

ACKNOWLEDGEMENT

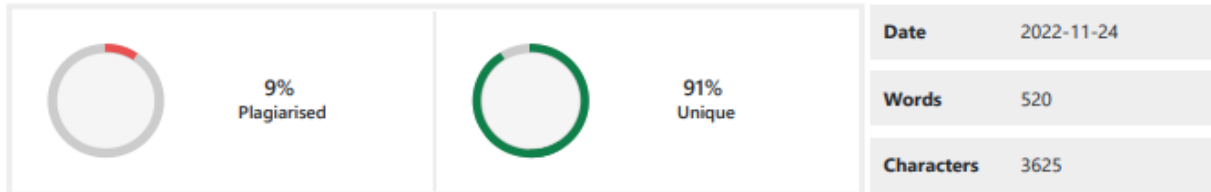
With a sense of gratitude and respect, we would like to extend our heartiest thanks to all those provide help and guidance to make this project a success The successful completion of any task is accompanied by a deep emotion of fulfillment and satisfaction It was a pleasant and highly educative experience out the development of project.

From the bottom of our heart, we thank our HOD of college **Ms. Macwan Riyaben Nalin Kumar**. Who gave us opportunity to undertake such kind of challenging and innovative work and also to our internal guide **Ms. Macwan Riyaben Nalinkumar** who gave us the guidance, help and motivation throughout the over project.

My sincere thanks to my batch mates, who have provided me with innumerable discussion on many technicalities and friendly tips without their cordial and friendly support, these would have been together.



PLAGIARISM SCAN REPORT



Content Checked For Plagiarism

This is a proposal for a hospital appointment system. We plan on making an application for Android(Flutter) for the patient's side and a web-app for the hospital where the appointment can be managed. In this document we outline what our approach is, what technologies we will use when implementing the system, What are the potentials risks involved , etc. Our system aim is to replace traditional phone-based systems for appointment booking that is slow & prone to error.

1.1 About Domain/Area

1. Introduction

One of the major challenges existing hospital management systems faces is around operational efficiency and waiting time between different departments and patients.

Nowadays the major problem is that, there is no such type of facilities which provide to the patients to book appointment with the doctor in very urgent medical situations, rather the patient has to wait for the appointment of the doctor. While it gets too late till the doctor provides proper treatment to the patient.

1.2 Objective

Our mobile application that will make it easy for laypeople to book an appointment at hospitals. Our simple system that makes use of modern technologies and take advantage of the ubiquity of smart phones in today's world to make the process of booking an appointment at the hospital an easy and seamless process. This will greatly reduce the amount of work required by humans to coordinate and manage appointments. It will increase efficiency, accuracy and provide greater control over the information to both the hospitals and patients.

1.3 Users

- Patients
- Doctor
- Lab Assistance

1.4 Module and Functionality

1. We are creating an Android Flutter application for patient which they can use to Book an appointment.
 2. We are creating a web application at hospital side using Flutter which will help hospital staff to manage all appointments
- #### 2.AEIOU CANVAS

2.1 ABOUT

AEIOU is an investigative tool to help interpret observations gathered by ethnographic practices in the field. It is an Observation tool. Its two primary functions are to code data, and to developed building blocks of models that will

Abstract

This is a proposal for a hospital appointment system. We plan on making an application for Android(Flutter) for the patient's side and a web-app for the hospital where the appointment can be managed. In this document we outline what our approach is, what technologies we will use when implementing the system, What are the potentials risks involved , etc. Our system aim is to replace traditional phone-based systems for appointment booking that is slow & prone to error.

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1. Introduction

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2.AEIOU CANVAS

2.1 ABOUT

AEIOU is an investigative tool to help interpret observations gathered by ethnographic practices in the field. It is an Observation tool. Its two primary functions are to code data, and to developed building blocks of models that will ultimately address the objectives and issues of a client.

2.2 ACTIVITES

- Online appointment for all the available doctors at any time.
- Clients can view doctor's profile.
- Clients can give feedback to hospital.
- Clients view the previous feedback given by other patients.
- Client can directly pay fees for appointment.

2.3 Environment

- Rainy

2.4 Interaction

- Patient to Admin
- Member to Admin
- Admin to User
- Generate Appointment

2.5 USERS

- Consultant
- Doctor
- Receptionist
- Administrator

2.6 Objects

- Computer
- Mobile Phone
- Internet

AEIOU Summary :		
Group ID: 389842 Date : 28.09.22 Version : Domain Name : APOINTMENT SYSTEM OPD		
Environment: <div>- Rainy</div>	Interactions : <div>- Traffic</div> <div>- Signal</div>	Objects : <div>- Computer</div> <div>- Mobile Phone</div>
Activities : <ul style="list-style-type: none"> — Online appointment for all the available doctors at any time. — Clients can also view doctor's profile. — Clients can give feedback to the hospital. — Clients view the previous feedback given by the other patients. — The patients can also directly pay for the appointment via any payment gateway. — They can view and download their reports which will also send to the doctor. 		Users : <div>- Consultant</div> <div>- Doctor</div> <div>- Receptionist</div> <div>- Lab Administrator</div>

2.1.1 AEIOU Canvas

3. EMPATHY CANVAS

3.1 ABOUT

An empathy map is a collaborative visualization used to articulate what we know about a particular type of user. It externalizes knowledge about users in order to 1) create a shared understanding of user needs, and 2) aid in decision making.

3.2 USER

- Consultant
- Lab administrator
- Doctor
- Receptionist

3.3 STACKHOLDERS

- Consultant
- Lab administrator
- Doctor
- Hospital Owner

3.4 ACTIVITIES

- Online appointment for all the available doctors at any time.
- Clients can view doctor's profile.
- Clients can give feedback to the hospital.
- Clients can view previous feedback given by other patients.
- They can download their report which will be also access by doctor.

Design For OPD APPOINTMENT SYSTEM

Design By

GROUP ID : 389842

Date 29.09.22

Version

USER

- Consultant

- Receptionist

- Doctor

- Lab Administrator

STAKEHOLDERS

- Consultant

- Lab Administrator

- Doctor

- Hospital Owner

ACTIVITIES

- Online appointment for all the available doctors at any time.
- Clients can also view doctor's profile.
- Clients can give feedback to the hospital.
- Clients view the previous feedback given by the other patients.
- The patients can also directly pay for the appointment via any payment gateway.
- They can view and download their reports which will also send to the doctor.

STORY BOARDING

HAPPY

One person who needs emergency treatment (not for accident purpose) They book appointment through our application.

HAPPY

SAD

One person who needs emergency treatments for accident they need to wait for appointment or else they have to go directly to the hospital.

SAD

3.1.1 Empathy Canvas

4. IDEATION CANVAS

4.1 ABOUT

Ideation is the process where you generate ideas and solutions through sessions such as Sketching, Prototyping, Brainstorming, Brain writing, Worst Possible Idea, and a wealth of other ideation techniques “Ideation is the mode of the design process in which you concentrate on idea generation.

4.2 PEOPLE

- Consultant
- Doctor
- Receptionist
- Lab Administrator

4.3 ACTIVITIES

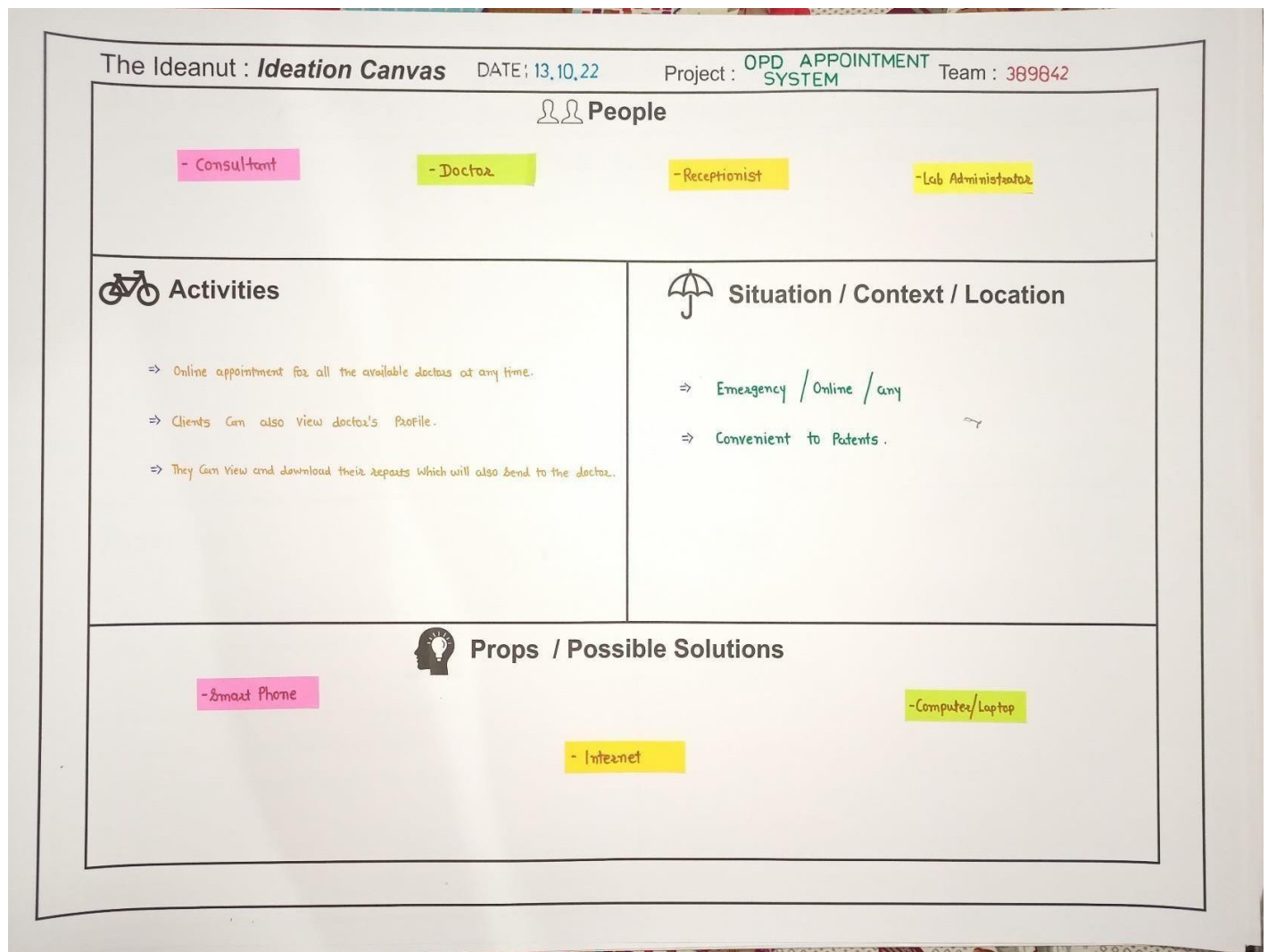
- Online appointment for all the available doctors at any time.
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- Clients can view previous feedback given by other patients.
- They can download their report which will be also access by doctor.

4.4 SITUATION/CONTEXT/LOCATION

- Emergency
- Online appointment in pandemic time
- Convenient for senior citizen

4.5 POSSIBLE SOLUTION

- Smartphone
- Internet
- Computer
- Laptop



4.1.1 Ideation Canvas

5 PRODUCT DEVELOPMENT CANVAS

5.1 ABOUT

A product canvas is a planning tool designed to help build products that have a great user experience through a focus on feature development. It combines agile methodologies with UX principles to help validate product solutions.

5.2 PURPOSE

- Provide convenience to patients.
- Book appointment only and instantly.
- For better and flowless management system.

5.3 PEOPLE

- Consultant
- Doctor
- Receptionist
- Lab Administrator

5.4 PRODUCT EXPERIENCE

- Easy to Use
- Provide better convenience.

5.5 PRODUCT FUNCTIONS

- Online appointment for all the available doctors at any time.
- Clients can view doctor's profile.
- Clients can give feedback to the hospital.
- Clients can view previous feedback given by other patients.

5.6 PRODUCT FEATURES

- Better time management.
- Better track record for all documents.
- Maintain Data privacy.

5.7 COMPONENTS

- Computer System
- Mobile Phone
- Networking Device
- Data base

5.8 CUSTOMER REVALIDATION

- Sometime it takes time to generate report.
- Treatment time is very fast.
- Add new features to communicate with doctors and hospital.

5.9 Reject, Redesign, Retain

- Update registration system
- Wi-Fi Connection
- Redesign

Product Development Canvas		GROUP ID: 389842	Date: 13.10.22
		Design For: OPD APPOINTMENT SYSTEM	
🔍 Purpose What is the purpose of this concept you're developing? Does it solve a problem, or it enhances a certain experiences? Is it serving a need or it is trying to create a new need or tap an untapped need?	⚓ Product Experience Define what your customer should feel like when he uses your product / service? emotions, feelings would define his experience? feeling Convenience, or feeling of buying more with less (cost conscious) or feeling of greater security, safety etc.	✅ Customer Revalidation Once you're finished with your feature set, test with the customer / user if the features, functions are useful. Speak to the customer / user.	
	⚙️ Product Functions Functions are a products answer to user problems / need. They do something that user wants. They are often verbs in nature. Every function is powered by many features. Multitasking is a function. Browser tabs is a feature that powers the multitasking feature. A function can have one or more features powering it. Functions are very generic in nature, features are often more specific. Functions can be similar to product experience. Safety (product function) provides a feeling of safety (product experience)	➕ Product Features Product features are specific. One or more features will power a function. Airbag Brakes, Airbags are feature that power the safety function. Browser tabs, Apple's home button to multitask between apps are features powering the multitasking function. Each feature will have many components/sub components powering it. Sometimes a very popular component becomes a feature in itself. Like car stereo is a major components and a feature at the same time. powering the in car entertainment function powering entertainment as a product experience.	
	🧩 Components Components build up the features. For a airbag it will comprise a list of component like bags, triggers etc. that go into making it. For a tabbed browser it will comprise of various chunks of code that will make the tabs work. In cases where the feature is a major component, you could list here the auxiliary components that are required to make the major component work. You can also list new adjustments and innovations you're planning here at the component level.	🧪 Reject, Redesign, Retain Post customer validation, reject, those function or feature that the customers didn't find useful. Redesign those that were partially useful and retain those met the bar, iterate with this until all functions / features are accepted.	
👤 People Who is the key customer segment who will use this product /service or the end product of the concept you're pursuing? Write here about them, describe them a little.	(This row is merged into the 'People' section on the left)		

- To Provide Convenience to patients.
- Book Appointment Instantly
- Fix Better and Flowless hospital management system.

- Easy to use.
- Provide better Convenience

- Add new feature to communicate with doctors and hospital.
- Treatment time is very fast.

- Better time management
- Better track record all documents, (i.e. Reports, files)
- Maintain data privacy

- Consultant
- Doctor
- Receptionist
- Lab Administrator

- Mobile phone
- Computer / Laptop.

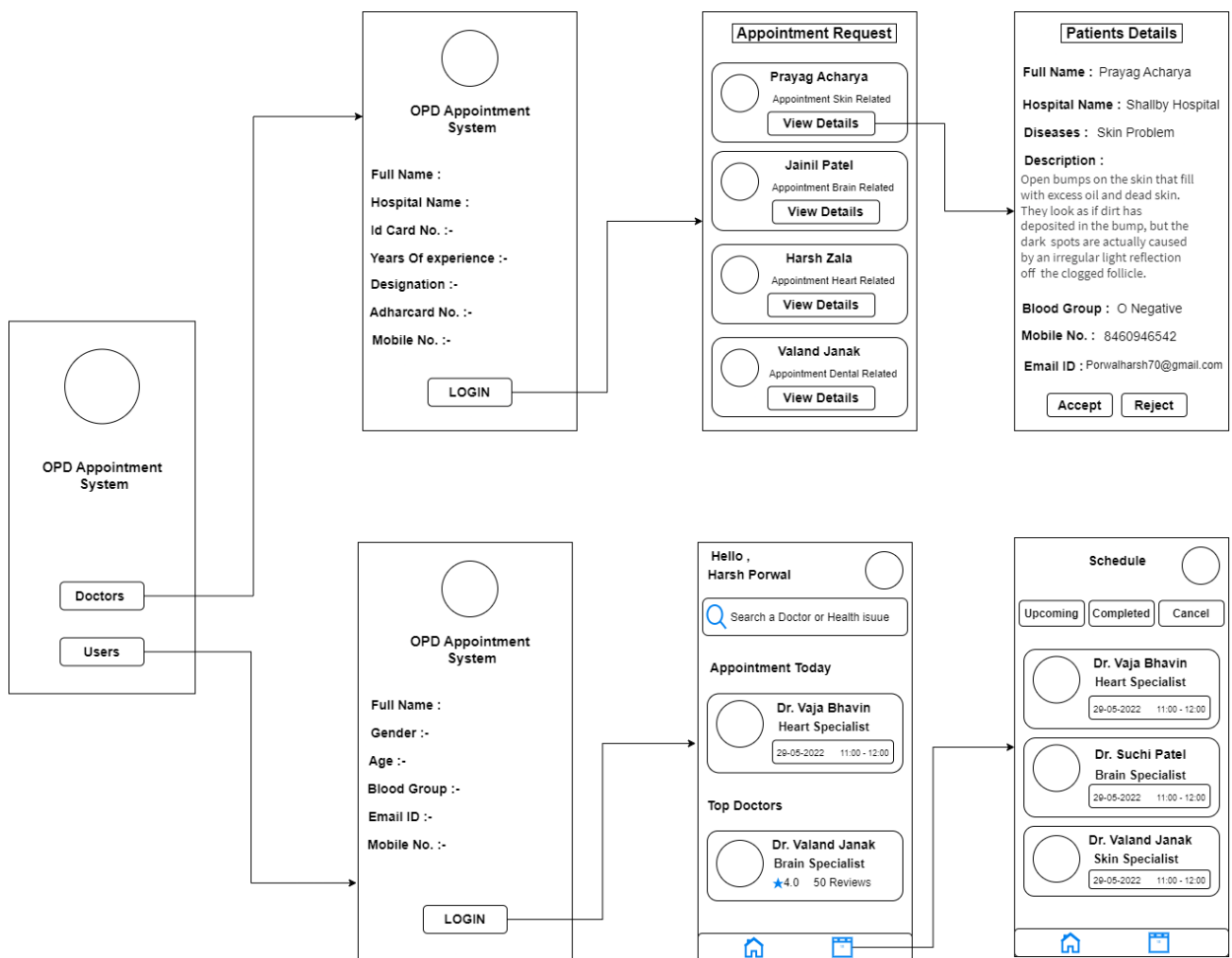
- Redesign

5.1.1 Product Development Canvas

6. PROTOTYPE CANVAS

6.1 ABOUT

Prototyping can be used in many phases of the design journey, with different purposes. It can be used to find out if something is technically feasible (an 'engineering' prototype), if your design ideas look and feel good, and satisfies design criteria, or if your ideas resonate with customers (a 'validation' prototype). We focus on the validation prototype for this canvas.

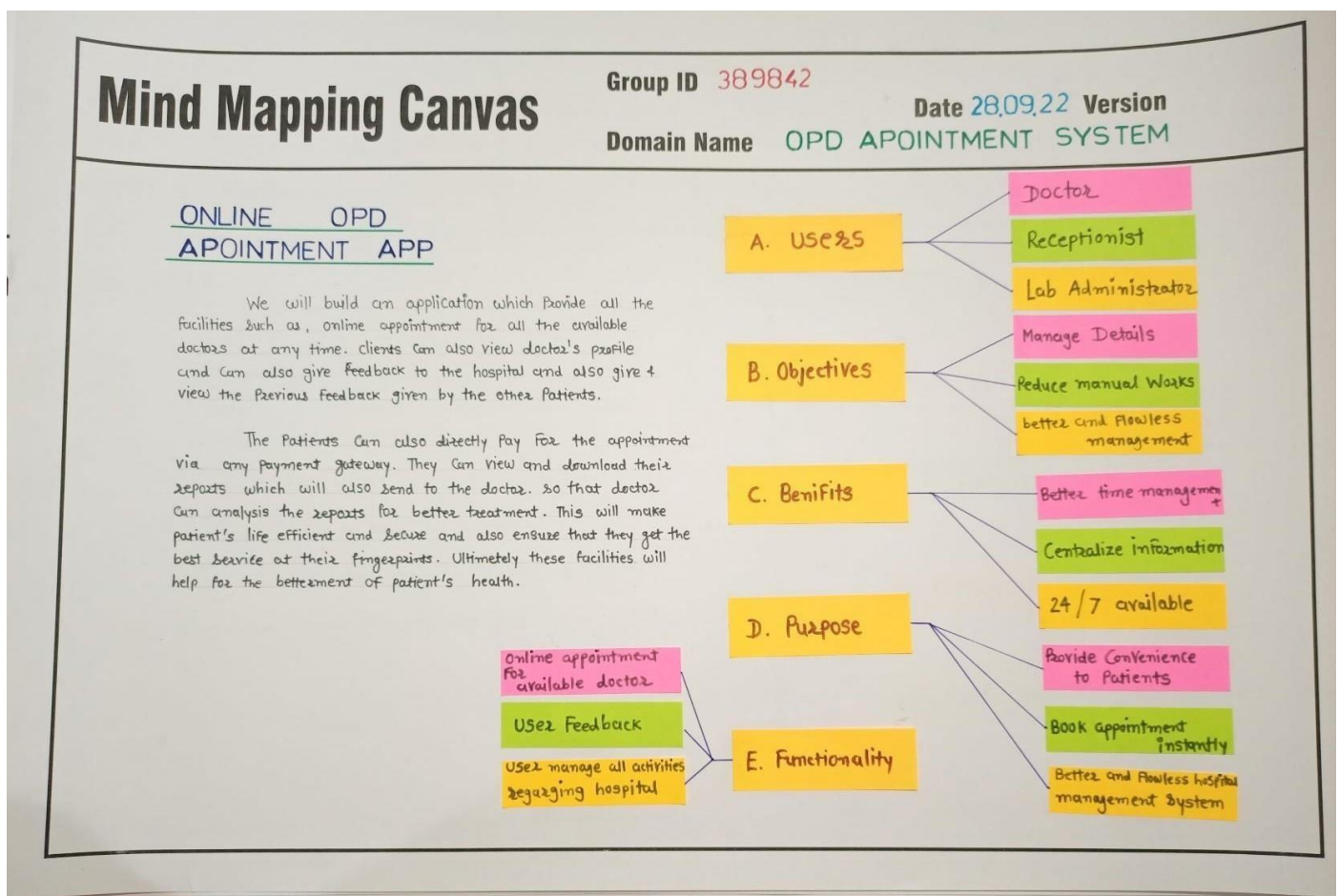


6.1.1 Prototype

7. MIND MAP

7.1 ABOUT

Mind mapping is a way of linking key concepts using images, lines and links. A central concept linked via lines to other concepts which in turn are linked with other associated ideas. It is similar as a technique to concept mapping and spider diagrams, the difference being that true mind mapping involves constructing a hierarchy of ideas instead of pure random as societies.

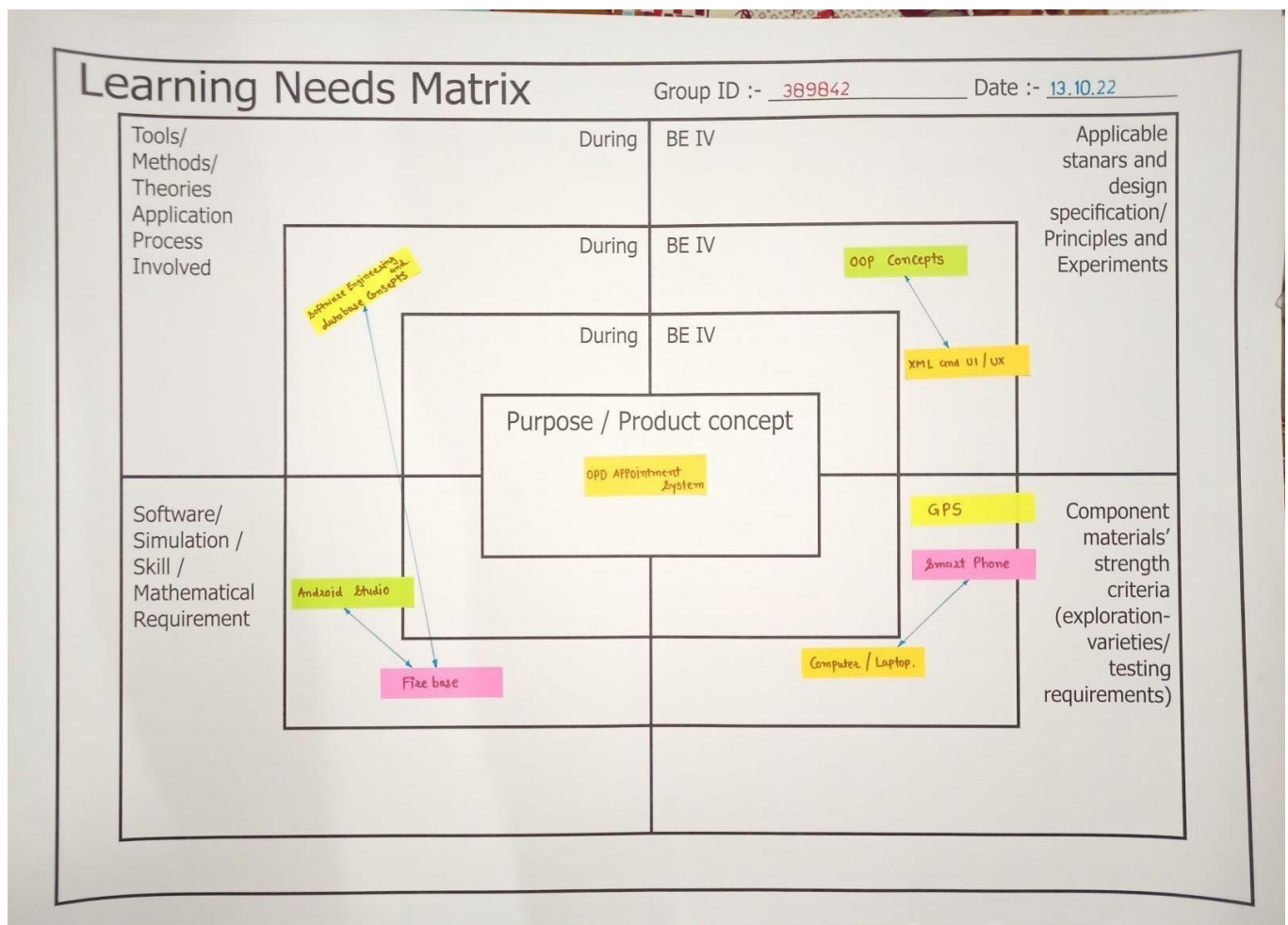


7.1.1 Mind Map Canvas

8. LEARNIN NEED METRIX

8.1 ABOUT

The purpose of LNM is to identify there querulents of learning among the team members. While anew product/process is under development based on a unique idea(to reduce the level of difficulty facedbay user), the team members need to learn and explore allot of new skills and documents, methods and guidelines.



8.2 LNM Canvas

9. CONCLUSION

Our mobile application that will make it easy for people to book appointment at hospitals. Our simple system that makes user of smart phones in today's world to make the process of booking an appointment at the hospital an easy and seamless process. This will greatly reduce the amount of work required by humans to coordinated manage appointments. It will increase efficiency, accuracy and provide greater control over the information to both hospital and patient.

10. Bibliography

- <https://flutter.dev/>
- <https://pub.dev/>

APPENDICES



GUJARAT TECHNOLOGICAL UNIVERSITY

Centre for Industrial Design (Open Design School)

DESIGN ENGINEERING

CONTINUOUS ASSESSMENT CARD

COLLEGE NAME: Swaminarayan College of Engineering & Technology	
COLLEGE CODE: 115	
SUBJECT NAME: Design Engineering – 2A	
SUBJECT CODE: 3160001	SEMESTER: 5
BRANCH: Computer Engineering	ACADEMIC YEAR: 2021-2022

TEAM NAME:		TEAM ID: 389842
PROJECT TITLE/DOMAIN: Online OPD appointment system		
SR. NO.	TEAM MEMBER'S NAME	ENROLLMENT NO.
01	Porwal Harsh R.	201150107005
02	Vaja Bhavin M.	211150107510
03	Patel Suchi S.	211150107518
04	Valand Janak A.	211150107513
INTERNAL GUIDE NAME: Ms. Macwan Riyaben Nalin Kumar		
INTERNAL GUIDE SIGN:		

Head of Department

College Seal

(Ms. Macwan Riyaben N.)

MONTHLY ASSESSMENT - I (Observation, Empathy and Define Phase)
(DATE : 30 / 09 / 22)

1. Why students/team have taken above mentioned domain? (Please specify the reason)

(Note: For more content or information, one may attach additional pages to this card.)

We taken this domain because major challenge in existing hospital management system is Operational efficiency and waiting time between different departments and patients.

2. How frequently student team has gone for observation on field, mention with date, place, time etc.? Which are the key observations that they have noticed?

(i) We done literature survey by reviewing existing application and key observation are is some app have only chat with doctors

(ii) Some app have only video call option to consult doctor.

3. A. How many interactions/interviews team members have done?

We have done only one interaction with application administration of app by online mode.

B. Who are the user and various stakeholders on domain? Describe their persona (Name, age, occupation/education, roles and responsibility etc.)

User of our application :-

(i) Doctors (ii) Patients (iii) Administrator

C. List out the questions asked by team while having observation and interview?

(i) How this system work ?

(ii) How much time patient take to get an appointment.?

(iii) After how long interval patient get to consult doctor?

4. What is something special/random/unusual (i.e. activity, environment, interaction, object or user) team have observed at the domain? Please elaborate the conditions with photographs if available.

We observe that whole system we called base system now days the major problem is there is no facilities provide by which patient get an appointment in emergency they have to wait for some time after book an appointment.

5. Enlist any five major problems observed by your team in the respective domain. Mention any one for which you have empathize user the most and which might become your problem statement. Give reasons of selection of particular problem/issue based on empathy.

Problems are :-

(i) Whole system works on call based appointment.

(ii) No emergency appointment allowed to patient at online or prior.

(iii) You have to go lab for collecting report.

(iv) Security concern.

(v) There is no prior feedback of doctor in existing system.

6. Define your “PROBLEM DEFINITION” for the project as per below format. Which might be refine till end of Ideation phase if you wish.



SUGESTIONS BY INTERNAL GUIDE:

AEIOU CANVAS SUGGESTIONS:

EMPATHY CANVAS SUGGESTIONS:

MIND MAPPING SUGGESTIONS:

GENERAL SUGESTIONS:

Overall Mark (Out of 05):

GUIDE SIGNATURE:

Date:

MONTHLY ASSESSMENT – II (Ideation and Product Development Phase)
(DATE : 15 / 10 / 22)

1. Explain briefly Ideation thought process and efforts of your team to reach ideas for listed problems.

Ideation canvas determine that where and which people uses the domain along with which type of tools and objects and observation of domain and asking contain questions to people and we tried to solve problem.

2. Enlist any five effective ideas to address the probable listed problems with reason.

(i) Provide online appointment service.

(ii) Provide video call option to consult with doctors.

(iii) Provide chat option to admin at hospital.

(iv) Check all reports through our application.

(v) Provide better data security.

3. Explain the most effective possible solution proposed for the problem.

One mobile application that will make it easy to people for book an appointment and also they can consult a doctor with Video call and chat option they can directly view their reports through our application.

4. Explain the features, functions and working principles/technology/pattern of your proposed solution.

We use dart (Flutter) to develop application. In future if we want to add data then we consider firebase as database.

5. Enlist major advantages and disadvantages (atleast three) of the proposed solution.

Advantages : - (i) Easy to use

(ii) Better patient treatment.

(iii) Better management of data & time.

Disadvantages :- (i) Challenge to provide security.

(ii) Unavailability of doctor.

6. Briefly mention refinement on PDC based on User/Stakeholder's feedback on your concept.

By feedback of user / stackholder we decide that system UI must be simple and we add new features of chat and video call to doctor

SUGESTIONS BY GUIDE:

IDEATION CANVAS SUGGESTIONS:

PRODUCT DEVELOPMENT CANVAS SUGGESTIONS:

LEARNING NEEDS MATRIX SUGGESTIONS (in case of 4th sem and onwards):

GENERAL SUGGESTIONS:

Overall Mark, considering assessment I (Out of 05):

GUIDE SIGNATURE:

Date:

MONTHLY ASSESSMENT -III (Detail Design, Prototype and Test phase)

(This assessment shall be done by another guide of department or interdepartmentally along with guide)

(DATE : 31 / 10 / 22)

1. Which theoretical subjects/concepts are involved with your project? How it is useful to your project?

In our project we user Dart (Flutter) to develop an app and use SQL or Firebase as database or we ensure that security is main key of this application

2. Which software/design tool/Skills you have learned/applied during the project? Explain the features of it.

While developing this project we learnt firebase secure it is new to us and we also try to learn flutter because it provides platform independency for IOS and ANDROID.

3. Explain the prototype/model prepared by the student/team.

We develop two prototype one is for user which is used to book an appointment for patient and another one is hospital which we can develop in future to manage appointment which is basically a webpage.

4. What are the materials, technology, things have utilized to make the prototype/model?

Our project is an android application so prototype is major part of software development and we

develop our prototype in Adobe xd.

5. How many Iterations have you done to reach final solution? Explain modification/revise parameters/characteristics for each iteration.

We have done interaction in this project and our modification for future is to add video conference and

calender sync

6. What is the scope of the project? How you are planning to implement it in future?

Scope of our project is depends upon next 1 to 2 years of technology as technology grow faster so

we need to update our system

SUGESTIONS BY EVALUATOR:

PROTOTYPE/MODEL SUGGESTIONS:

GENERAL SUGESTIONS:

Overall Mark, considering assessment I & II (Out of 10):

Department/Interdepartmental Evaluator name and sign:

Guide sign:

Date:

FINAL ASSESSMENT AT THE END OF SEMESTER

EVALUATOR MEMBERS DETAILS:

NAME	INSTITUTE & DEPARTMENT	SIGN.
1.		
2.		
3.		

ASSESSMENT SUMMARY:

CONTINUOUS ASSESSMENT SUMMARY:	MARKS OBTAINED
MONTHLY ASSESSMENT - I	
MONTHLY ASSESSMENT - II	
MONTHLY ASSESSMENT - III	
TOTAL (Out of 20)	
FINAL EVALUATION/VIVA MARKS (Out of 80)	
TOTAL (Out of 100)	
EXAMINER COMMENTS/SUGGESTIONS:	

DATE:

INTERNAL GUIDE SIGN

HOD SIGN

COLLEGE SEAL