Prototyping mindfulness

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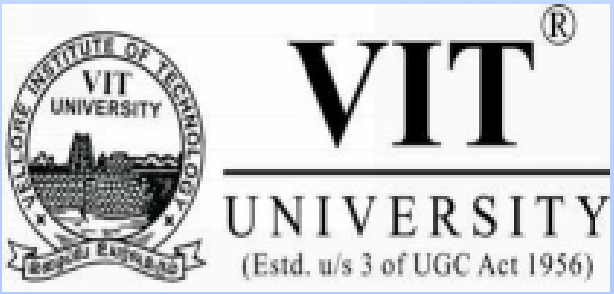
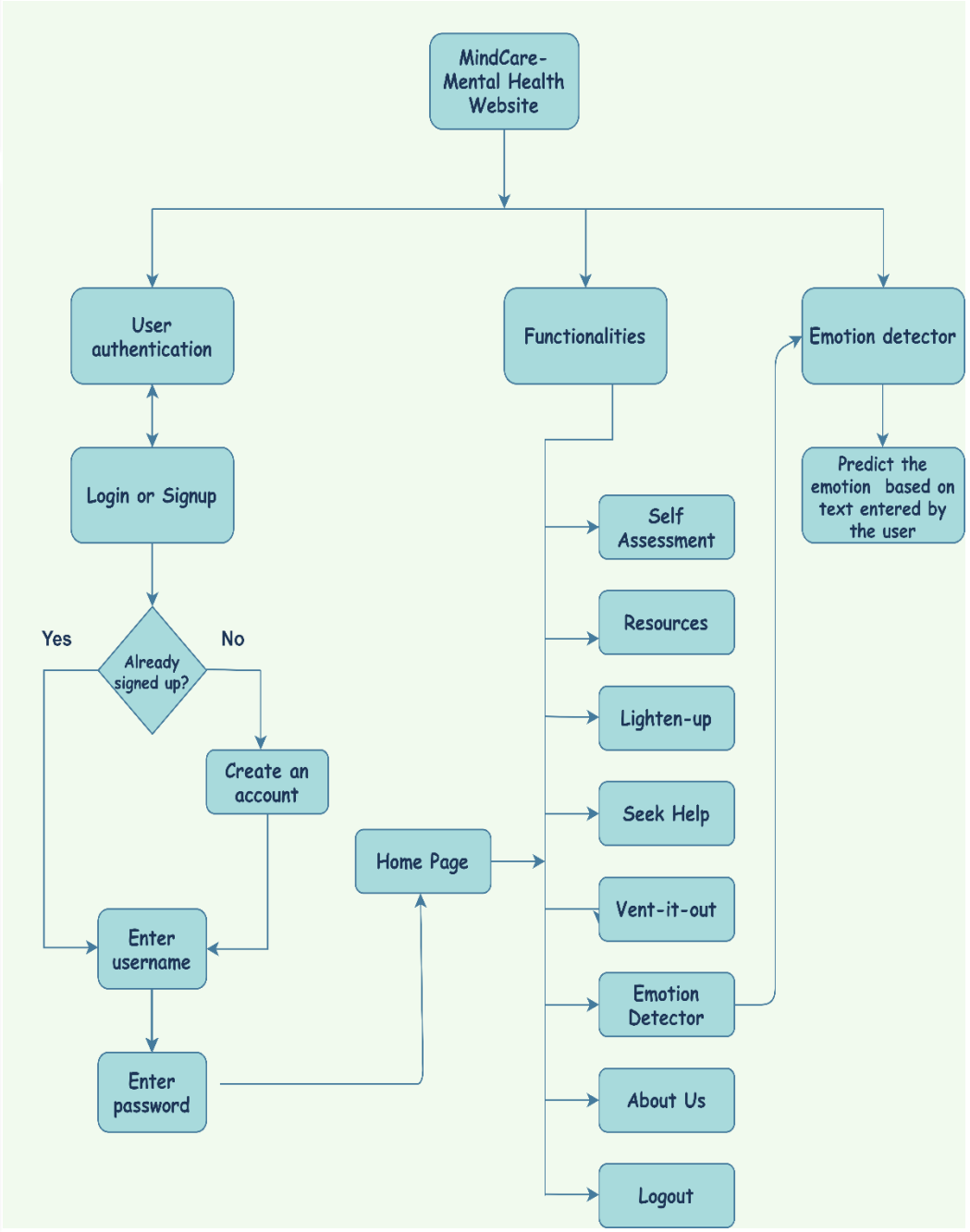




OUTLINE

- SCOPE,OBJECTIVES, ABSTRACT, REQUIREMENT SPECIFICATION(HARDWARE AND
  - SOFTWARE & METHODS IDENTIFIED) - PROCESS MODEL,BLOCK DIAGRAM OF THE SYSTEM
- HTA, INTERACTION DESIGN(4 STEPS)STAKEHOLDERS IDENTIFICATION, STORYBOARDING,USE CASE MODELLING,PERSONAS,STATE TRANSITION NETWORK
- APPLY OF SCHENIDEMAN'S/NORMAN'S/NIELSEN'S, HERISTIC EVALUATION,KLM, GOMS
  - -GENERATE A TABLE AND GRAPH
- COMMUNICATION AND COLLABORATION, GROUPWARE
- VALIDATION-USABILITY TESTING, INTERFACE TESTING,USER ACCEPTANCE TESTING
  - USING ANY OPEN SOURCE TOOL
- RESULTS AND DISCUSSION-GRAPH GENERATION
- CONCLUSION
  - CONCLUDING WITH GIVING DETAILS OF IMPROVEMENT IN PERFORMANCE AND APPLICABILITY OF THE SYSTEM IN REAL TIME ENVIRONMENT

INTRODUCTION WITH REQUIRMENTS

SCOPE

Product Description	To prototype and design a mental health and mindfulness website.
Target Audience	People of all kinds, those who are suffering from some mental illness, or those who wish to feel better in their daily life and intend to practice the principles of mindfulness, meditation, and a general sense of calmness in everyday activities.
Project Requirements	Interactive design Should Cater to Universal Usability Offer informative feedback Prevent Errors Permit easy reversal of actions Exploit constraints Aesthetic and Minimalist design Flexibility and efficiency of use
Project Constraints	Whether the website will be successfully able to communicate its message to the user
Project Assumptions	Performance issues The interface will be able to communicate ideas very well to the user.
Project Deliverables	Mental health and mindfulness website
Project Acceptance Criteria	Successful completion of the website. Improvements based on user feedback to be incorporated.

INTRODUCTION WITH REQUIRMENTS

OBJECTIVES AND ABSTRACT

Project Objective and Problem Statement

Objectives:

1. A review study of how concepts of Human-Computer Interaction can help in achieving '*Techno-Spirituality*' and '*Slow Design*', thus establishing a connection between mindfulness and technology.
2. Through utilizing the points found as a result of our review study we aim to develop a new digital mindfulness prototype designed for stress reduction and positive computing.

Abstract

In this paper, we aim to study how the concepts of Human-Computer Interaction (HCI) can help in achieving '*Techno-Spirituality*' and '*Slow Design*'. The first term '*Techno-Spirituality*' is the study of how technology can assist humans' spiritually. Its co-aspects explore areas such as mindfulness, meditation, positive computing, and the overall well-being of an individual. We will also be focusing on the second term called '*Slow Design*' which is believed to help facilitate self-reflection and relaxation.

Based on the grounds of what we find out through our review study, we aim to develop a digital mindfulness prototype designed for stress reduction and positive computing. We will try to provide a new prototype or redesign the existing technology for facilitating more better interaction between humans and computers. We will be exploring innovative ways to utilize technology to support the wellbeing of humans through the use of HCI concepts. In this process, we will also seek to find out the challenges faced when aiming for a successful partnership between technology and mindfulness.

INTRODUCTION WITH REQUIRMENTS

REQUIREMENT SPECIFICATION (HARDWARE AND SOFTWARE&&METHODS IDENTIFIED) -

Hardware/Software and other requirements

Hardware Requirements:

1. Processor - with minimum 1.9 gigahertz (GHz) x86- or x64-bit dual-core processor with SSE2 instruction set
2. Memory - min 2 GB RAM
3. Display - Super VGA with a resolution of 1024 x 768

Software Requirements:

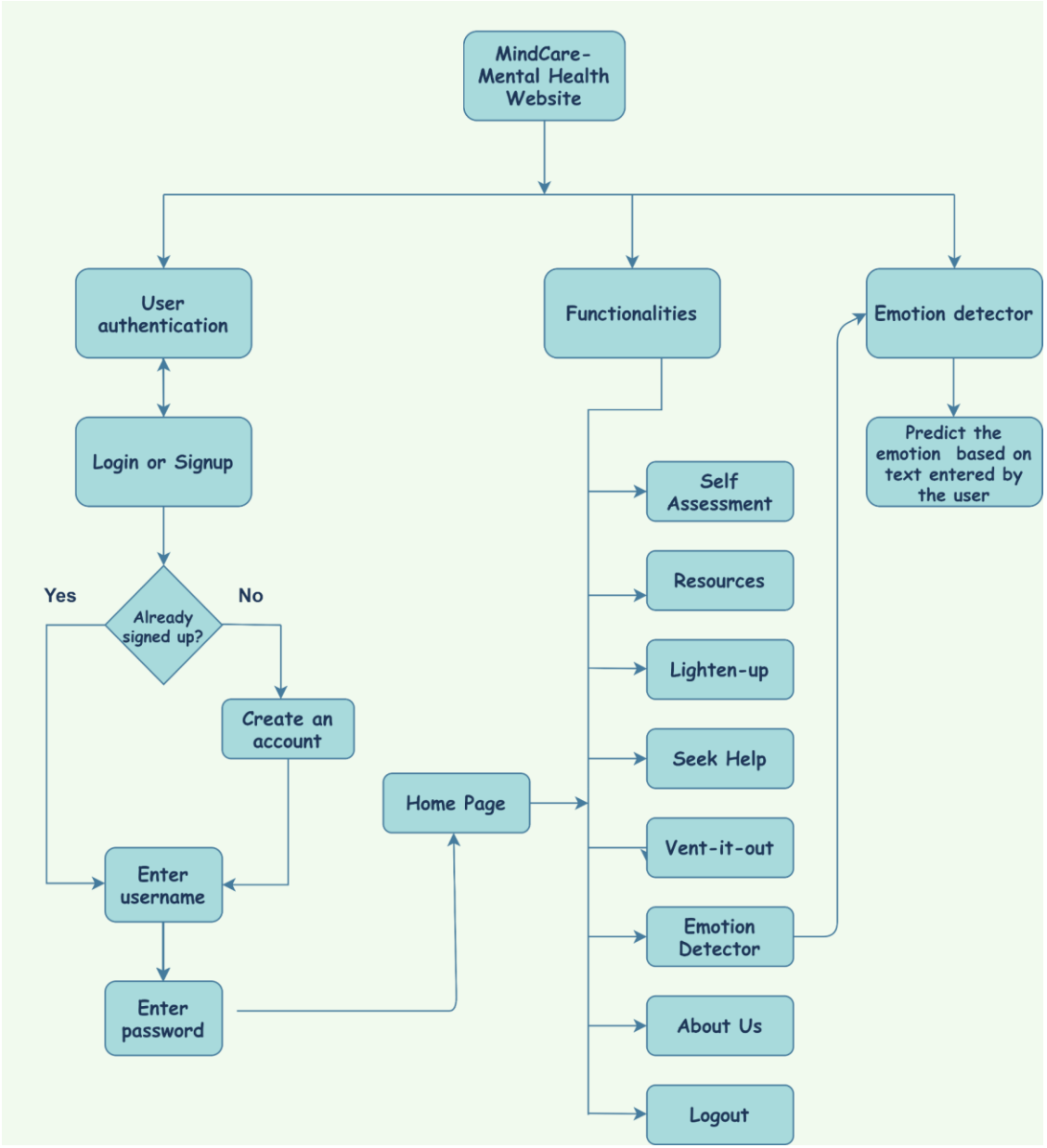
1. Operating system: Windows 7, Windows 8, Windows, Linux, and Mac compatible.
2. Browser: internet explorer, chrome firefox, and safari.

Network Requirements:

1. Bandwidth greater than 50 KBps (400 kbps)
2. Latency under 150 ms

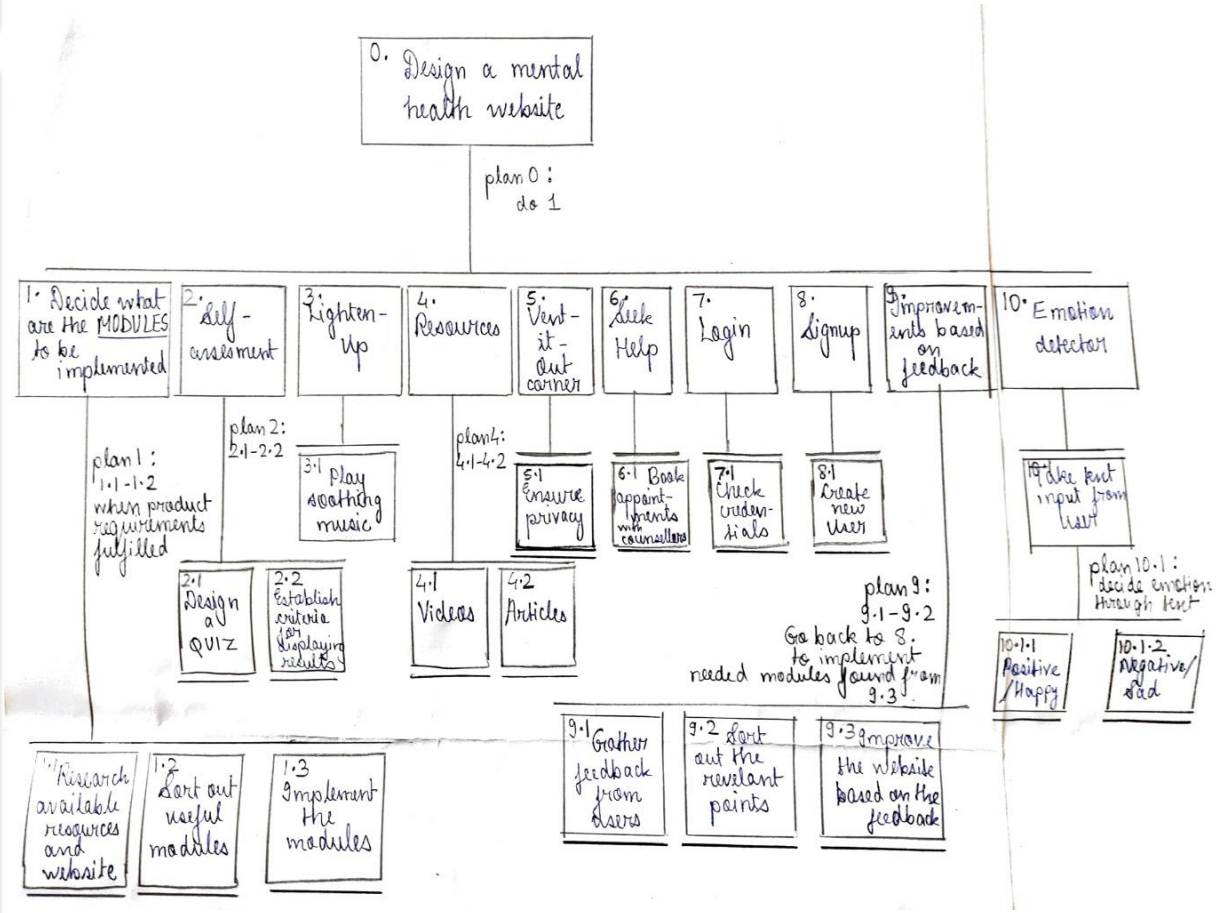
INTRODUCTION WITH REQUIRMENTS

PROCESS MODEL,BLOCK DIAGRAM OF THE SYSTEM



DESIGN SPECIFICATIONS

HTA



DESIGN SPECIFICATIONS

INTERACTION DESIGN(4 STEPS), STORYBOARDING

1. Analysis and design:

Two terms that are gaining popularity in the areas of mindfulness and technology are ‘Slow design’ and ‘Techno-spirituality’.

Whenever we hear of the term slow we associate it with how long it takes to build or do some task. Rather, slow design is a term that describes an expanded state of awareness, accountability for daily actions, and the potential for a richer spectrum of experience for individuals and communities.

Following are the principles of slow design:

- Reveal
- Expand
- Reflect
- Engage
- Participate
- Evolve

This concept of slow design has not yet been applied to website designing. In our prototype, we will try to incorporate the above-mentioned principles.

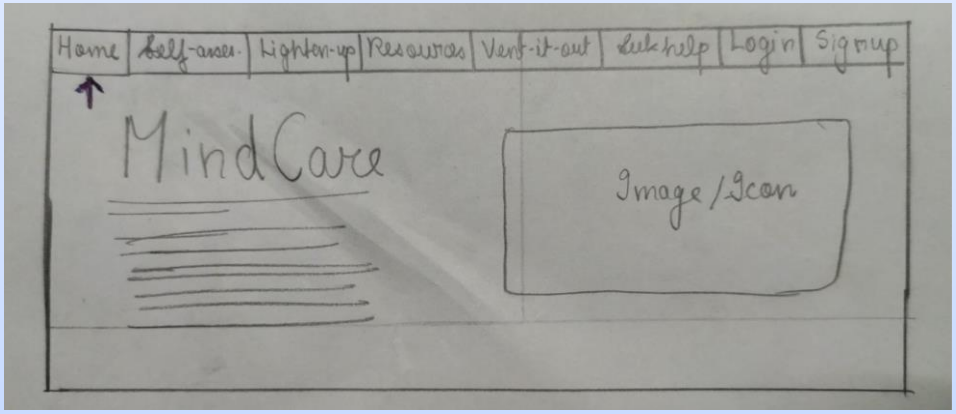
The second term, ‘Techno-spirituality’ is defined as the concept of how spiritual practices are increasingly mediated through technology. Through the introduction of meditation music in our website prototype, we would like to take forward this concept and help the users gain a spiritual meaning in their lives. It would also help them cultivate calmness and peace in their daily lives.

DESIGN SPECIFICATIONS

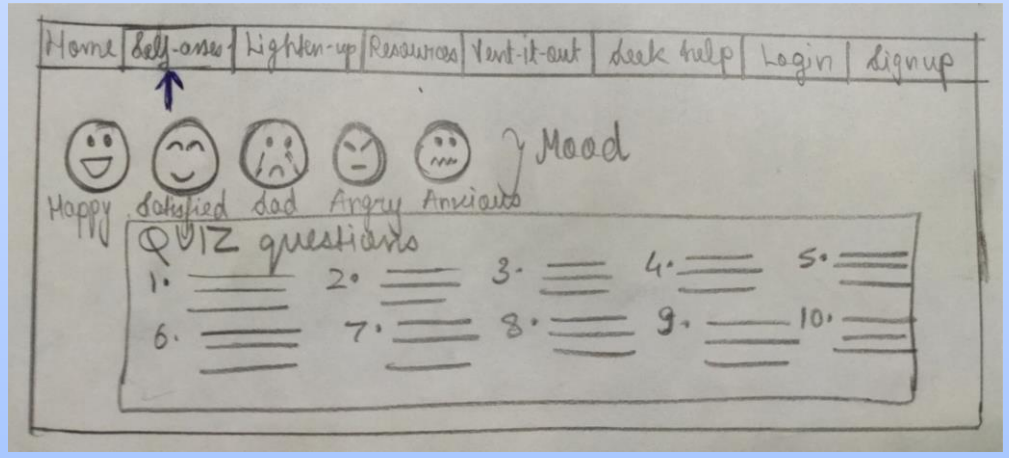
INTERACTION DESIGN(4 STEPS).STORYBOARDING

2. Prototype:

StoryBoarding #1: Home page



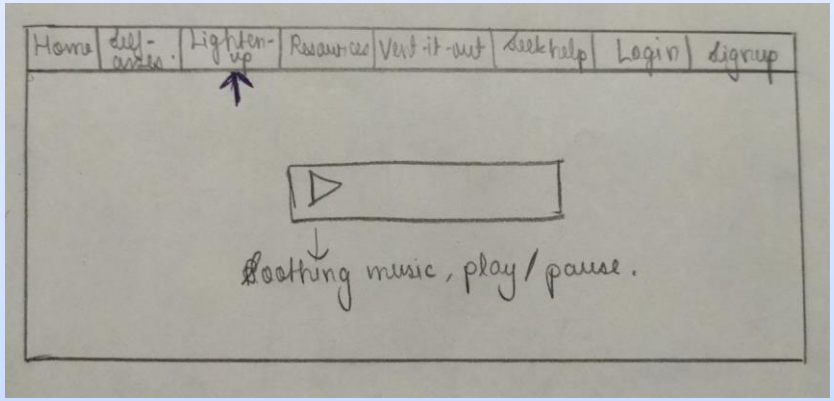
StoryBoarding #2: Self-assessment



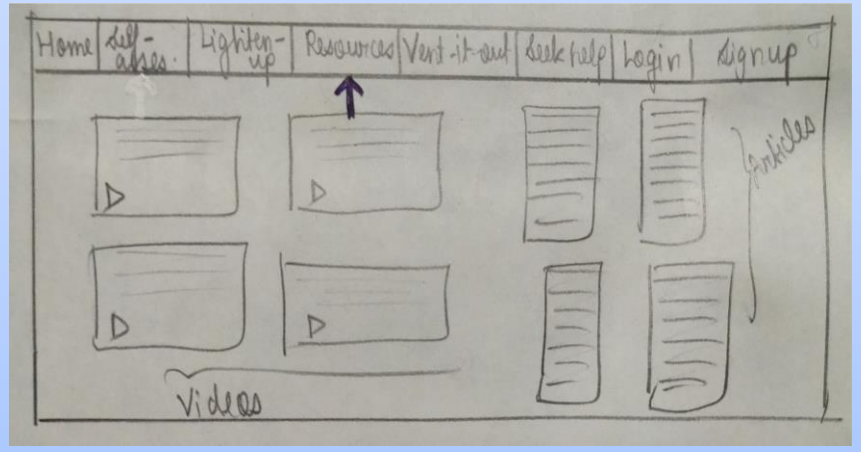
DESIGN SPECIFICATIONS

INTERACTION DESIGN(4 STEPS).STORYBOARDING

StoryBoarding #3: Lighten-up



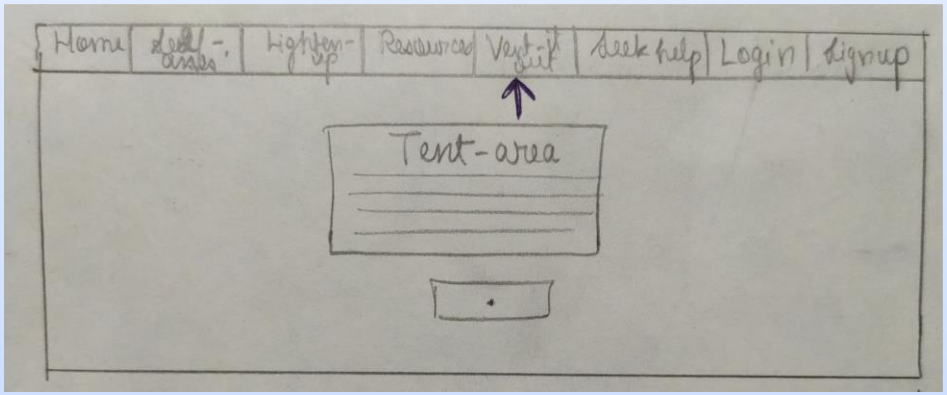
StoryBoarding #2: Resources



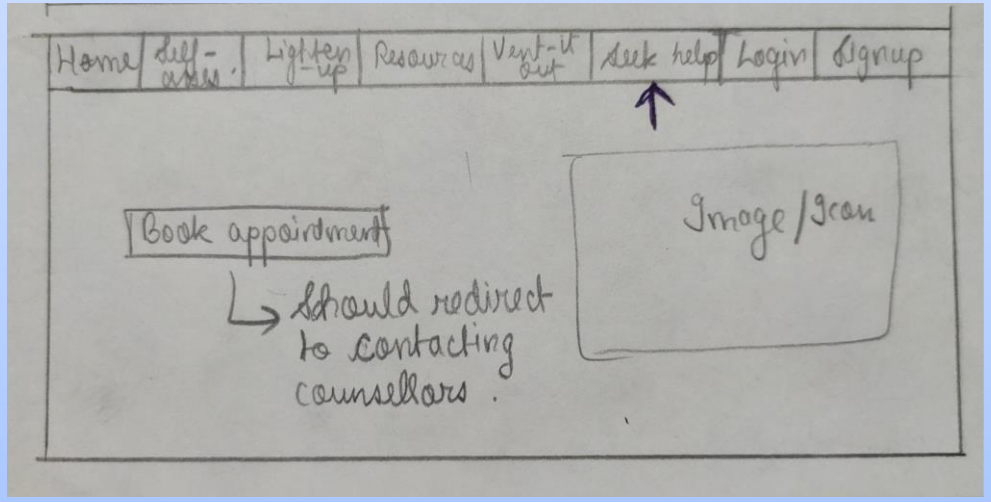
DESIGN SPECIFICATIONS

INTERACTION DESIGN(4 STEPS).STORYBOARDING

StoryBoarding #1: Vent-it-out



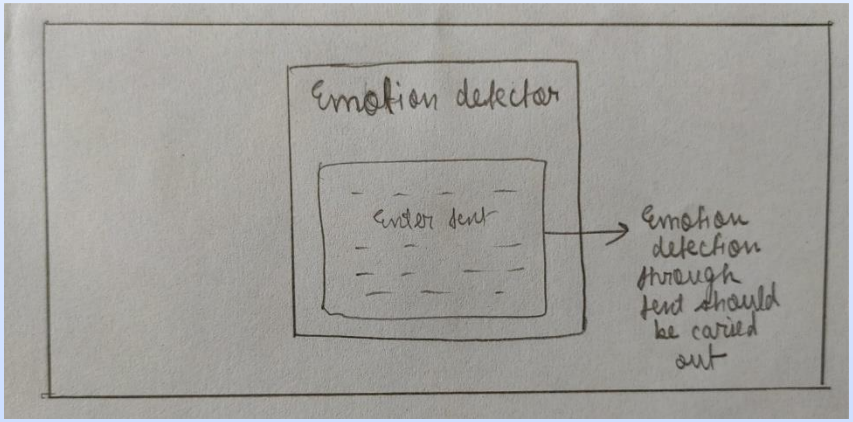
StoryBoarding #2: Seek Help



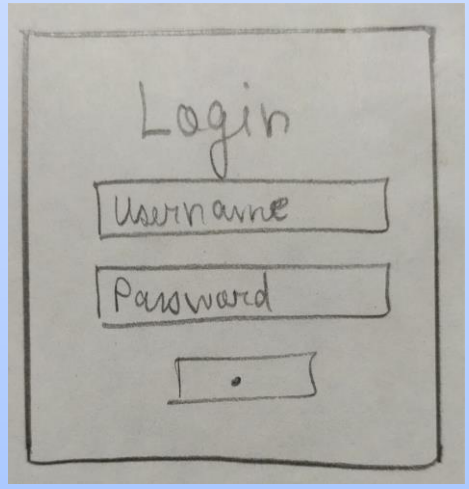
DESIGN SPECIFICATIONS

INTERACTION DESIGN(4 STEPS).STORYBOARDING

StoryBoarding #1: Emotion detector



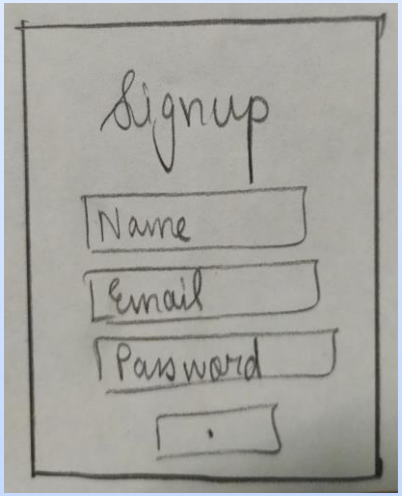
StoryBoarding #2: Login



DESIGN SPECIFICATIONS

INTERACTION DESIGN(4 STEPS).STORYBOARDING

StoryBoarding #1: Signup



DESIGN SPECIFICATIONS

STAKEHOLDERS IDENTIFICATION

Primary stakeholders:

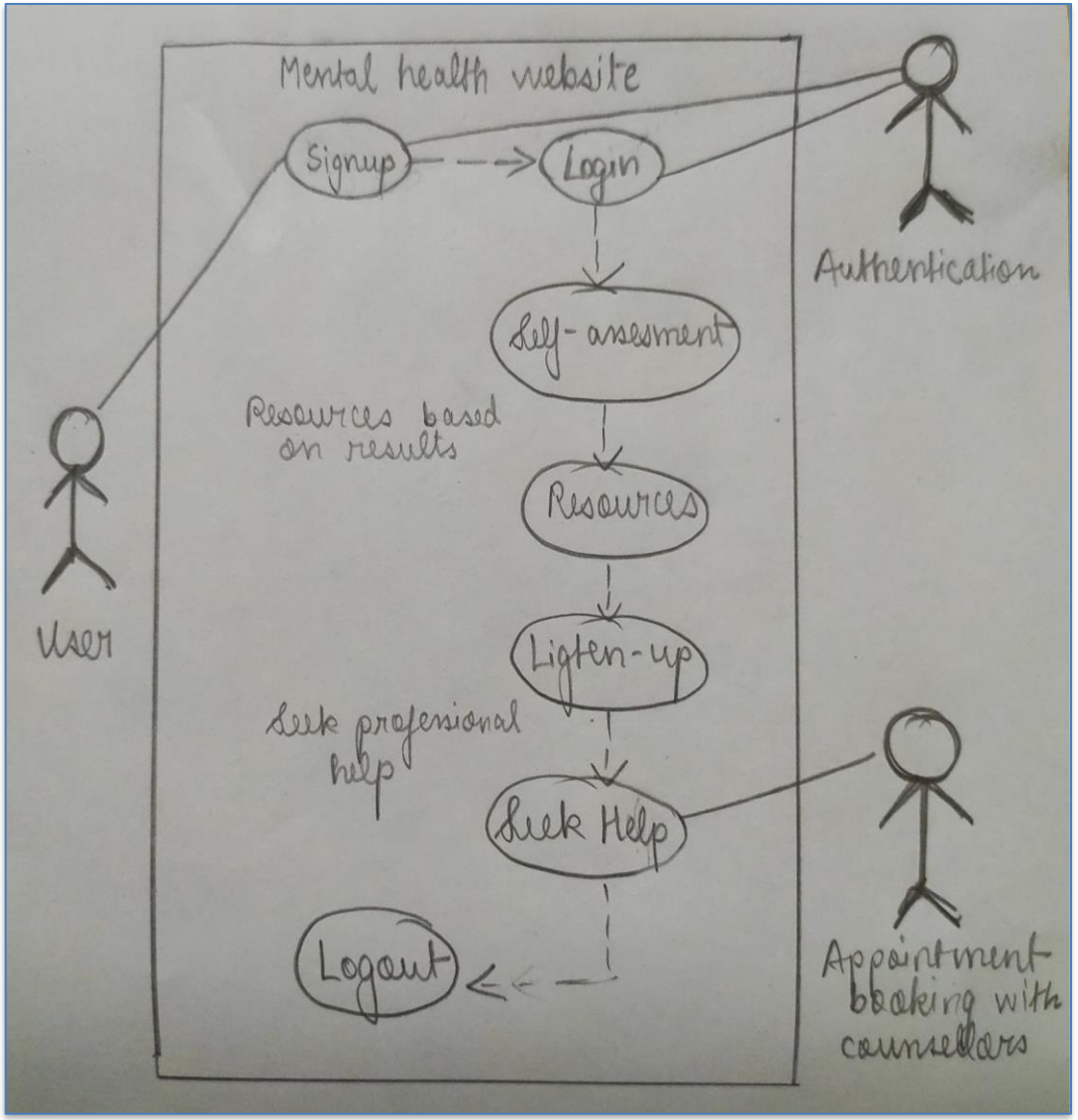
- Mental health patients
- Patients with any kind of mental disorder
- People seeking to improve their mental health.
- Employees working for the improvement of the software
- Employees working for maintenance of the software.

Secondary stakeholders:

- Indian Government
- Regulatory bodies
- Mental health associations of GOI
- NGOs working for mental health.

DESIGN SPECIFICATIONS

USE CASE MODELLING,PERSONAS,STATE TRANSITION NETWORK



DESIGN SPECIFICATIONS

PERSONAS,STATE TRANSITION NETWORK

User persona

Rahul

Age: 25

Location : India

Goals:

- To improve his mental health.
- To live a calm and peaceful life

Personality: Introvert

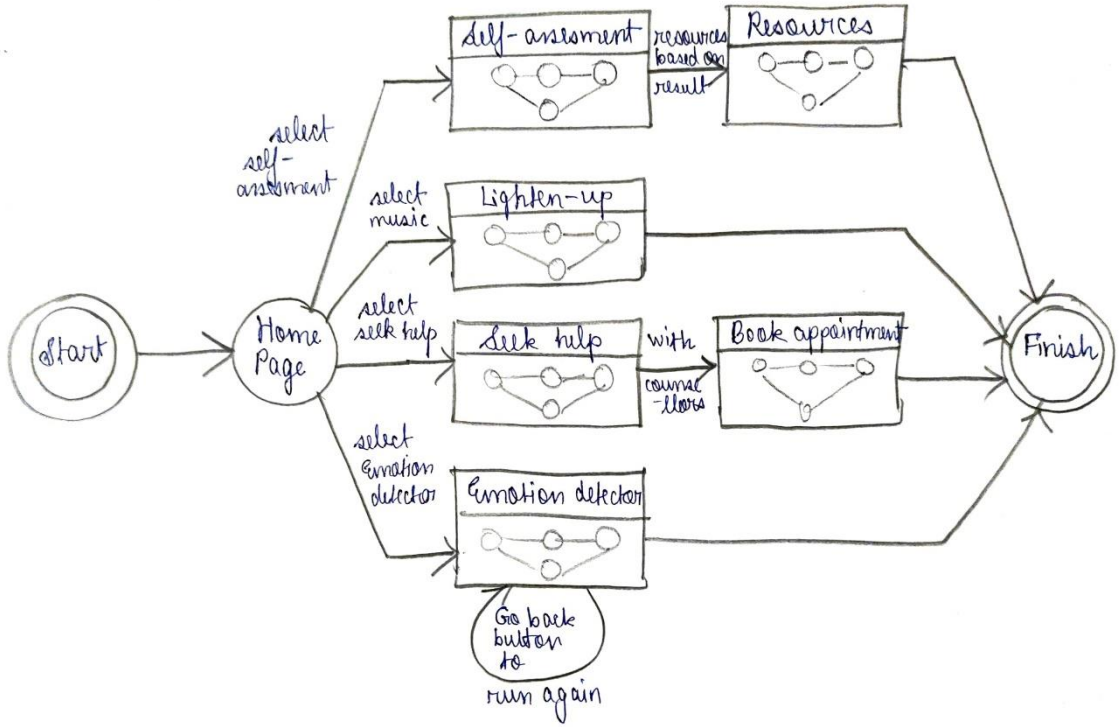
Technology usage:
High – Websites, mobile apps

Strengths:
Determination
Hardworking

Weaknesses:
Sensitive to critisism
Little things make him feel sad

DESIGN SPECIFICATIONS

STATE TRANSITION NETWORK



APPLY OF GUIDELINES / PRINCIPLES

APPLY OF SCHENIDEMAN'S/NORMAN'S/NIELSEN'S, HERISTIC EVALUATION,KLM, GOMS- GENERATE A TABLE AND GRAPH

Nielsen's 10 heuristics:

Heuristics	Evaluator	Severity
1. Visibility of system status	Login page is the first page to be displayed, hence clearity is present. Good. No intervention required	-
2. Match between system and real world	Quiz is standadized and questions correctly identify mental health condition Good. No intervention required	-
3. User control and freedom	Forgot password functionality has to incorporated.	Low
4. Consistency and standards	The user design is consistent and uses color psychology Good. No intervention needed	-
5. Error prevention	On wrong login credentials a dialogue box is displayed prompting user to enter correct credentials Good.	-
6. Recognition rather than recall.	Signup is prompted if user is not still registered. Good.	-

APPLY OF GUIDELINES / PRINCIPLES

APPLY OF SCHENIDEMAN'S/NORMAN'S/NIELSEN'S, HERISTIC EVALUATION,KLM, GOMS- GENERATE A TABLE AND GRAPH

Heuristics	Evaluator	Severity
7. Flexibility and efficiency of use.	Visibility of all features is upto the marks. Good.	-
8. Aesthetic and minimalist design	This is the best part of the webpage. The design is very user-friendly and appropriate for a calming effect on users. Good.	-
9. Help users recognize, diagnose and recover from errors	Forget password feature has to be included	Low
10. Help and documentation	A demo for the website can be included for better user understanding	Medium

APPLY OF GUIDELINES / PRINCIPLES

KLM

KLM analysis for navigating through the website:

Signup
MP l*K m*K n*K BB ----------15.8 seconds
(l=user name length, m = email length, n=password)

Login
MP l*K m*K n*K BB ----------10.98 seconds

Self assessment
(MPMK)*9 (for 9 questions) ----------300 seconds

Resources
MBB ----------256 seconds

Lighten-up
BB ---------- 180 seconds

Emotion detector
M x*K BB M ----------278 seconds
(x= length of text input)

Seek help
MBB ----------10 seconds

Logout
MBB ----------2 seconds

Total navigation time through the website = 1052.78 seconds

APPLY OF GUIDELINES / PRINCIPLES

GOMS- GENERATE A TABLE AND GRAPH

Goals	• Improve mental wellbeing of users • Calming and peaceful user experience • Provide counsellors to patients in need of medical help.
Operators	1. Emotion detector algorithm 2. Self assessment evaluation
Methods	1. Self-assessment 2. Resources 3. Lighten-up 4. Seek help 5. Emotion detector

Selections	1. if(Self-assessment score ==x){
	Display relevant resources)
	}

CCG

COMMUNICATION AND COLLABORATION, GROUPWARE

Text-based communication

The 2 main sections of the website are based on text-based communication:

- Self assessment – The clicked answers by the user are interpreted by the system.
- Emotion detector – The Text entered by the user is evaluated by the algorithm and the emotion of the user is detected.

Implementation [Demo]

- Implementation/Survey/Comparison – [Demo]/

- Demonstration video link:
- https://drive.google.com/file/d/1yh0mtGhJ4P_T4d3SyndhJzfKYK8LmsBa/view?usp=sharing

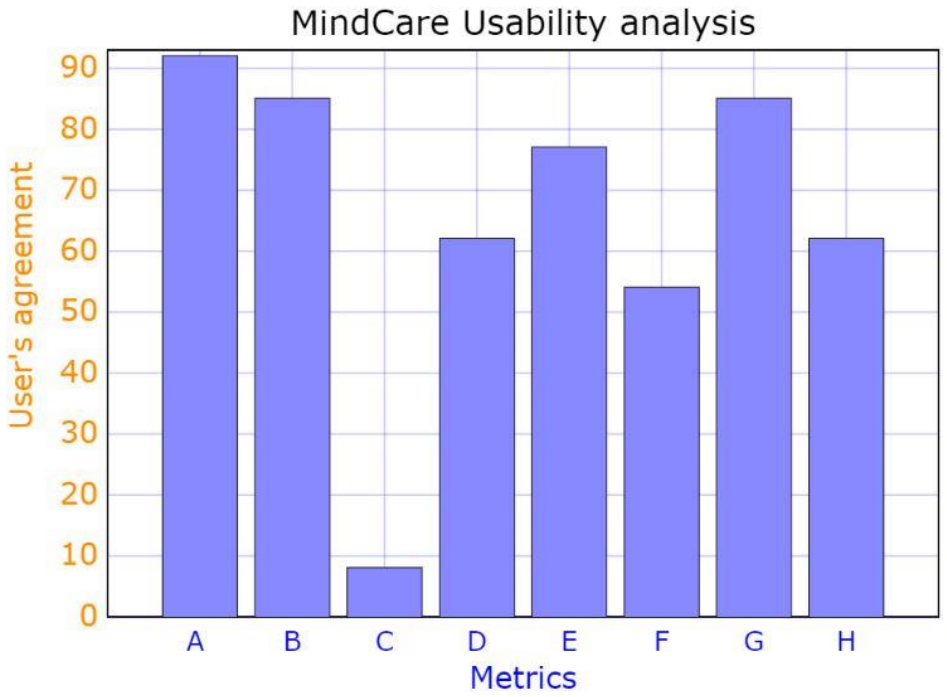
TESTING-ANY OPEN SOURCE TOOL(CASE Toolset)

VALIDATION-USABILITY TESTING, INTERFACE TESTING,USER ACCEPTANCE TESTING USING ANY OPEN SOURCE TOOL

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean Rating	Percent Agree
Thought Website was easy to use			1	12		3.9	92%
Would use website frequently			2	6	5	4.2	85%
Found it difficult to keep track of where they were in website	3	6	3	1		2.1	8%
Thought most people would learn to use website quickly			5	8		3.6	62%
Can get information quickly		1	2	8	2	3.9	77%
Homepage's content makes me want to explore site		1	5	2	5	3.9	54%
Site's content would keep me coming back			2	6	5	4.2	85%
Website is well organized			5	6	2	3.8	62%

R & D

RESULTS AND DISCUSSION- GRAPH GENERATION



Labels of X axis:

A - Thought Website was easy to use
B - Would use website frequently
C - Found it difficult to keep track of where they were in website
D - Thought most people would learn to use website quickly
E - Can get information quickly
F - Homepage's content makes me want to explore site
G - Site's content would keep me coming back
H - Website is well organized

CONCLUSION

CONCLUDING WITH GIVING DETAILS OF IMPROVEMENT IN PERFORMANCE AND APPLICABILITY OF THE SYSTEM IN REAL TIME ENVIRONMENT

MindCare, a mental health website, included various features which would enhance the user's mental wellbeing, bringing calm and peace to their lives. It aims to give its users a calming experience and help them stay strong in tough times. It will make them aware of their current mental health conditions and also suggest the next steps according to their condition. This will help them to take steps to improve or sustain their mental health.

This website was prototyped and designed keeping in mind the principles of techno-spirituality and slow computing.

The website interface was designed applying the following principles of HCI: Interactive design, should cater to universal usability, offer informative feedback, prevent errors, permit easy reversal of actions, exploit constraints, aesthetic and minimalist design, flexibility and efficiency of use.

The novelty of our project is the Emotion Detector, which is integrated into our website. The emotion detector aims to detect the emotion of the user using text entered by the user. Having this functionality in the website interface will prove to be beneficial for the users as it will make the user aware of his/her mental condition. Awareness is the first step towards improving on something.

After the user is aware of how he/she feels through the emotion detector and the self-assessment, they can view resources according to how they are feeling and also listen to music. They can contact counsellors if they feel the need to talk. There can also share their feelings in the Vent-it-out wall wherein we promise to ensure their privacy. Utilizing all these features will give the users a positive and holistic experience.

PAPER STATUS - COMMUNICATED/ACCEPTED /PUBLISHED

PAPER STATUS WITH PLAGIARISM REPORT USING WHICH TOOL

- Submitted
- Plagiarism report attached with project report.

Paper IEEE Template

Title of the Paper
Authors Name(Students + Mentor Name)
Keywords
Introduction
LIterature survey
Methodology
Comparative study (if any)
Results and Discussion
Conclusion
References
Appendix (if any)
Biography (Authors)
No. of Pages (Min 10 to 20 pages)

Plagiaraism Report(<=12 %)- Any open source tool

Paper Communication Details
(ex: submitted/accepted/published)

- Paper attached along with project report.


Thank
You