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INFORMATION TECHNOLOGY **DELHI**



Human
Centered
Design

DES204: HUMAN COMPUTER INTERACTION

MAPERA

CARPE - DIEM

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PROJECT REPORT

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“A product is more than the product. It is a cohesive, integrated set of experiences. Make them all work together seamlessly.” ~ Don Norman

INTRODUCTION

THEME

Time is a fundamental dimension of the human condition, affecting the ways humans experience the world and construct their identity. In a world where the human-computer interaction is widening at a very fast pace, it becomes important to pause and analyse the how the two can be integrated, and explore the connections between time and technology. The theme captures the essence of what this integration of

HCI and TIME

IDEA

History is one subject that intensively connects a human with what we call the 'past'. While computing is extending its grasp beyond the keyboard and the display surface into the mind of the user, the way that humans learn about their past can also be revolutionized to signify evolution. Representation of the historical time in a well-versed interface can definitely change the way humans perceive their past and realize the essence of their existence.

SOLUTION

The very first interaction between humans and History happens at the school-level, when students are taught History as a subject. While most of the students are not intrigued into the subject because of the large amount of information they need to retain, Mapera will enable students to engage and relate to history at school, through videos, regional events, and timelines, by giving personalized content according to their class and purpose, thereby creating a smooth transition from introduction to in-depth information about a topic.

PROBLEM STATEMENT

Students find it hard to comprehend and relate to history at school because of dull and procedural information in textbooks and the internet. They seek personalized and engaging visual methods to help them gain interest and retain concepts.

"It is vital to think of possibilities at all scales, but not to fall in love with them as 'The Solution'." [4]

COMPETITOR ANALYSIS

WHAT?

A competitive analysis is the process of identifying your competitors and evaluating their strategies to determine their strengths and weaknesses relative to your own business, product, and service. [5] It is usually conducted prior to building any product, or even its prototype. For example, if you want to build something like Uber, you may not want to proceed further after analysing your competitors and their span in the market. Competitor Analysis essentially lets you get hold of others' weaknesses and features the idea of turning those into your product's strength.

WHY?

Performing a competitor analysis enables us to [7] -

1. Identify gaps in the market
2. Understand market trends
3. Analyse the scope of our product
4. Look at various features that might be integrated for a better functionality
5. Find out about consumer preferences



WIKIPEDIA

Wikipedia is the most widely used webpage for scraping information of all kinds. The 'History' and 'Background' section of all Wikipedia pages make it a one of the competitors for Mapera.

S: Access to world's information by anyone, anywhere; Sleek UI

W: Text-based interface, editable by general public

O: Open source information can be used by anyone; Better presentation of the large amount of data

T: No identifiable threats



LEARNING APPS

Teaching-learning applications such as Byju's and Khan Academy have gained huge popularity among school children lately, and are extensively being used by students to learn about various subjects, including History.

S: Personalized and Adaptive with appealing look; 24/7 doubt clearing;

W: Material not classified using age groups; Paid access; Non SEO;

O: Accessibility and Affordance; Reach wider audience

T: Large user base; Brand name

"Competition helps people figure it out!" ~ Brian McBride

COMPETITOR ANALYSIS

INSIGHTS

While carrying out competitor analysis, we came across a lot of features of the listed competitor products that all of us were unaware of. For example, the Voyage feature in Google Earth is a very impressive feature in itself; but none of us knew about it before despite being a frequent user of this application.

We gathered several insights from the SWOT Analysis of each competitor. It helped us learn more about the preferences of users and what enables them to use that product effectively.

We also compared the visual styles and elements of each interface, and it turned out that the UI of Learning Apps like Byju's and Khan Academy was their strength despite having other fundamental issues.

An important point that we remembered throughout this process was that - A competitive analysis tells us what exists, not why it exists. [8]



GOOGLE EARTH

Google Earth is a popular platform for looking up any place in the world. It has a Voyage feature, which enables a user to look back at any place in time. This feature relates Google Earth to our product.

S: Voyager feature; random search; 3D visuals; information cards; Linked to detailed resources

W: Location based search; mostly geographical information

O: Movies and animations; Topic based searches; classroom-oriented feature

T: Vast user base; Highly extensive



NATIONAL GEOGRAPHIC

DOCUMENTARIES

National Geographic documentaries are one of the most long-lasting ones on the television. Each documentary details historical or geographical topics in a factual yet interesting manner, in place.

S: Narration, interviews and experiences; evolution through animations

W: No one-to-one interactivity; no chronological order; no fixed pace; no options

O: Organisation and order; more freedom to choose and learn;

T: Access to physical locations

“Embrace competition, you might surprise yourself!”

USER RESEARCH

WHAT?

User research covers a wide range of methods. It can mean anything from doing ethnographic interviews with your target group, to classical usability studies, to quantitative measurements of return on investment (ROI) on your user experience design. What all user research has in common is that it helps place people at the center of your design process and your products. [9]

WHY?

Human behaviour, unlike that of physical objects, cannot be understood without reference to the meanings and purposes attached by human actors to their activity. Qualitative Data, it is asserted, can provide such insight into human behaviour. [3]

Aptly said by G. Lincoln, it is entirely necessary to understand what the users want - their needs and frustrations. After all

“Empathy is at the heart of design. Without the understanding of what others see, feel, and experience, design is a pointless task.”

— Tim Brown [9]



Puja, Student
Primary Stakeholder



Neha, Student
Primary Stakeholder



Ritu, Teacher
Secondary Stakeholder

INSIGHTS

We collectively conducted 3 interviews, two of which were semi-structured and the third was contextual. By interacting with our primary stakeholders - the students - we uncovered various pain points that hinder their learning in History. Broadly, the major reason why users weren't well-ff with History, was the way it is taught to them. They find it difficult to grasp and retain such huge amounts of textual knowledge. I conducted the interview with the secondary stakeholder - the teacher. It was a semi-structured interview that lasted for about 20 minutes. Ritu, a history teacher, pointed out several instances when it was very difficult for her to explain certain historical events in the classroom. One important thing that I realised was, when conducting interviews with someone you do not know before, it becomes very important to construct a good rapport before approaching to the questions. If not done so, the answers would not be as close to real or frank.

“I couldn't figure out a single way in 15 years of my career, to make students understand my subject instead of cramming.”

“Design processes work when they build on natural human behaviour.” [24]

PERSONA - SCENARIO

WHAT?

A persona is a description of a fictitious user, based on the data from user research. [1] Personas describe the background of the character and context-specific goals, needs, frustrations and expectations. [2]

Scenario is a situation that captures how users perform certain tasks. [2] Scenarios typically describe users motivations for being onsite and suggest possible ways to accomplish their objectives.

WHY?

Personas help designers to target the design in such a way, that it benefits the users the most. This is generally called User-Centred Design.

Persona-Scenarios and Scenario-Mapping help the team to understand and collaborate better in terms of knowing the exact pain point of users. It strengthens the design process and helps in prioritizing ideas, or making critical decisions about the product, like its interface behaviour. [2]

PERSONA

**PUJA**

I can understand History better than other subjects solely due to my interest.

ABOUT

- Age: 14
- Education: Class 9th
- Occupation: Student

Status: Single
Location: Bangalore

ABOUT PUJA

A history enthusiast and loves reading books. Primarily uses her free time to read about history from different kinds of books like encyclopedia or fact books. But has mediocre interest in Geography.

FRUSTRATION

1. Paragraph format of Geography textbook is less understandable.
2. More information about history is not readily available

GOALS

1. Wants to become a historian (inspired by the idea of discovering new things in history)

NEEDS

1. More exposure to history and the various branches in history

EXPECTATIONS

1. Have history be presented in encyclopedia format.

SCENARIO

She wants to learn more about "Franklin's bumblebee" she just heard in the geography class today. She uses our product to search and gets a list of places where it is mostly found. She also gets options for seeing information about its natural habitat and quick bites about its reaction to different kinds of stimuli. At the end she can share her new found knowledge with her teacher and classmates.

TASKS

1. Search for Franklin's bumblebee
2. Directed to places it is mostly found (in chronological order)
3. Gets information about its natural habitat by clicking on the pop up.
4. Finds out about its behaviour to certain stimuli and its other characteristics in more embedded pop-ups.
5. Explores map to see the density at various locations.
6. Clicks on "Analyse" to get a visual representation of the statistics (like density at each location)

PERSONA

**RITU KALRA**

I couldn't figure out a single way in 15 years of my career, to make students understand my subject instead of cramming.

ABOUT

- Age: 38
- Education: B.Ed History
- Occupation: Teacher

Status: Married
Location: Delhi

ABOUT RITU

TGT History in Sarvodaya Co-Ed Senior Secondary School, Punjabi Bagh; Teaches classes 6th-10th; Diligent, mindful and independent;

FRUSTRATION

1. No other way except textbooks to teach students in government schools.
2. No more than 60% students pass her subject.

GOALS

1. Incorporate effective teaching-learning strategies in classroom.
2. Impact rural education in India

NEEDS

1. Technological knowledge to enhance the learning rate amongst students.
2. Authoritative support in terms of advancement of classroom teaching.

EXPECTATIONS

1. At least 90% students pass her course.
2. Improve students memorization in her subject

SCENARIO

In a class full of students with mixed calibre and interests, she asks students to read more about "The Salt Struggle in India", a topic that she is currently teaching in the class. The students don't seem interested in the classroom environment. The teacher helps the students to look up for the answers on our device and comfortably explains them about the topic, such that students can recall it easily later.

TASKS

1. Teacher divides the students into groups of 5-10, who assemble around the device one by one.
2. Teacher searches for "Salt Struggle India" on the device.
3. The map directs the focus to the place where "Dandi March" started by zooming in to that place. Teacher starts to explain the students along.
4. Teacher clicks on the popped up name, and finds brief information. The students continue to look into the device, while the teacher explains.
5. Students navigate through the path (String of visuals) which was travelled in the March by clicking on "Experience".

"Personas only need to be realistic, not real!" ~ Don Norman

PERSONA - SCENARIO

INSIGHTS

The Scenario and Scenario Mapping turned out to be the key process in the designing of Mapera. Every further step involves the scenario and task sequences defined here. While mapping this scenario, there were several if's and but's that crossed our mind, which have been clearly documented in the Questions section or in the Comments section.

There were several occasions when the team had conflicting views on what shall be the correct sequence, or some functionality that wasn't clearly understood by all till here. But one thing that this process did, was to make the idea clear in everyone's minds. Previously, the idea was a vague imagination, that was probably slightly different for all six of us. But after this point, each one of us knew what we were planning to do, since the broad idea is now documented.

This scenario was chosen because of two main reasons - First, because looking up for filtered information out of dense data is the jist of Mapera, and Second, because Mapera is being designed for the purpose of teaching-learning, and this scenario more or less replicates something that generally happens while learning history - students get projects

Steps	User selects his age and his purpose - 14 and history	Search for Buddhism	Sees a video on Buddhism and is shown some general info/facts	Sees a timeline- heatmap prevalence of Buddhism in the world to see the changes that happened overtime	Tap on a region where the density is shown and see its region related specifics	Selects "Explore more" option at the bottom of the region popup.	Sees statistics related to Buddhism
Comments	Purpose can be: 1. History specific 2. Geography specific 3. Political 4. Exploratory purpose	Search by typing in the search bar or search by voice	General information includes: 1. How was buddhism originated 2. How it spread across the world 3. Some of their faiths 4. Practices	She can use a timeline to see the change in heat map.	Heatmap definition- Map of the number of people/object present in different regions around the world	Concise information: 1. How many people followed the religion 2. Major events in that region 3. Buddhist beliefs of that region	Types of buddhism, Change in population histogram etc
Question	Default option - exploratory. All the information related to the topic is provided	What filters are available in the search bar?	Give a user a personalized/relatable content, by making it relevant to their experiences and their age	Heatmap shows the intensity of prevalence of buddhism (number of followers)	Will see places highlighted in the map.	Is this information sufficient?	Details about buddha's early life, his teacher etc, how he spread his beliefs around eastern countries, important people associated with buddhism etc.
Idea for features and functionality	Simplify content on the basis of users age	Will there be a search bar or a search bar, what is its position, should it always be visible	Will the video have subtitles and multiple languages	Will she be directly directed to the map or will she get an option to be directed to the map?	What will be the range of the timeline	Are there images and videos in the section?	Details on different types of buddhism, Dharma, their holy book, how buddhism now is different from how buddhism was in the past.
	User will be directed to the world map. Where he can search for a particular topic, else they can simply explore the world map.	We can have a Search Bar with autofill menu	After search the user can filter the search results by using keywords. (To make search more specific)	Can show a 3D model of the architecture (like monasteries or temples), people's traditions and activities of that time	On clicking on the highlighted places, the map will be zoomed in to the region and other options will be displayed	She should tap/click on the place to see one pop up at a time	Add animation to the graphs, 3D visualisations
	Basic theme changes according to selected purpose	Give recommendation to search for related species	she should be able to select a particular region to know more about Buddhism in that region.	Video should have a skip button	Related videos and links to explain region related specifics of their beliefs	Information can also be shown in the form of comics or stories from other sources	Infographics
	Get recommendations based to its previous activity		Video should be in story format to make it more interesting.	Every region in the heatmap should have a number corresponding to the number of species in that region	Since explore more is common for every region, the option for explore more should be present as one button on the main heatmap		Can summarize all the imp. information in points to help students with their projects

"Scenarios are the engines we use to drive our design" ~ Kim Goodwin

AFFINITY MAPPING

WHAT?

Affinity Mapping is a method that helps teams collaborate and analyse research findings and other learnings from all previous processes. Jotting down all points in a single plane using sticky notes narrows down the entire picture into groups of topics.

WHY?

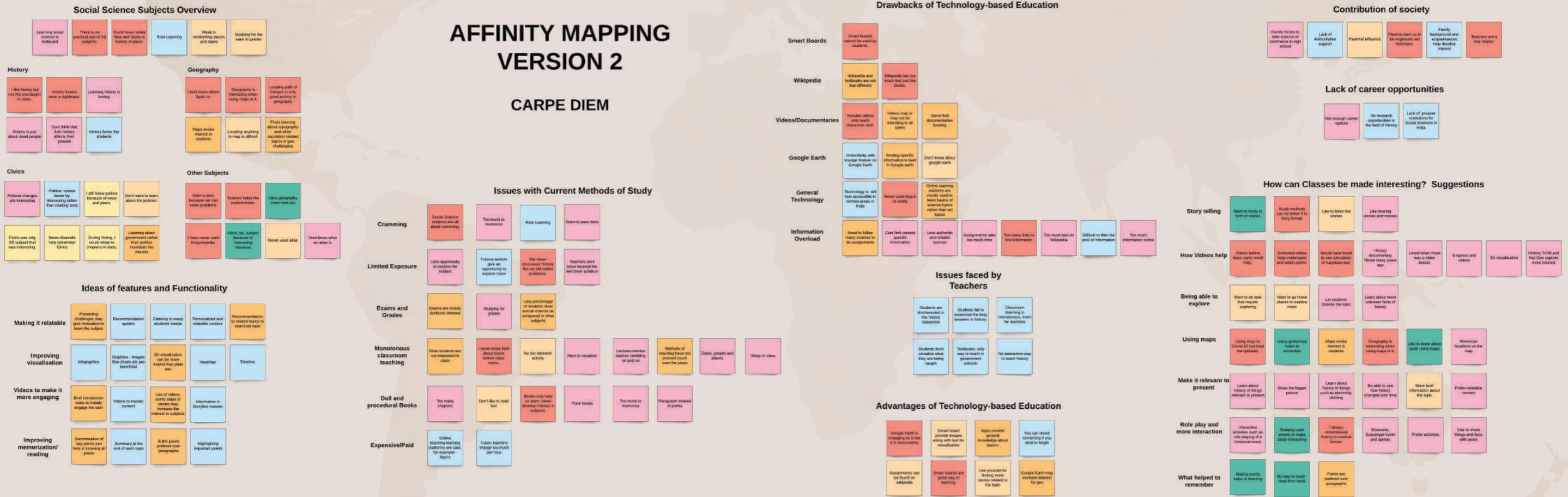
Affinity mapping is done to find trends in the existing data and summarize results quickly. It brings up everything that has been learnt previously by all team members on a single desk, hence helping in having a shared understanding.

INSIGHTS

This is the second iteration of our affinity map, and it includes a lot more and way better insights than the previous one. With 150+ sticky notes in hand, we could categorize the content into 13 broad categories (and many sub-categories) that depicted the issues faced by the primary and secondary stakeholders, suggestions and expectations of the users and much more. This gave us deeper understanding of the subject and ideas of functionalities to include in Mapera.

AFFINITY MAPPING VERSION 2

CARPE DIEM



"Affinity Map is not meant to be a masterpiece. It is meant to be flexible." [25]

STORYBOARDING

WHAT?

Storyboarding is a common technique in HCI and design for demonstrating system interfaces and contexts of use.[11]

It involves sequentially representing the key task or functionality of the product in the form of a story - as if the user is carrying out the task on the system itself!

WHY?

Storyboards are used in user-centred design (UCD) to clarify a scenario that describes the future use of a system. [10]

It helps designers understand existing scenarios, as well as test hypothesis for potential functionalities. [12]

They help in visualization, memorization, arousing a sense of empathy and increasing engagement multifold. It also gives an understanding of how technology would integrate into a larger context.



It is the last lecture for the day on a Wednesday, when the teacher reminds the students about their assignment report which is due on Friday that week.



Puja seems very tensed given the huge amount of work she has to complete in the limited period of time.



Soon after the lecture, she runs back home hastily, so that she can start working on her project as soon as possible.



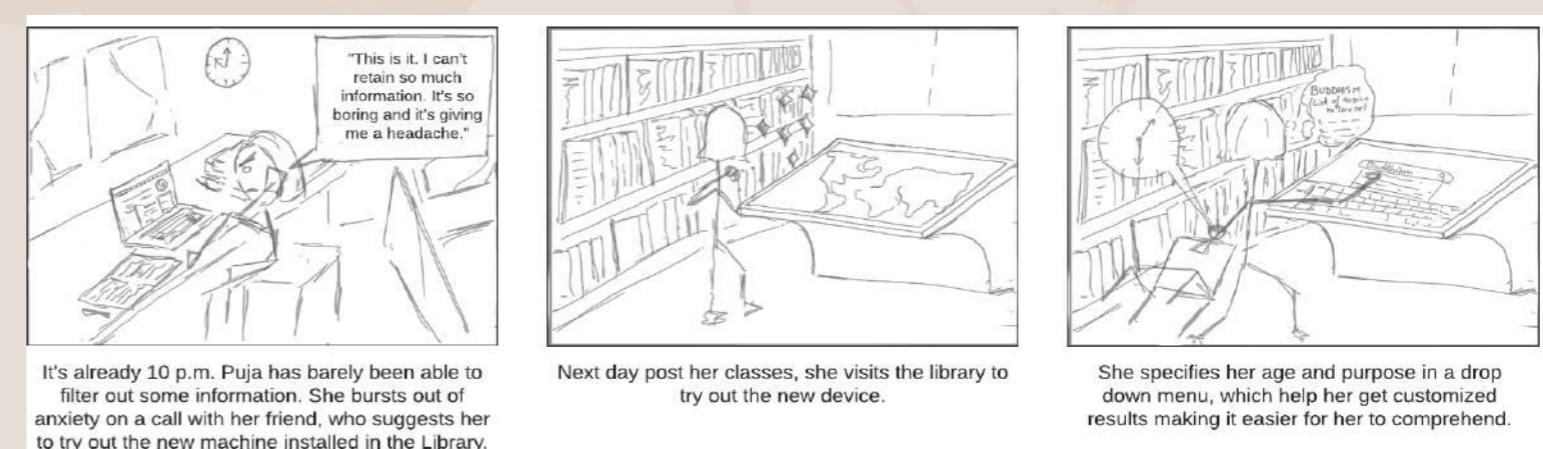
She starts her research on Buddhism by trying to read and comprehend the information from the set of thick books she had. However the information was too advanced and detailed for her age.



It has been three hours since she started reading those books, with negligible progress. Tired and exhausted, she resorts to the internet to look for the information on various webpages.



A lot more frustrated with the large pool of information on the internet, she continues to browse the internet for the desired data.



It's already 10 p.m. Puja has barely been able to filter out some information. She bursts out of anxiety on a call with her friend, who suggests her to try out the new machine installed in the Library.



Next day post her classes, she visits the library to try out the new device.



She specifies her age and purpose in a drop down menu, which help her get customized results making it easier for her to comprehend.

"Stories are 22 times more memorable than plain text!" [26]

STORYBOARDING

INSIGHTS

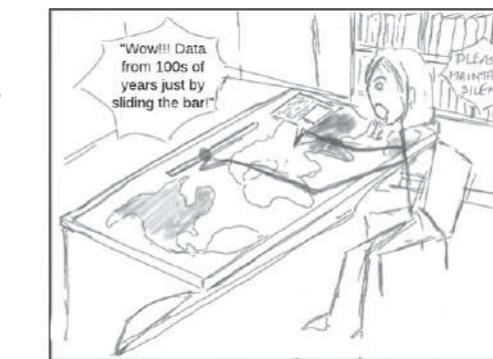
After having made a scenario of the key task that the user would perform, it was not very difficult to convert it into storyboards, by keeping in mind the pain points of the users. Every member of the team was on the same page in terms of the how the story should progress.

Throughout the process, we kept in mind that the story should depict what the user wants to accomplish - i.e gather relevant information quickly and easily.

While making the storyboards, a challenge that we faced was setting up the right scene, and ending the scene appropriately. However, with multiple iterations, the story took the right mould and came out as a perfect combination of empathy and a relatable scenario. The storyboard now provided answers to vital questions like - What is it that the user wants? What does he/she want to accomplish? Why is the user not able to accomplish it otherwise?



On searching 'Buddhism' in the search bar, a video is loaded on her screen, which takes her through the history of Buddhism, how it came into existence, and how it changed over time. It helped her visualise their culture and practices which intrigued her to learn more.



Puja is directed to a 'HeatMap' - portraying the prevalence of Buddhism over the years across the world, using a slider. It showed how quickly Buddhism spread across the world.



She taps on 'India' in the map to get region-specific information about the topic. She continues to read about different regions from the various pop-ups which convey the information like beliefs and major events, precisely, yet effectively.



Puja delves deeper into the topic by clicking on "Explore More" option. She finds information like Buddha's teachings, beliefs, associated people and statistics presented in the form of infographics.



She clicks on "Summary" and quickly jots down the most important points about the topic. She goes back home, happy and content, with a new desire to explore the various topics of interest on Mapera, daily.



She presents her project report in the class, very confidently, because she knew every bit of what was written in her report.

"Storyboarding is not about aesthetics or drawing, it's about ideas." [19]

INFORMATION ARCHITECTURE

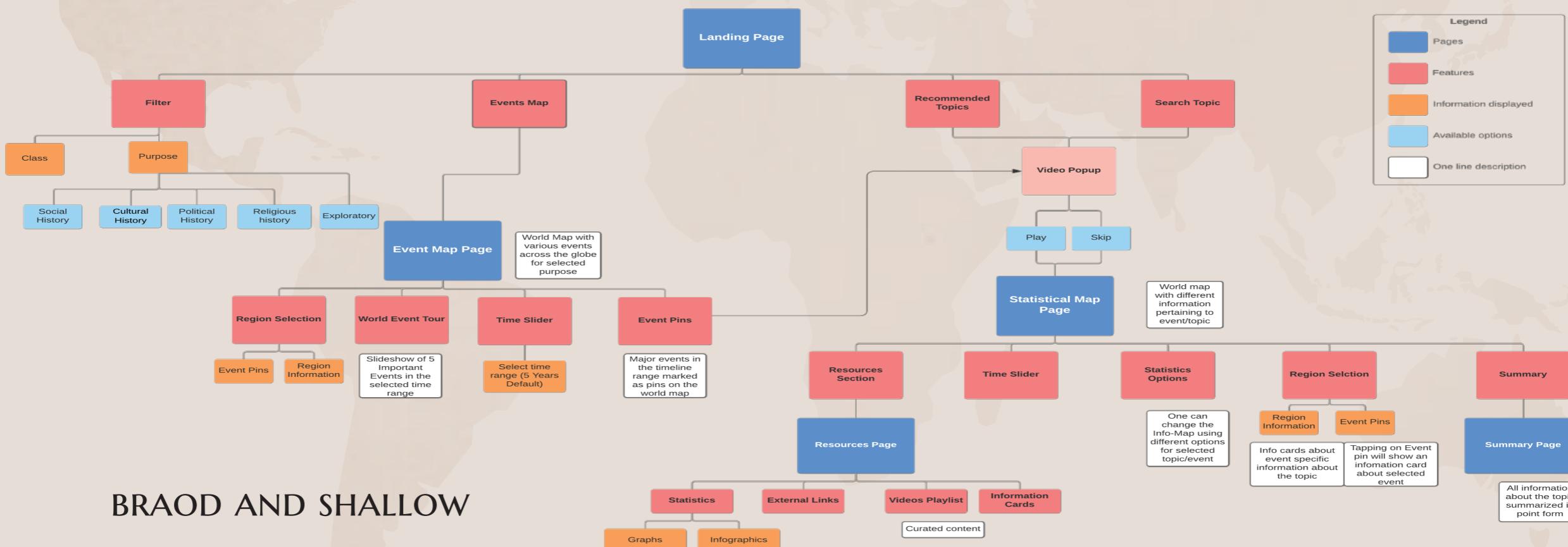
WHAT?

Every organization relies on information to communicate with prospects and customers - blog posts, articles, whitepapers, user manuals, web portals, videos, tweets, social media posts, moderated forums, and more. This means that many people are creating content and are delivering it in multiple ways. To meet our users' needs, we need information architecture (IA) to provide the framework for developing and delivering this information. [12]

WHY?

Information Architecture is like the backbone of UX Design process. It orders and influences everything that is designed and built. [13]

Unorganized content makes navigation difficult and inexplicit. Even compelling content elements and a powerful UI design can fail without an appropriate information architecture. Good information architecture is the foundation of efficient user experience.[14]



"Information Architecture is the interface of science and art." [13]

INFORMATION ARCHITECTURE

BROAD VS NARROW SYSTEM

Broad and shallow architecture details every functionality of the system, i.e. it is a framework of the entire system with all the screens and features. On the other hand, Narrow and deep architecture follows a path of the system assuming that real inputs have been provided to it.

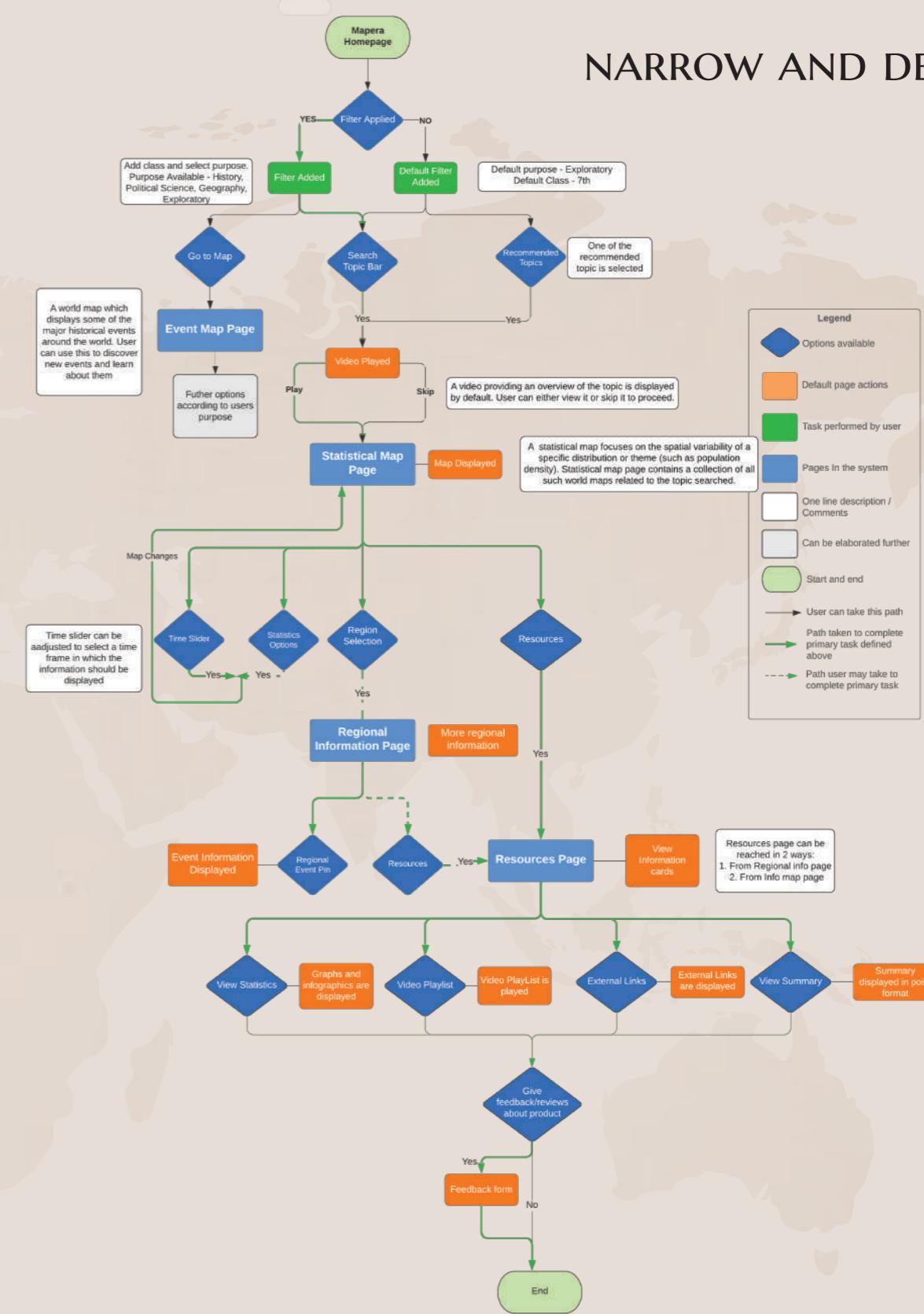
INSIGHTS

While solidifying the framework for both - broad as well as narrow architectures, there were certain important decisions that we needed to make, which were to prove critical in the overall designing of the product. This also posed a few challenges in front of use, for example -

1. Feature prioritization - what should be more accessible?
2. Deciding the hierarchy without losing the meaning of the task to be performed.
3. What if the machine is used by secondary stakeholders? Should there be a separate workflow?
4. Defining default sections and options
5. How to sequentially represent tasks in the narrow and deep architecture that were at the same level in the broad and shallow framework?
6. How to represent user input in narrow and deep?
7. How to connect elements of different branches that are not at the same level of hierarchy?

We tried to handle all confusions to the best of our abilities, and came up with a clean and organized framework.

NARROW AND DEEP



"IA is like oxygen; you don't think about needing it until you don't have it." [13]

PROTOTYPING : LOW FIDELITY

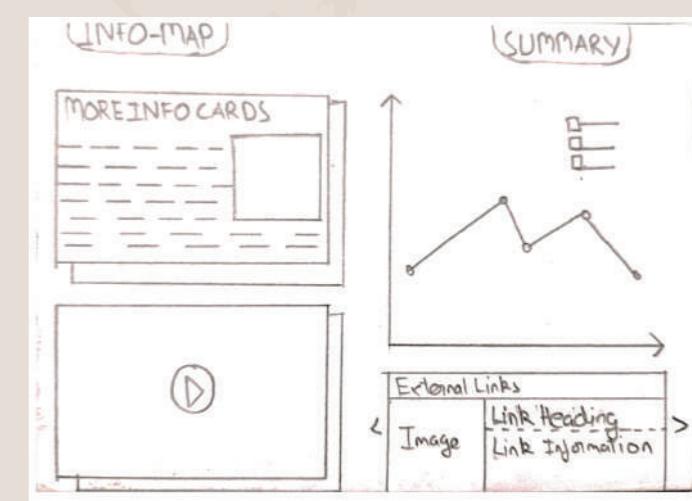
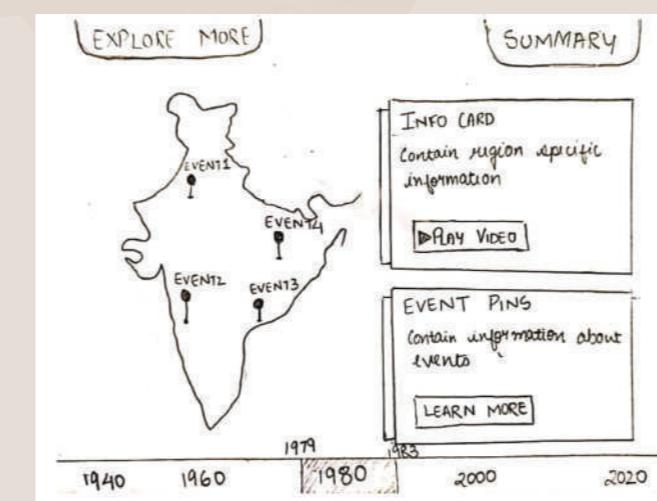
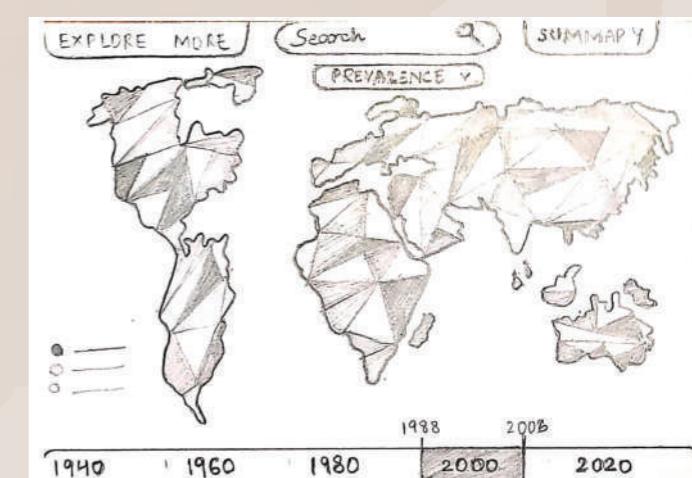
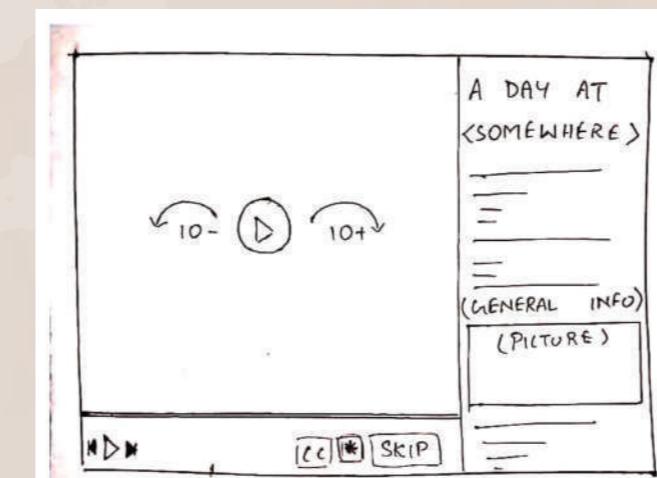
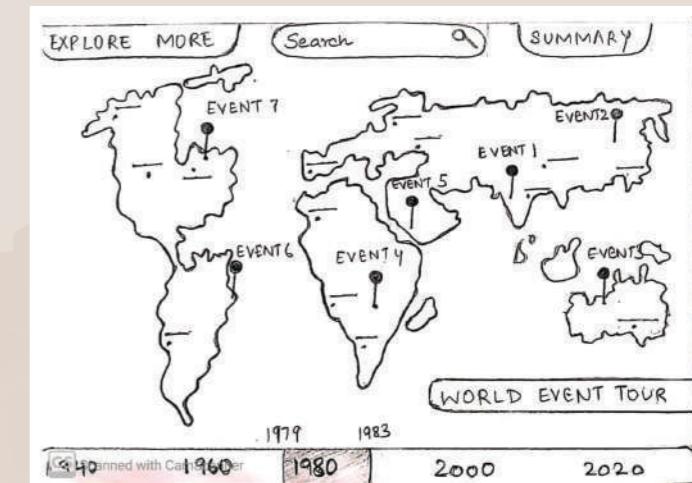
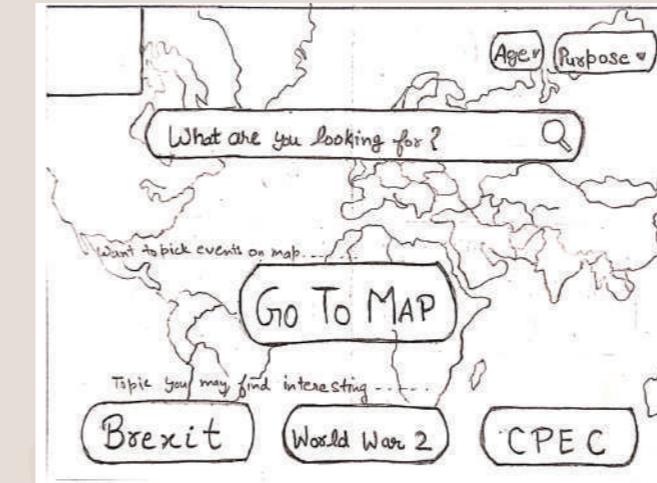
WHAT?

Paper prototyping allows you to prototype a digital product interface without using digital software. The technique is based on creating hand drawings of different screens that represent user interfaces of a product.[15]

It involves thinking through interface ideas, outline the steps in a user flow, explore and validate a variety of UIs and decide the basic app structure. [16] It keeps you from getting caught up in the technology and instead focus on the best possible solution freeing you to take risk. Just like your thoughts and ideas, sketches are in a constant state of flux, evolving and morphing as you reach a potential solution. [17]

INSIGHTS

This low-fidelity paper prototype of the system is a result of combination of multiple ideas from six minds. Each one of us first made one low-fi prototype each, and then combined the best features and functionalities, layouts and visual elements from all six prototypes. This amalgamation of ideas resulted in an extensive prototype after thinking through a lot of suggestions from everyone. Of course, reiteration made it better and better!



"Sketching is an expression of thinking and problem solving." [17]

PROTOTYPING: MEDIUM FIDELITY

WHAT?

A medium fidelity prototype is a prototype with limited functionality but clickable areas which presents the interactions and navigation possibilities of an application. [18]

The impression of an already functioning application makes it easy for all stakeholders to derive processes from the range of features. [18]

INSIGHTS

Making the medium fidelity prototype turned out to be the most interesting part of this development cycle! Finally the idea we all had was taking a tangible shape.

There were some challenges that we faced while prototyping. However, despite everyone making different elements on their own, no element seemed out of place. We also conducted some usability tests on our own, and refined and reiterated over our designs. This made the prototype cater to the users better.

The image displays six medium-fidelity prototypes arranged in a grid, each with callouts explaining user interactions:

- Landing Page:** Shows a world map with various search and filter options. Callouts explain the search bar, most popular topics (CPEC, World War II, Brexit), and a tutorial button.
- Video Screen with information:** Shows a video player interface with controls like play, forward, and skip. Callouts explain video controls and an information sidebar.
- Statistical Map Screen:** Shows a world map with a legend for Buddhist population percentages. Callouts explain the legend, search bar, selection dropdown, and time slider.
- Regional Map Screen:** Shows a regional map of Asia with specific event markers. Callouts explain event selection pins, regional search bars, and summary cards.
- More Resources Page:** Shows a page with a statistical map, infographics, and resource cards. Callouts explain the search bar, summary tab, and resource links.
- Summary Page:** Shows a page with a summary of Buddha's life, teachings, and spread of Buddhism. Callouts explain the search bar, feedback tab, and images section.

"Prototyping is the conversation you have with your ideas." ~ Tom Wujec

PROTOTYPING : HIGH FIDELITY

WHAT?

High-fidelity (hi-fi) prototypes appear and function as similar as possible to the actual product that will ship. Teams usually create high-fidelity prototypes when they have a solid understanding of what they are going to build and they need to either test it with real users or get final-design approval from stakeholders. The basic characteristics include visual design, content and interactivity. [15].

INSIGHTS

The major amount of time spent at this stage was while deciding upon the right set of colours. The colours for every visual element were going to serve as the identity of this product. After a lot of trials and reiterations, we finally came up with a colour palette that suited the essence of the product - the theme. Apart from this, we followed the famous rule of thumb - Focus on the 20% of the functionality that will be used 80% of the times, i.e. focus on the key functionality that will be used most often [19] - the maps.



"A prototype is a question embodied." ~ Diego Rodriguez

PROTOTYPING : HIGH FIDELITY

Transitioning from low-fidelity to medium-fidelity was although the most tedious job, but it was the most fun too. It was like weaving the ideas together into a series of screens that would finally connect to build one single product. While going from medium to high-fidelity, it was an overwhelming experience since we could finally see our product take a tangible shape. Every obstacle, ambiguity and conflicts were handled throughout the process to come upto here

CLICK ON THE IMAGE BELOW TO VIEW A DEMO (VIDEO) OF HIGH-FIDELITY PROTOTYPE.



“Even the messiest of scrawls can serve as nurturing ‘soil’ to make the seed of an idea sprout into first class end product.” [23]

PROTOTYPING : EVALUATION

WHAT?

Martin Belam defined Guerilla Testing as “the art of pouncing on lone people in cafes and public spaces, and quickly filming them whilst they use a website for a couple of minutes.” [20] The output is typically qualitative rather than quantitative. The testing helps to quickly validate how efficient design is on its intended audience or whether specific functionality works in the way it is supposed to. [20]

WHY?

Guerilla Testing is a fast method that provides sufficient enough insights to make informed strategic design decisions. [20]

Guerilla Testing is great for -

1. Identifying critical usability issues
2. Testing hypothesis/assumptions
3. Validating certain tasks
4. Getting quick baseline measures [20]

“The information is already presented in the most efficient format!” - Neha Das



“Feedback is the heart of interaction.” [23]

PROTOTYPING : EVALUATION

INSIGHTS

Each one of the team members conducted 2 guerilla tests each using a common set of questions that answered some of the fundamental questions like -

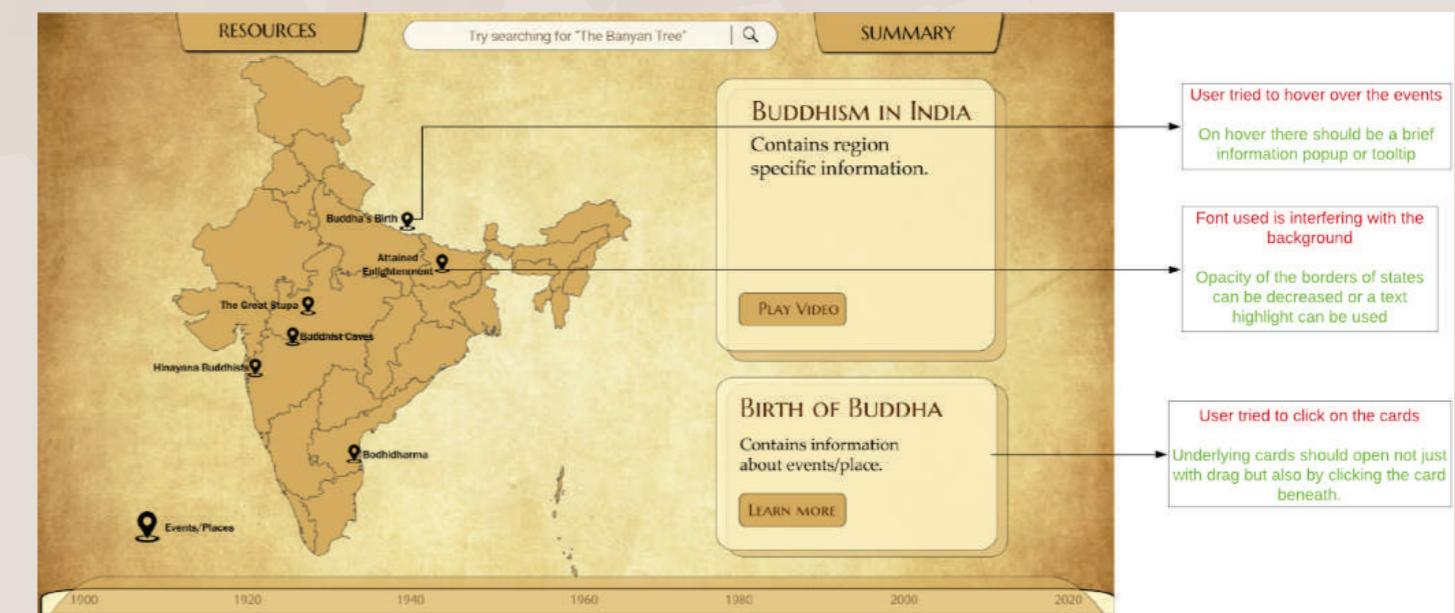
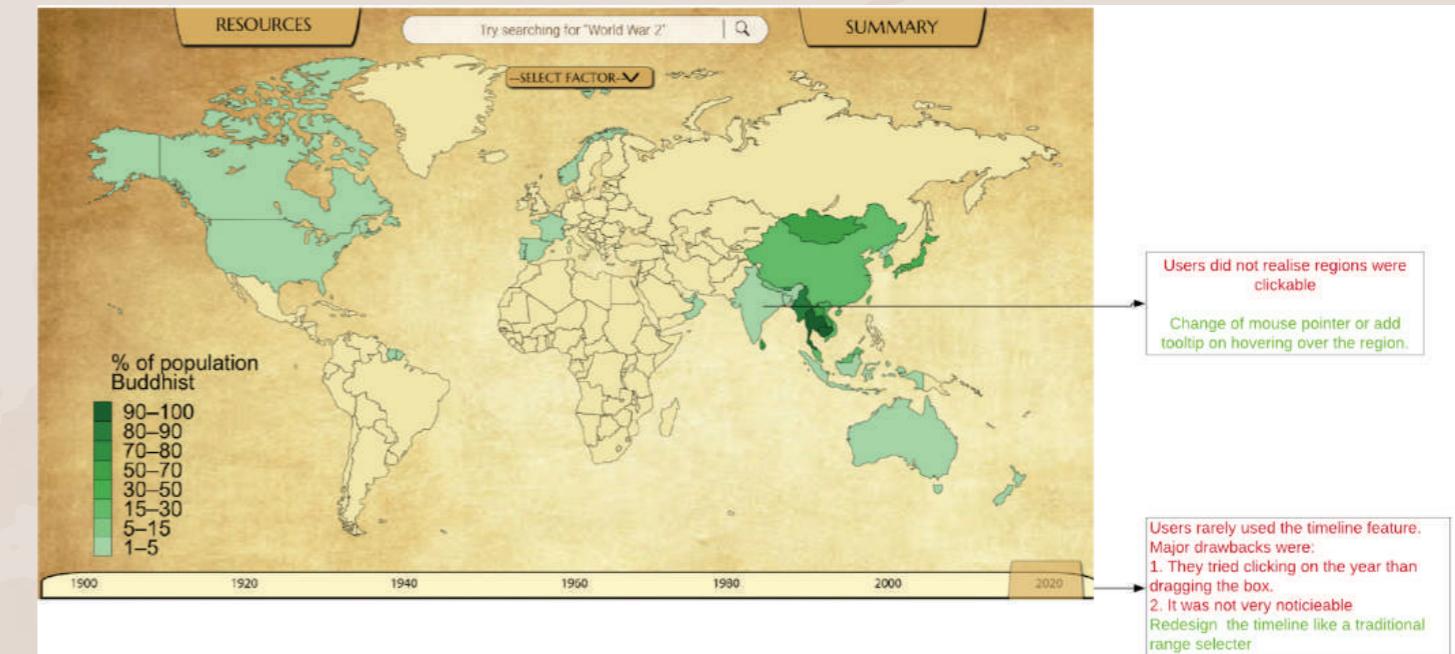
1. Did the user face any ambiguity?
2. Did the user face any difficulty in any screen?
3. Did the user recognize and retain the elements?
4. Was the navigation obvious to the user?
5. Did they miss upon some feature?

Apart from this, we also took suggestions from the users, and noted their opinion of things like visual elements or their first impression of the product.

There were some basic issues with the UI that we figured out of these 12 guerilla tests - majority of them were something that we thought was obvious to the user, but it turned out it wasn't as clear.

I learnt that HCI is all about making informed choices on the basis of user research or usability, and not biased of intuitive decisions. This has turned out to be the most important take-away for me.

"The colours throughout the application gave me a feeling of History!" - Navya Singla



"Usability is always relative to two things - the users and their tasks." [6]

PROTOTYPING : REVISION

BEFORE



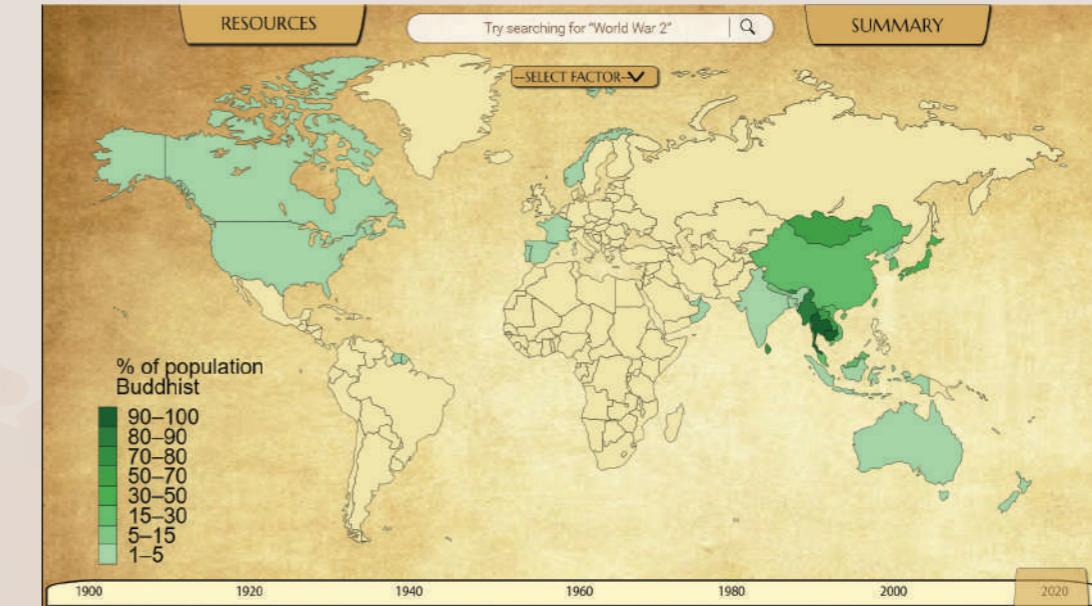
Identified Issues: Users clicked 'Go To Map' instead of Search icon; Tutorial has been given too much importance, as if it is compulsory to watch;

AFTER



The visual representation and position of 'Tutorial' has changed to depict hierarchy of information; Go To Map has been shifted to the top and Filters are right below the search icons, this provide - this has grouped the different options of navigating together

BEFORE



Identified Issues: Users did not know that regions are clickable; Users had ambiguity while using Timeline - it was not evident that the slider needs to be dragged.

AFTER



To make regions seem clickable, different pins have been added to the regions, as seen above. These pins would be animated - the circle surrounding them would diverge out from the pin continuously, thus making it noticeable. The timeline has been changed to the classic slider which is normally used in

"User Interface Design is a period of tremendous change." [21]

SUMMARY

In the very first lecture of the course Human-Computer Interaction, I learnt that HCI is an intersection of Design, Computer and Human Sciences (Sociology/Psychology).

In the last four months, I have experienced and fully understood what makes this an interdisciplinary field. From understanding human behaviours in the user research process to deciding the type of interface and its nitty gritties, to designing the prototype of the final product, it has been an amazing and learning-packed journey. Rightly said, "Work at different levels is not entirely independent, so establishing a comprehensive framework may enable us to position existing research and development efforts and plan future work more effectively." [21]

HCI is about understanding and critically evaluating the interactive technologies people use and experience. [22] It turned out that Mapera was entirely based on the fact that the current interfaces that are being used to teach a subject like History are no longer enough. There is a need for something more, something better. I learnt how vital it is to choose the right kind of interface for the right kind of use or application.

Throughout the tenure, it was about making the right choices at the right time. Designing even one aspect of an interface - menu, navigation, window operations, command names, function key assignments, mouse button syntax, icon-design etc. - gives rise to potentially endless series of decisions. [21]. Making informed choices, inspired by user research (and not intuition) was the most important thing that I learnt through this project.

The best part of it is that - I'm never going to forget or ignore anything that I've learnt from this course. It feels like the core of Human-Computer Interaction is now embedded in my thoughts. I have started listening to my peers or other people more carefully and interpreting the context better than before. This was something that came add-on to me!

It feels really great to have built this project with a very cooperative and amazing team, and even more helpful advisor!



"Good Design is about the process, not the product!" ~ Jared Sinclair

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“The next big thing is the one that makes the last big thing usable”
~ Blake Ross