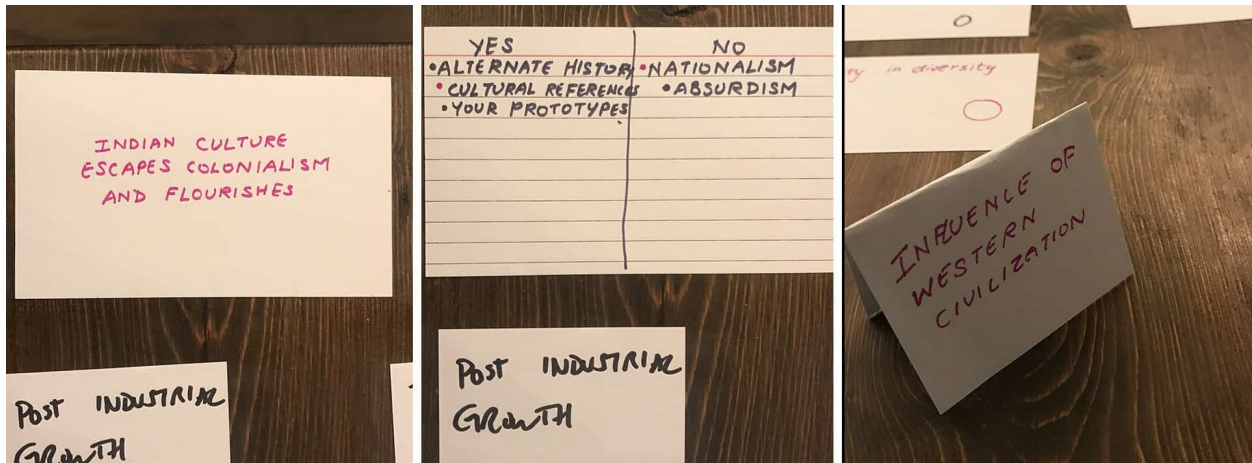
Figure 41: Elements of the game – the big picture, palette and one of the focus cards.

The discovered prompts guided the placing artefacts such as *Skin Lab* and *Virtual Sanskrit Archive* in an Indofuture world. However, a more vital takeaway was the use of a non-linear approach to develop the chronology of a world. Although the activity was concluded at this stage (Fig. 40), the approach offered endless opportunities to add events into this world. The contexts of the three remaining artefacts (*Gateway to the World, COLONIZR* and *A Saree like Draupadi's*) became prominent during the user testing sessions. They were further refined using the Inside-out World Building approach and incorporated into the narrative of the Indofuture storyworld.

The world thus envisioned does not have to be limited to the artefacts it currently contains and can continue to grow. It can serve as an open storyworld that hails artists, designers, scholars, writers, technologists, creators of Indian descent from all over the world to delve into and expand.

## TENETS OF INDOFUTURISM

The analysis of the artefacts and the methodological findings of the Indofuturist lens derived from this research are summarised to form the tenets of the Indofuturist Manifesto. The tenets are as follows:

1. Indofuturism is here to empower the Indian diaspora to respond to colonialism and address its continuing impacts in post-colonial times.

2. Indofuturism calls for artists, designers, scholars, writers, technologists, creators of Indian descent to form a community of Indofuturists.

3. The lens of Indofuturism imagines an alternative future for India without its inglorious colonial past, in order to help Indian people reorient their post-colonial, post-apocalyptic present.

4. Indofuturism reclaims aspects of India's pre-colonial culture that were lost through colonialism by reincarnating them in an Indofuture.

5. Indofuturism highlights the pressing social conditions in contemporary India by critiquing prejudices prevalent within Indian communities.

6. Alongside the idealistic ambitions found in other Postcolonial Futurisms (which it seeks inspiration from), Indofuturism offers its own unique characteristics, illustrated by critical and dark narratives that allow discursive interventions.

7. Indofuturism refuses to recreate the fabled lived "Golden Bird" era, as this kind of a utopian depiction is not useful in addressing the social situations that beset the present-day reality of India.

8. Indofuturism speaks to a diaspora that shares a relatively uniform cultural experience, creating room for a majority of Indian descendants that might be spread across the world to join in.

9. Indofuturism is a heretofore under-explored space for Indofuturists to delve into, and give Indian people a face in the future.

Indofuturism inspires a feeling of belongingness in any who are of Indian descent and sets the stage for these people to creatively engage with the potential of Indian culture.

## MAKING OF THE VIDEO

The Manifesto takes the form of a video with the intent of making the vision and aesthetics of Indofuturism accessible to a global audience. This video is a real-world artefact from today, and not an artefact from the Indofuture world. It is based in context of, and the tenets apply to, the real world.

For the voice of the narration, I was initially torn between the choice of using my voice and an artificial, machine-generated voice. I sought inspiration from the 3D Additivist Manifesto (Allahyari and Rouke), which uses an anonymised voice to separate itself from any single creator, and thereby makes it accessible to anyone. Similarly, a machine-generated voice would divorce the Indofuturist Manifesto from me as a creator, anonymise it, and thereby invite the

Indian diaspora to adapt and make Indofuturism their own. As the Manifesto was conceived with this exact intent, a computer-generated voice was chosen.

The visual aesthetic of the video was envisioned to comprise of composited footages of artefacts, typographical animation, intercepted by abstract stock videos (Fig. 42), all synced to the voice-over narration. This was chosen with the intent of presenting the artefacts and tenets in way that might be visually engaging for people of Indian descent.
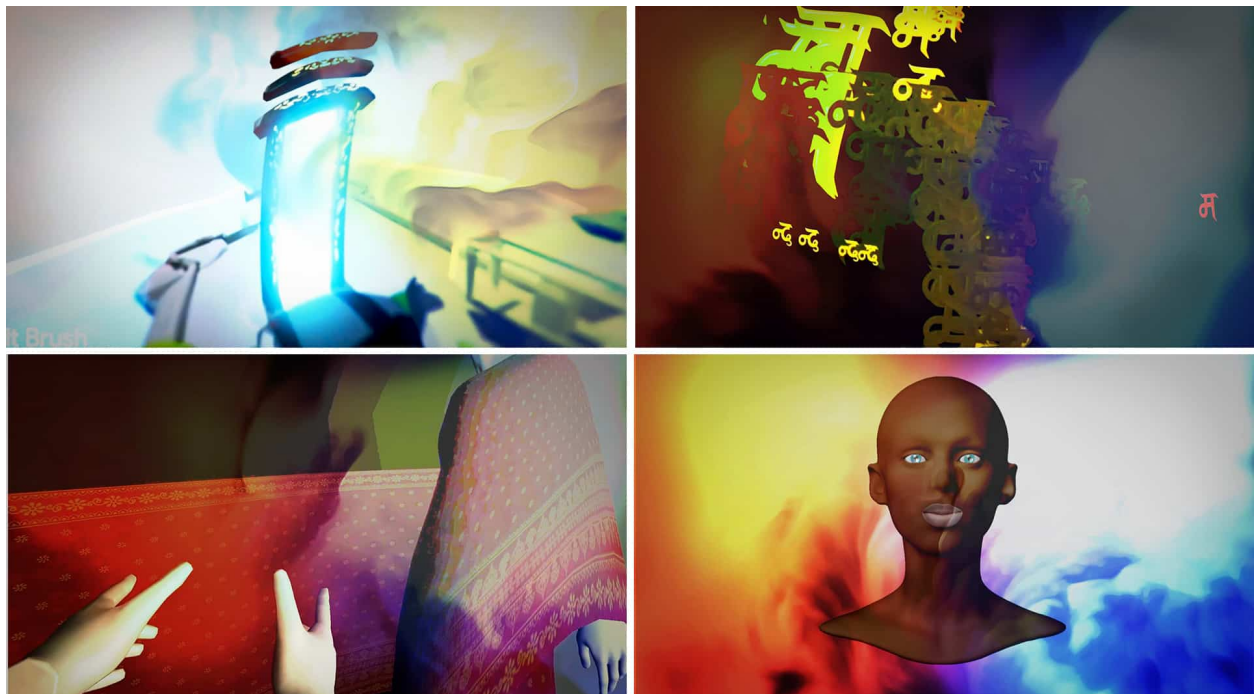


Figure 42: Visuals from the Indofuturist Manifesto video.

I did a greenscreen shoot to film footage of me interacting with the artefacts. These were composited in the video with the intent of clarifying the role of the user in the interactions. Fig. 43 is a collage of some of the moments from this shoot. The sequence for *A Saree Like Draupadī's* included me enacting the interaction wearing a saree.
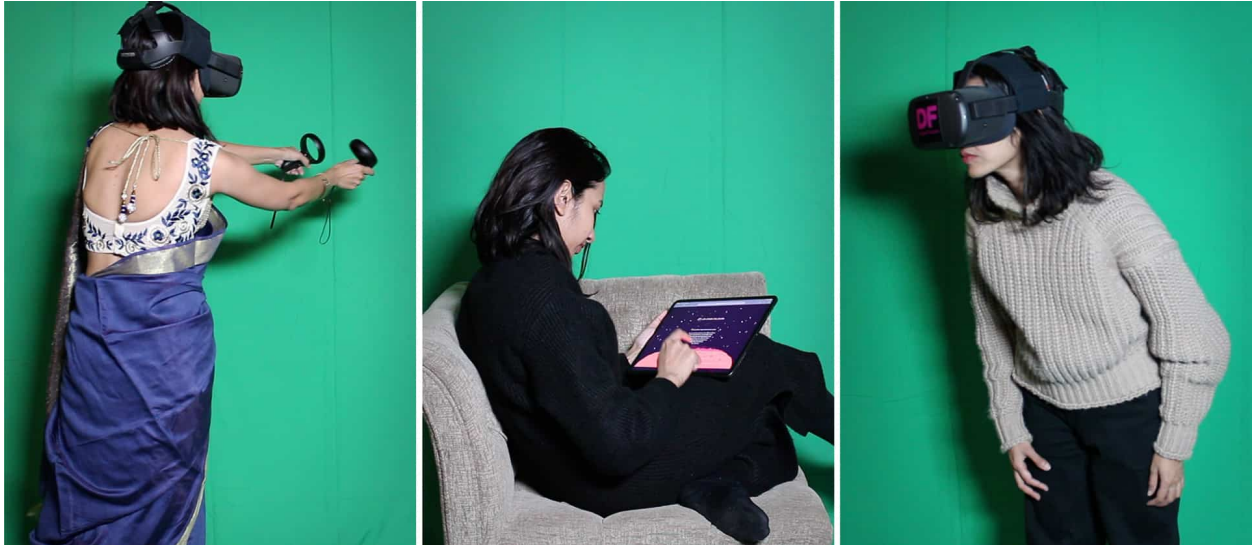
Figure 43: Photos from the greenscreen shoot of the Manifesto video.

[📹] https://vimeo.com/531509910
*(Click the above hyperlink to view the Indofuturist Manifesto video)*

The Indofuturist Manifesto is available publicly at https://priyabandodkar.com/indofuturism/.

To conclude, the video was helpful in distilling the findings of this research. More importantly, it created a succinct offering that is accessible to Indian communities.

# CHAPTER 5: CONCLUSION AND FUTURE GOALS

## SUMMARY OF RESEARCH

This research proposes Indofuturism as a futurism discipline for Indian people and their descendants. Indofuturism responds to colonialism in India and its ramifications in post-colonial times. It imagines an Indofuture, an alternative future for India, wherein India was not colonised. The vision of Indofuturism is rooted in India's cultural history.

The lens of Indofuturism emerges with multifold intent. Each of the five artefacts created in the project illustrate distinct intents of the lens. This decolonisation narrative of Indofuturism is explored through the artefact *Gateway to the World*, which reimagines a colonial architecture as an Indian-inspired and Indian-built structure. Indofuturism reimagines pre-colonial cultural heritages of India that diminished through colonialism and reincarnates them in a speculative future. The artefact *Virtual Sanskrit Archive* envisions such a reclamation of the ancient Indian language, Sanskrit, by preserving it in the medium of virtual reality through an Indian classical dance performance. The present-day Indian community is haunted by grave internal prejudices. The lens of Indofuturism uses the future as a safe place to critique these prejudices and throw light upon social conditions that may not necessarily be entrenched in colonialism and might have surfaced during post-colonial times. The artefact *Skin Lab*, by asking the user to select a skin tone they thinks is best, highlights the colorism bias prevalent in contemporary Indian community, and exemplifies the critical aspect of Indofuturism. The artefact *A Saree like Draupadi's* asks the user to interact with and pull a self-replicating, unending fabric off a mannequin's body to critique the treatment of women and at-risk people in present-day India. The discursive, dark narrative of *COLONIZR* asks the user to assume the role of a space coloniser within a digital game, and discard undesirable aliens from the planet India has colonised, making the user confront the devastation that decisions made during colonisation had and continue to have on the people of India, especially on its marginalised gender non-conforming populace.

Since postcolonial experiences of colonised communities worldwide are connected, Indofuturism seeks inspiration from existing Postcolonial Futurism practices. In addition to being inspired by these practices, Indofuturism offers unique characteristics, illustrated by critical and dark narrative approaches from this project. Distinct among Postcolonial Futurism practices, Indofuturism speaks to a diaspora that shares a relatively uniform cultural experience.

The Indofuturist Manifesto summarises the findings of this research with brevity and clarity. It makes the lens of Indofuturism accessible to the Indian diaspora and invites them to join in. The Manifesto takes the form of a video which helps communicate the aesthetics of Indofuturism through visuals, alongside the tenets. It connects the five artefacts through a fictional storyworld represented by my vision of an Indofuture.

This research can be thought of as considering the subject at two levels. While the individual artefacts depict a detailed (micro) view of the different intents of the Indofuturist lens as described in this paper, the Manifesto serves as an overarching (macro) view of the idea as a whole and an offering to a larger community, allowing possible exploration of the lens from any direction.

## REFLECTION ON METHODOLOGIES, CONCEPTUAL FRAMEWORK AND METHODS

The choice of Speculative Design as a methodology was made because it had been used to good effect during early explorations of this research and other projects that formed its foundation. However, the Critical and Dark Design approaches which emerged later, were the ones that allowed the aesthetics and vision of Indofuturism to become distinguished.

The significance of constructing background stories to contextualise artefacts using World Building emerged primarily during user testing: the artefacts that were presented with a background context of the world they belonged to were easier to engage with for the users. This played a crucial role in setting the tone of the artefacts for participants, as the artefacts had a varying range of outlooks from optimistic to dark.

Thought Experiments as a method fittingly complimented my stints of ideation, from concept to development of prototypes, using different media. The beauty of this process was that the Thought Experiments that emerged in the form of art, wireframes, prototypes at each stage of development, contained a thought in its entirety and had the potential to communicate an idea independently. The value of the Thought Experiment is carried from concept through to the final installation of each artefact; each artefact originates as a Thought Experiment and is also a Thought Experiment in itself.

## REFLECTION ON USER TESTING

The user testing proved valuable beyond just testing the efficacy of Indofuturist artefacts. It led to deep, focussed discussions with each participant. The artefacts sparked varying emotions in participants based on their personal relationships with the subjects highlighted in the artefacts. One of the participants said they had a "very emotional connect with the prototypes", as they had personally been affected by some of the indicated social issues. Other participants expressed how the application of these artefacts changed their perception of addressing social challenges. "Before experiencing the artefacts I used to often dwell into conversation about it at any given chance and thought that was the only way to bring in change. This visual approach with the use of future tech [sic] definitely will prove to be great catalyst to accelerate the awareness among young generations and hopefully will help eradicate some of the petty issues we face in society," one said. "The installation helped me understand [a] few concepts while practically being immersed in the environment," said another. A dire need to move away from conventional approaches and embrace radical methods was attested by another candidate: "I believe that we are at a point where we have to strive harder to make a difference and depart from the conservative environment." The user testing generated valuable insights that helped me parse my research on a deeper level. Above all, it added more voices to this research, than just my own.

## GOALS, FUTURE WORK AND OUTREACH

As I belong to the international Indian community, I wish this application of Indofuturism to facilitate the activation of Indofuturist dialogue in future studies, which will thereby give Indian people a place in visions of the future. This research intends to bring Indofuturism into conversations with existing Postcolonial Futurisms. The peculiar characteristics of Indofuturism, such as the critical and dark narrative for highlighting challenges within contemporary Indian communities, serves as its unique offerings to futurism practices.

Future work in support of this research is framed around the dissemination of Indofuturism to the target audience and empowering them to contribute. This can take the form of, for example, workshops that spread this knowledge or public installations that stimulate Indofuturist conversations. Another direction might be to develop the Indofuture storyworld further by inviting participation from people of Indian descent. This can be done through a call for submissions for people to expand the Indofuture storyworld narrative or create their own. I wish equally to invite trained creators and practitioners as well as people of Indian descent who

might now have engaged in this format of creation before. I especially for hope this work to spark the imagination of those who may not consider themselves trained or artistic. The collaboration with Tanveer Alam, a *Kathak* performer of Bangladeshi origin for Virtual Sanskrit Archive, suggested the possibility of more such collaborations, opening up Indofuturism to South Asian people and creating an avenue to expand, adapt and apply Indofuturism beyond India.

The user testing of this research is a testimony to the discussions, reflections and understandings that Indofuturism has the potential to generate. It is my intent that these conversations continue to manifest. As a starting point, I have been invited to a podcast interview about my research by the *Extended Reality Developers of India (XRDI),* a non-profit community working towards XR democratisation and education through podcast, networking, workshops at leading Indian Universities such as the Indian Institute of Technology (IIT) and the Indian Institute of Management (IIM).

In conclusion, I hope for this research to inspire the Indian diaspora to explore and make Indofuturism their own, and as a long-term objective, foster a feeling of belongingness in Indian people, and a reconciliation in the youth of Indian descent towards Indian culture.

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# APPENDICES

## APPENDIX A: NARRATIVE FOR COLONIZR

A bountiful, untouched planet awaits! As you build a glorious new space colony out of the barbarous waste that it was before you arrived, be careful of the aliens you allow to stay! The community you build now will shape the planet for all time!

### HOW TO PLAY

1. First, select a region you plan to improve from the several available.
2. Next, looking at the photos of randomly picked aliens of this region, decide which of them are undesirable. Tap "Retain" to keep the desirables or "Discard" to remove the undesirables.

You must remove 20% to 30% of the population, so your new empire can thrive. Choose wisely!

### OPTIONS FOR RESULT

- *Discarded less than 20%:* Uh oh! You only discarded x% of the populace! Your colony is too overpopulated to be manageable or profitable. Try again!

- *Discarded between 20% to 30%:* Well done! You have removed undesirables from your new colony. It is now generating wealth for you, and the population is easily managed!

- *Discarded more than 30%:* Uh oh! You have discarded x% of the populace! Your colony does not have enough population to turn a profit. Try again!

- *Discarded none:* Uh oh! You have discarded none of the populace! Your colony is too overpopulated to be manageable and profitable. Try again!

*Discarded all:* Uh oh! You have discarded all of the populace! Your colony does not have any population to turn a profit. Try again!

### EXIT GAME

This artefact critiques the horrors of colonialism as inflicted on Indian people and asks the player to confront these issues. Learn more on blog

# APPENDIX B: USER TESTING QUESTIONNAIRE

Participants who user-tested one or more pieces of the installation as a part of the study for "Activating Indofuturism: Applying a lens adapted from Afro-and-Indigenous Futurism", please fill out this questionnaire to submit feedback on the interactions.

The target audience for this thesis research is "international young adults of Indian descent". Do you identify as this target audience? *

    o   I identify as the target audience.

No, I do not identify as the target audience.

Pieces interacted with... *

    ☐   Gateway to the world

    ☐   COLONIZR app

    ☐   "Best" skin tone

    ☐   Self-replicating fabric

Virtual Sanskrit archive

Based on the visual design of each piece, how clear were the intended interactions? *

| | Very clear | Somewhat clear | Unclear | Misleading | I did not interact with this piece |
|---|---|---|---|---|---|
| Gateway to the world | ○ | ○ | ○ | ○ | ○ |
| COLONIZR App | ○ | ○ | ○ | ○ | ○ |
| "Best" skin tone | ○ | ○ | ○ | ○ | ○ |
| Self-replicating fabric | ○ | ○ | ○ | ○ | ○ |
| Virtual Sanskrit Archive | ○ | ○ | ○ | ○ | ○ |

How did you feel the meaning of each piece was communicated? *

| | The meaning was very obvious | The meaning was suggested | The meaning was too ambiguous | I did not interact with this piece |
|---|---|---|---|---|
| Gateway to the world | ○ | ○ | ○ | ○ |
| COLONIZR App | ○ | ○ | ○ | ○ |
| "Best" skin tone | ○ | ○ | ○ | ○ |
| Self-replicating fabric | ○ | ○ | ○ | ○ |
| Virtual Sanskrit Archive | ○ | ○ | ○ | ○ |

In what ways did this installation challenge or change the way you think of Indian culture and colonial history? *

Additional comments/feedback/suggestions (optional)

# Appendix C: Indofuturist Manifesto (Used as Script for the Video)

Imagine! A glorious Indofuture world, an alternative future timeline where India has thrived and was never colonised! A world that speaks to the difficult issues of our actual present, with both utopian optimism and satirical critiques, while addressing the needs of this fictional future.

On the coast of Mumbai, where you would see the Gateway of India, a testimony to British colonialism, we have the Gateway to the World. Using advanced technology and the brilliance of its people, in this alternate future just a few years from now, India has crafted this Indian-inspired architectural marvel that transports people and goods anywhere in the world in the blink of an eye.

Fifty years on, in this alternate enlightened future, are you still finding strange hands groping you? Fear no more with A Saree Like Draupadi's: a nano-fabric that self-replicates as it is unwound. Leave your worries of being manhandled behind. With A Saree Like Draupadi's, the wearer will never be disrobed!

Looking forward thirty years, are you still not satisfied with your skin color? Here, in Skin Lab, anyone can choose how they look. Want to look more fair? You can, just use this simple device to pick your perfect tone and let the technicians do their work.

A few short decades later, India is exploring the stars. Indian ships are on the way to bring brave adventurers to new frontiers. Of course, some alien life may have to be displaced to make room. These difficult decisions have been made easier through a game! COLONIZR is here for the Indian public to have their say in choosing which aliens to keep, and which to remove from the glorious new space territory.

Jumping ahead a century, we see a find of ancestral proportions! Ancient recordings stored in an archaic technology have been decoded by our brilliant scientists: what seems like a synergy of moving typography and a speech unheard for centuries. An ancient language has been reincarnated! Though none still alive understand what it means, this symphony of words and movements has enchanted a generation.

So, what does imagining an Indofuture or Indofuturism do?

For you and for Indian people everywhere? How does imagining a future help anyone or anything?

1. Indofuturism is here to empower the Indian diaspora to respond to colonialism and address its continuing impacts in post-colonial times.

2. Indofuturism calls for artists, designers, scholars, writers, technologists, creators of Indian descent to form a community of Indofuturists.

3. The lens of Indofuturism imagines an alternative future for India without its inglorious colonial past, in order to help Indian people reorient their post-colonial, post-apocalyptic present.

4. Indofuturism reclaims aspects of India's pre-colonial culture that were lost through colonialism by reincarnating them in an Indofuture.

5. Indofuturism highlights the pressing social conditions in contemporary India by critiquing prejudices prevalent within Indian communities.

6. Alongside the idealistic ambitions found in other Postcolonial Futurisms (which it seeks inspiration from), Indofuturism offers its own unique characteristics, illustrated by critical and dark narratives that allow discursive interventions.

7. Indofuturism refuses to recreate the fabled lived "Golden Bird" era, as this kind of a utopian depiction is not useful in addressing the social situations that beset the present-day reality of India.

8. Indofuturism speaks to a diaspora that shares a relatively uniform cultural experience, creating room for a majority of Indian descendants that might be spread across the world to join in.

9. Indofuturism is a heretofore under-explored space for Indofuturists to delve into, and give Indian people a face in the future.

Indofuturism inspires a feeling of belongingness in any who are of Indian descent and sets the stage for these people to creatively engage with the potential of Indian culture.

# APPENDIX D: SUMMARY OF *MICROSCOPE* ROLE-PLAYING GAME ACTIVITY

A summary of the result of the *Microscope* role-playing game activity to study its application as a framework for World Building.

## SYNOPSIS

### PARTICIPANTS

Priya Bandodkar and Nick Alexander

### THE BIG PICTURE

Indian culture escapes colonialism and flourishes

### THE PALETTE (YES AND NO)

Yes: Alternate History, Cultural References, Priya's Prototypes, No: Nationalism, Absurdism

### Period 1: India is known as the Golden Bird

At the beginning, we have a period where India is known as the "Golden Bird", presumably it's the time of prosperity (in the actual historical timeline) before it was colonized. At this point, India is regarded as a world leader, and there is this idea there's unity and diversity. However, the leaders of India squander their national wealth to build frivolous artifacts, monuments, temples. And at this time, we have a conversation between a king or rather a leader and the advisor on what is the best way to get people to remember him for generations to come. And the outcome of that conversation was to build a monument and film a movie, a Bollywood movie about the building of that monument.

### Period 2: The Backlash

Then there comes a period known as "The Backlash" when Western civilization in this timeline begins to encroach into India. In this period, Indian people get attracted towards the idea of gender binary, and there's a fascination towards western languages, predominantly English.

### Period 3: Post-industrial Growth

We then enter a period called post-industrial growth, where the technology to change your skin color is invented. Next, there is an inclination towards gender binary. And that's been

commodified through RPGs, apps and social media. However, the internet access at this time helps people rediscover their cultural histories. Gender-based discourse and education progresses to the point that gender binary becomes dated idea at this point, and unisex clothing becomes commonplace.

### Period 4: The West is Discarded

We move on to a period wherein "The West is Discarded". There's curiosity in the youth to learn more and revive ancient histories, and it becomes clear that western and capitalist influence is toxic.

### Period 5: The Time of Investment

The next period is called "The Time of Investment". There's a youth movement and political participation. And we have a conversation about what must be done to bring change between a father and a daughter. And the outcome that we decided on was that there needs to be a redistribution of the wealth. Following that, there is an event wherein the assets of the ultra-wealthy are seized and redistributed, and the technological advancements that come from that allow a lower footprint, rapid fabrication to become commonplace.

### Period 6: An Indofuture Flourishes

Finally, we have a period called "An Indofuture Flourishes" wherein social equality is achieved. We had a conversation about what does social equality mean to the people of India, and we decided that it means equal access to resources and education. The people's economic future becomes secure. There is no longer a need to save and scrimp to get by. There's a return to this idea of unity and diversity that was when India was the Golden Bird. Young artists, musicians, designers, technologists become the new generation of thought leaders.

## CONCLUSION

This was a trial session and we decided to conclude at this stage, but the game offers scope and to continue adding events to the timeline. It could also play out in a different, perhaps a slightly illogical sequence, like some events in the real world. All in all, this is a good way lay the groundwork for a world especially, in the case of this thesis, where events will be scattered over many years.

# APPENDIX E: STORYBOARD FOR INDOFUTURIST MANIFESTO VIDEO

| Voice-over (text in orange will not be included) | Visual | Description of visual and action |
|---|---|---|
| **01** — Imagine! |  | Animated Typography. |
| **02** — A glorious Indofuture world, an alternative future timeline where India has thrived and was never colonised! A world that speaks to the difficult issues of our actual present while addressing the needs of this fictional future. |  | Introduce each of the five Indofuturist artefacts using quick snippets + overlay of effect, filter. |
| **03** — *<Gateway to the World>* On the coast of Mumbai, where you would see the Gateway of India, a testimony to British colonialism,… | TO BE UPDATED | **ARTEFACT 1**<br>VR POV: Viewer standing in a boat in the Arabian sea overlooking the Gateway of India. Viewer moves closer to the Gateway of India and passes through it. |
| **04** — … we have the Gateway to the World. Using advanced technology and the brilliance of its people, in this alternate future just a few years from now, India has crafted this Indian-inspired architectural marvel that transports people and goods anywhere in the world in the blink of an eye. | TO BE UPDATED | **ARTEFACT 1**<br>VR POV continues: Viewer reaches the other side of Gateway of India and turns around to see the Gateway to the World instead of the Gateway of India. The viewer is in the Indofuture! Viewer explores the space. |
| **05** — *<A Saree like Draupadi's>* Fifty years on, in this alternate enlightened future and still finding strange hands groping you? | TO BE UPDATED | Different hands images with the action of holding/gripping on saree fill the screen OR image (s) of Duryodhana attempting to disrobe Draupadi from Mahabharata. |

| | Voice-over (text in orange will not be included) | Visual | Description of visual and action |
|---|---|---|---|
| 06 | Fear no more with A Saree Like Draupadi's: a nano-fabric that self-replicates as it is unwound. Leave your worries of being manhandled behind. With A Saree Like Draupadi's, the wearer will never be disrobed! | TO BE UPDATED | **ARTEFACT 2**<br>Woman in saree wearing a VR headset. VR POV: Viewer looking around in the room and interacting with the self-replicating fabric on the mannequin. |
| 07 | *<Skin Lab>* Looking forward thirty years, are you still not satisfied with your skin color? | TO BE UPDATED | Montage of advertisements OR (3D video texture projection on a mesh) of fairness products, matrimonial ads from India. |
| 08 | Here, in Skin Lab, anyone can choose how they look. Want to look more fair? | TO BE UPDATED | **ARTEFACT 3**<br>Shot of mannequin head projected with a 3D model of a face with changing skin, eyes, lips color. |
| 09 | You can, just use this simple device to pick your perfect tone and let the technicians do their work. | TO BE UPDATED | **ARTEFACT 3**<br>Close up of a person using the Skin Lab tactile device to update color of skin and features of the 3D model being projected on the mannequin head. |
| 10 | *<COLONIZR>* A few short decades later, India is exploring the stars. Indian ships are on the way to bring brave adventurers to new frontiers. | TO BE UPDATED | Show celestial images, images of different planets populating the screen. Action of planting a flag in space. |

| Voice-over (text in orange will not be included) | Visual | Description of visual and action |
|---|---|---|
| **11**   Of course, some alien life may have to be displaced to make room. | TO BE UPDATED | **ARTEFACT 4** Montage of some alien images from the game. |
| **12**   These difficult decisions have been made easier through a game! COLONIZR is here for the Indian public to have their say in choosing which aliens to keep in the glorious new space territory. | TO BE UPDATED | **ARTEFACT 4** Animated Typography for COLONIZR. Clips of different Indian people interacting with their phones, tablet, playing the COLONIZR app. |
| **13**   *<Virtual Sanskrit Archive>* Jumping ahead a century, we see a find of ancestral proportions! | TO BE UPDATED | **ARTEFACT 4** Fade in narration of Sanskrit verse, fade in performance VR snippets of Sanskrit letters superimposed on the Kathak dancer. |
| **14**   Ancient recordings stored in an archaic technology have been decoded by our brilliant scientists: what seems like a synergy of moving typography and a speech unheard for centuries. An ancient language has been reincarnated! | TO BE UPDATED | **ARTEFACT 4** Person wearing a futurist device like a Google cardboard. Computer graphics (CG) of the performance to Sanskrit verse playing in the background. |
| **15**   Though none still alive understand what it means, this symphony of words and movements has enchanted a generation. | TO BE UPDATED | **ARTEFACT 4** Happy-looking Indian people and CG of Sanskrit letters, the verse, floating around them. Some people trying to learn Kathak dance form looking at the Sanskrit Archive. |

| | Voice-over (text in orange will not be included) | Visual | Description of visual and action |
|---|---|---|---|
| 16 | So, what does imagining an Indofuture do? | TO BE UPDATED | Animated typography. "Imagining an Indofuture" will animate and transform to "Indofuturism" and read as:<br>So, what does Indofuturism do? |
| 17 | For you and for Indian people everywhere? | TO BE UPDATED | Stock footage of crowd (Indian people). Animated typography masks out of this. |
| 18 | How does imagining a future help anyone or anything? | TO BE UPDATED | Animated typography. |
| 19 | <Manifesto><br>1. Indofuturism is here to empower the Indian diaspora to respond to colonialism, and address its continuing impacts in post-colonial times. | TO BE UPDATED | Animated typography.<br><br>Stock footage of abstract elements + traces of may be from the era of colonisation embedded in the footage, with a stylised filter in the background. |
| 20 | 2. Indofuturism calls for artists, designers, scholars, writers, technologists, creators of Indian descent to form a community of Indofuturists. | TO BE UPDATED | Animated typography.<br><br>Stock footage of abstract elements + embedded with young Indian people within the footage, with a stylised filter in the background. |

| Voice-over (text in orange will not be included) | Visual | Description of visual and action |
|---|---|---|
| **21** 3. The lens of Indofuturism imagines an alternative future for India without its inglorious colonial past, in order to help Indian people reorient their post-colonial, post-apocalyptic present. | TO BE UPDATED | Animated typography.<br><br>Stock footage of abstract elements + embedded within is the Gateway to the World artefact, with a stylised filter in the background. |
| **22** 4. Indofuturism reclaims aspects of India's pre-colonial culture that were lost through colonialism by reincarnating them in an Indofuture. | TO BE UPDATED | Animated typography.<br><br>Stock footage of abstract elements + embedded within is the Virtual Sanskrit Archive artefact, with a stylised filter in the background. |
| **23** 5. Indofuturism highlights the pressing social conditions in contemporary India by critiquing prejudices prevalent within Indian communities. | TO BE UPDATED | Animated typography.<br><br>Stock footage of abstract elements + embedded within is the Skin Lab artefact, with a stylised filter in the background. |
| **24** 6. Alongside the idealistic ambitions found in other Postcolonial Futurisms (which it seeks inspiration from), Indofuturism offers its own unique characteristics, illustrated by critical and dark narratives that allow discursive interventions. | TO BE UPDATED | Animated typography.<br><br>Stock footage of abstract elements + embedded within are the A saree like Draupadi's and COLONIZR artefact, with a stylised filter in the background. |
| **25** 7. Indofuturism refuses to recreate the fabled lived "Golden Bird" era, as this kind of a utopian depiction is not useful in addressing the social situations that beset the present-day reality of India. | TO BE UPDATED | Animated typography.<br><br>Stock footage of abstract elements + historical images depicting wealth and abundance embedded in the footage, with a stylised filter in the background. |

| Voice-over (text in orange will not be included) | Visual | Description of visual and action |
|---|---|---|
| 26 | 8. Indofuturism speaks to a diaspora that shares a relatively uniform cultural experience, creating room for a majority of Indian descents that might be spread across the world to join in. | **TO BE UPDATED** | Animated typography.<br><br>Stock footage of abstract elements + embedded within is footage of international Indian communities, with a stylised filter in the background. |
| 27 | 9. Indofuturism is a heretofore under-explored space for Indofuturists to delve into, and give Indian people a face in the future. | **TO BE UPDATED** | Animated typography.<br><br>Stock footage of abstract futuristic elements, with a stylised filter in the background. |
| 28 | 10. Indofuturism inspires a feeling of belongingness in any who are of Indian descent and sets the stage for these people to creatively engage with the potential of Indian culture. | **TO BE UPDATED** | Animated typography.<br><br>Stock footage of abstract elements + embedded within are references to Indian culture (language, art, performance etc.), with a stylised filter in the background. |
| 29 | *<For more information, read link to paper/ blog>* | **TO BE UPDATED** | Blog link/ link to paper. |
| 30 | *<Citation of images and videos used>* | **TO BE UPDATED** | On-screen citation text. |

# APPENDIX F: EARLY ART EXPLORATION



Art exploration on Indofuturism

Earlier in the research, I explored different art styles that might help me inform the aesthetics of the project. Here, I repainted and stylised a font inspired by the ancient Devanagari Sanskrit script, that was prominently used in ancient India. This concept art depicted my early perspective towards the research. The gradient blues circles indicated portals drawing relationships between the past and future: seeking information from the culture's past to inform its future trajectories.

# APPENDIX G: THESIS TIMELINE
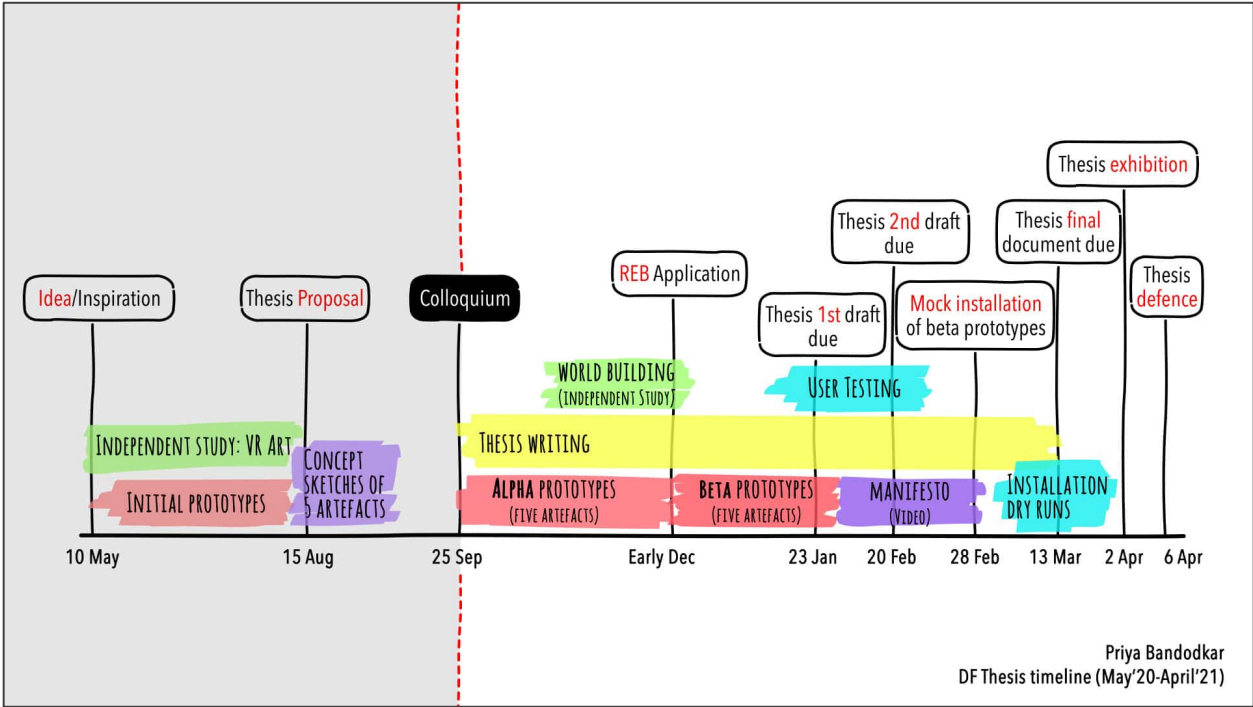


Timeline proposed at the beginning of the research

# APPENDIX H: ONLINE DOCUMENTATION

The highlights, key takeaways of this thesis research and the final project documentation is available at https://priyabandodkar.com/indofuturism/.

Graduating members of the Digital Futures 2021 cohort documented their work online at dfthesis.com/2021.

The process documentation of this research is available at indofuturism.wordpress.com.

The project videos are also available at vimeo.com/user4664361.

The code for COLONIZR application is available on the p5JS web editor at https://editor.p5js.org/priyabandodkar/sketches/rOnRzIR71.

# APPENDIX I: ACCOMPANYING MEDIA - IMAGES

## 1) 1-GATEWAY TO THE WORLD-IMAGE.JPG

Title: Gateway to the World Artefact

Description: Interacting with Gateway to the World artefact in virtual reality.

Date: 28 April 2021

## 2) 2-GATEWAY TO THE WORLD-SKETCH.JPG

Title: Gateway to the World Concept

Description: Concept sketch of Gateway to the World artefact.

Date: 28 April 2021

## 3) 3-SKIN LAB-IMAGE.JPG

Title: Skin Lab Artefact

Description: Interacting with Skin Lab artefact using a tactile interface.

Date: 28 April 2021

## 4) 4-SKIN LAB-SKETCH.JPG

Title: Skin Lab Concept

Description: Concept sketch of Skin Lab artefact.

Date: 28 April 2021

## 5) 5-COLONIZR-IMAGE.JPG

Title: COLONIZR Artefact

Description: Interacting with COLONIZR artefact using a mobile phone.

Date: 28 April 2021

## 6) 6-COLONIZR-SKETCH.JPG

Title: COLONIZR Concept

Description: Concept sketch of COLONIZR artefact.

Date: 28 April 2021

## 7) 7-A SAREE LIKE DRAUPADIS-IMAGE.JPG

Title: A Saree like Draupadi's Artefact

Description: Interacting with A Saree like Draupadi's artefact in virtual reality.

Date: 28 April 2021

## 8) 8-A SAREE LIKE DRAUPADIS-SKETCH.JPG

Title: A Saree like Draupadi's Concept

Description: Concept sketch of A Saree like Draupadi's artefact.

Date: 28 April 2021

## 9) 9-VIRTUAL SANSKRIT ARCHIVE-IMAGE.JPG

Title: Virtual Sanskrit Archive Artefact

Description: Interacting with Virtual Sanskrit Archive artefact in virtual reality.

Date: 28 April 2021

## 10) 10-VIRTUAL SANSKRIT ARCHIVE-SKETCH.JPG

Title: Virtual Sanskrit Archive Concept

Description: Concept sketch of Virtual Sanskrit Archive artefact.

Date: 28 April 2021

# APPENDIX J: ACCOMPANYING MEDIA - VIDEOS

## 1) 1-GATEWAY TO THE WORLD-VIDEO.MP4

Title: Gateway to the World Artefact Demo

Description: Interacting with Gateway to the World artefact in virtual reality.

Date: 28 April 2021

## 2) 2-SKIN LAB-VIDEO.MP4

Title: Skin Lab Artefact Demo

Description: Interacting with Skin Lab artefact using a tactile interface.

Date: 28 April 2021

## 3) 3-COLONIZR-VIDEO.MP4

Title: COLONIZR Artefact Demo

Description: Demonstrating user journey and interface of COLONIZR artefact.

Date: 28 April 2021

## 4) 4-A SAREE LIKE DRAUPADIS-VIDEO.MP4

Title: A Saree like Draupadi's Artefact Demo

Description: Interacting with A Saree like Draupadi's artefact in virtual reality.

Date: 28 April 2021

## 5) 5-VIRTUAL SANSKRIT ARCHIVE-VIDEO.MP4

Title: Virtual Sanskrit Archive Artefact Demo

Description: Interacting with Virtual Sanskrit Archive artefact in virtual reality.

Date: 28 April 2021

## 6) 6-INDOFUTURIST MANIFESTO-VIDEO.MP4

Title: Indofuturist Manifesto

Description: Video of the Indofuturist Manifesto.

Date: 28 April 2021