GUJARAT TECHNOLOGICAL UNIVERSITY

Pacific School of Engineering

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A

Project Report

on

Offline UPI Payment System(infOPAY)

Prepared as a part of the requirements for the subject of

DESIGN ENGINEERING –2A

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Computer Engineering Department

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Academic Year 2023-24

CERTIFICATE

This is certify that the project entitled "infOPAY" has been prepared by Chirag Patil (211120107014), Amreliya Kuldip (211120107031), Patil Roshan (211120107010), Maival Savaliya(211120107011), in the subject of Design Engineering under my guidance in partial fulfillment of the degree of bachelor of engineering in Computer Engineering (5Th Semester) of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Place: Pacific School of Engineering, Surat

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Department of Computer Engineering
Academic Year 2023-24

CERTIFICATE

This is to certify that the work developed in this Design Engineering – 1B report entitled **"infOpay"** has been carried out by Patil Chirag (211120107014), Amreliya Kuldip(211120107031),Maival Savaliya(211120107011), Patil Roshan(211120207010) in Department of Computer Engineering **Pacific School of engineering , Surat** in partial fulfillment of the requirements for the degree of **Bachelor of Engineering in Computer Department** to be awarded by Gujarat Technological University.

Date:

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ABSTRACT

In rural areas, the internet connection is poor so to avoid consequences while making online
payment we have our goal to make available offline payment. The offline payment system
is robust and secure solution designed to facilitate transactions in environments with
limited or intermittent internet connectivity.
This system employs advanced encryption techniques and local storage mechanisms to ensure
the seamless exchange of payments between users even when an online connection is not available.
By utilizing secure local databases and offline payment system
offers a reliable and efficient method for conducting financial transactions offline. This abstract
provides an overview of the offline payment system's architecture, security measures and its
ability to enhance financial inclusivity by enabling transactions in remote or disconnected settings.
If anyone has lack of internet or network so if won't bother that person and the user can also make
a payment without the requirement of internet and we will also make a help desk for user where
user can contact us for any information regarding our app or any government schemes.

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CHAPTER 1: INTRODUCTION

1.1. Introduction to Concept/Idea

The major concept of our project is to make payment available offline as well as online we have our goal to make India digital country and we want to give our contribution by making an app which can remove all type of physical cash and make offline payment available.

The second vision of our app is to provide information about the each and every new government scheme in our app so that each and every person in our country can be aware by new government schemes.

We want to evolve the world of digital transactions with our forward vision.

1.2. Scope /Purpose

Now days where everything is online, we want to create such a world in which anyone can make an online and also offline payment sometimes in our corporative world our payments decides our business because in every business or any work the most important factor is money if you provide payment on time that will make an good image in business. If you want to make an online payment you will have a large number of apps that can make your offline payment possible but if you want to make an offline payment so for that there is not any type of apps that can make offline payment.

Our vision is to provide offline payment where you don't need any kind of internet connection and we also want to provide a secure and trustable app that can also provide the information as well as the links of Government related websites that have new schemes regarding to Poor and low educated people.

CHAPTER 2: Empathy Mapping

2.1 Literature Survey Offline

UPI payment System

The UPI offline payment system works on the UPI payment which will fully base in the offline payment methods this will lead the market to prefer the UPI rather than use the Cash transactions they can simply use the UPI transection to avoid the Cash Consequences like Carrying Cash, the fear of thieves which we feel when we carry cash, by this significant method we can solve the problem by Using UPI but the UPI also it Becomes problem when it comes to Data connectivity and if you want to use the UPI payment you must need the enough speed of internet.

To solve this problem, we introduce the offline payment method where you can pay through offline using mobile phone in very easy accurate way and it has no need of connection of internet so there is no problem of the network connectivity.

In the offline payment method, there will be several users like,
Admin: in this our project the admin has one of his major roles to play in the System.

Customer: customers will be those users who will use the App for their regular use they can use it anywhere in any cases and also in any circumstances and this Assurance will provide them that the our app is trustworthy and they can be part of our family.

Company Owner: the company owner has their role in the Initialized money cases if in any cases we need the money or we feel the lack of money so we can get it from our sponsor and at end of the discussion our company owner have to be play their role in the app.

Salesman: The salesman will be those who will be the shop owners or Random Street Vendors, or it can be huge Shop owner also the salesman will be also a customer of our service but the play their role as salesman with our customer.
In our project there is several stakeholders mentioned Below:
The first Stakeholder will be the **Government** basically we have to work with the alliance with people and government with alliance with the government.

    The second Stakeholder will be the **Customer** so the customer will play a major role in our project and as Customer also work as the stakeholder, they will be the basic role in our project. In Our project there will be several Activities:

The basic activity and the major activity which will play a heavy role in our project will be the UPI. The UPI (Unified Payment Interface) payment simply means the Cashless transaction which transfer money to one User to another user this help the user to make transaction at any time.

and also, at any place this increases the security towards the payment, and it also encrypts the data with its end to end secured transaction.

The second activity in which this app can perform the money transfer from one user to another user this provides the large advantages as like there is no need of cash you can transfer money at any time with just in some easy steps.

The third activity of our project is helpdesk we will provide a help desk to users to help the users as if any user has any type of query about how to use the app or any other thing they can simply use our help desk where we will provide them accurate info about app and we will also help them to solve their query by this activity we will assure our users that we are here if they face any problem.

The fourth activity will be Sharing the information about the new scheme of governments and Also give them reference of the all government sites so that they can easily access the government sites because the lack of the education and also lack of information and we have our clear visions that each and every person in India should know each and every schemes of governments.

The fifth activity will be offline instant payment in this activity we provide customers the facility to make payment without the internet connection so if the customer has low connection or poor connection so he can make payment by offline this will provide the l arge ecosystem of UPI.

After the release of our app, we will promote our app by making certain advertising in many platforms since we are working on online and offline methods, we will promote our app in both the platforms.

in online and as well as offline in online we will apps like YouTube, Instagram and Facebook this will enhance our users.

We will provide recipe after a successful payment this will increase the assurance of our app

by doing this. And another activity or advantage will be that it will work on the no operational cost we will not take any type of charges from customers for using our app.
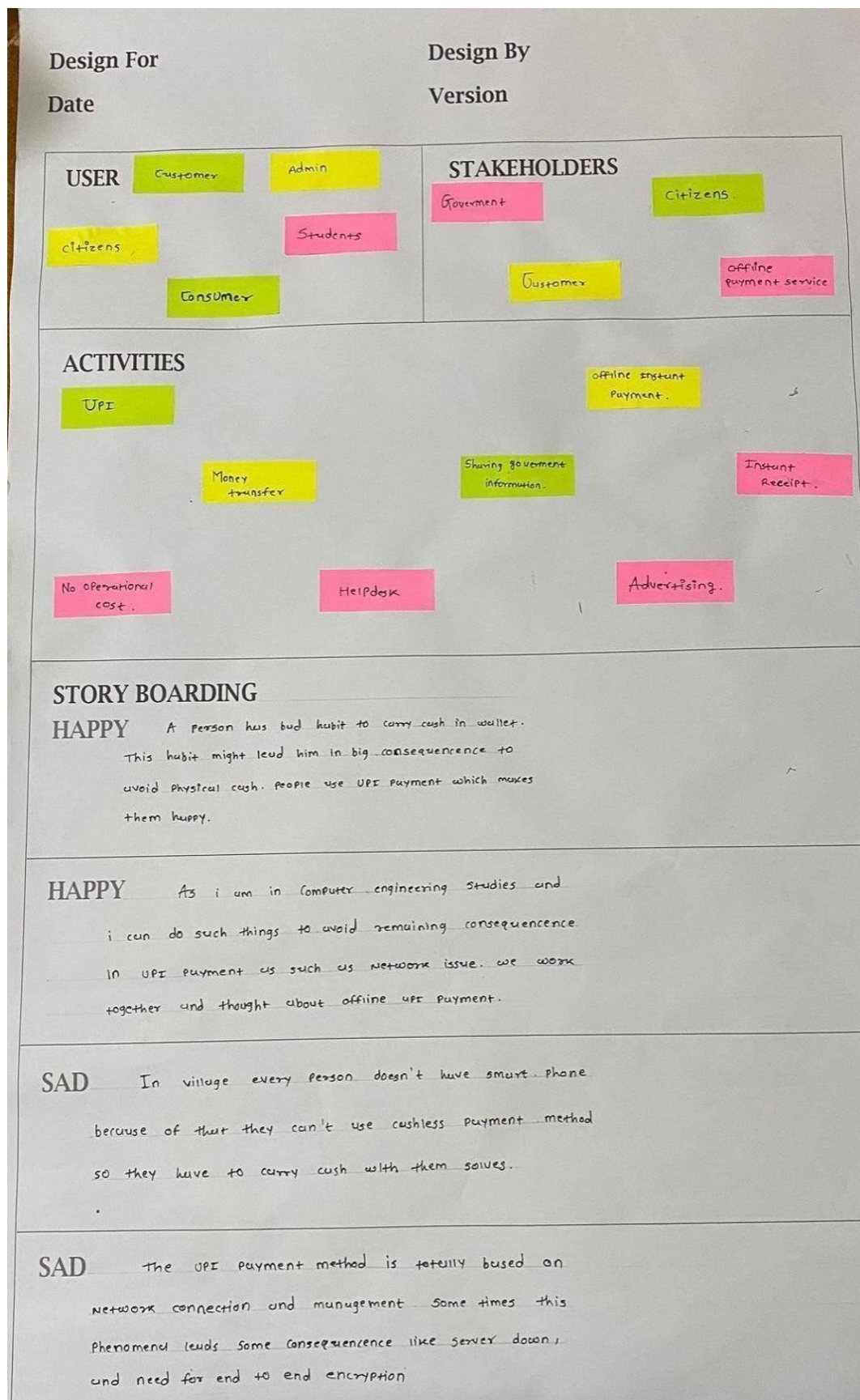
Design For   Design By

Date   Version

USER   Customer   Admin   STAKEHOLDERS

                                    Goverment   Citizens.
citizens.   Students
                                            Customer   offline
        Consumer   payment service

ACTIVITIES

    UPI   offline Instant
                                            Payment.

            Money   Shuring government   Instant
            transfer   information.   Receipt.

No Operational   Helpdesk   Advertising.
cost.

STORY BOARDING

HAPPY   A Person has bud habit to carry cash in wallet.
This habit might lead him in big consequencence to
avoid Physical cash. People use UPI Payment which makes
them happy.

HAPPY   As i am in Computer engineering studies and
i can do such things to avoid remaining consequencence
In UPI Payment as such as Network issue. we work
together and thought about offline upr Payment.

SAD   In village every Person doesn't have smart phone
because of thur they can't use cashless payment method
so they have to carry cash with them solves.
.

SAD   the UPI Payment method is totally based on
Network connection and management. Some times this
Phenomena leads some Consequencence like server down,
and need for end to end encryption

Fig 2.1 Empathy Canvas

CHAPTER 3. EVOLUTION OF IDEA

Here is the list of our AEIOU sheets components

AEIOU Summery sheets.

- **Environment:** we will provide a secure and trustable Environment in which anyone can make any type of online and as well as offline payment without any kind of suffering.

- **Trustable:** we will provide a trustable Environment so that the Users fount themselves comfortable with our app.

- **Secure:** we will try our best to provide the secure environment.

- **Silent:** With help of our project The UPI payment is very silently.

- **Effective:** This project will be time and space efficient.

- **Interactions**: Our app will have interactions with User, Consumer, Customers and citizens who are living their normal life.

- **Customers to salesman**

- **Offline with online:** this app can make online as well as online payment so that the user finds themselves comfortable with our app.

- **Customer to Bank:** customers can make transfer of money to the one bank to another bank that will provide large amount of options to make transfer regarding to money.

- **Customer to UPI:** Our app will directly communicate with UPI to access the bank make payment.

- **Customer to Government Schemes:** In this app our customer or user can find all links of government related websites. Because of this user friendly and informative interphase our user can get all kind of information about government and their new schemes.

- **Objects:** The object that we will include in our this app will be some frameworks, data base, and some computer languages like java, JavaScript, and some others.

- **E-mail:** Email will be used to send notification of payment. And Email will also provide the receipt of post payment which is done or failed.

- **OTP(one time password):** We will use one time password method so because of that user have to use different password each and every time when they make their payment.

   Because of this OTP method we will create a secure and user friendly and informative interphase with enough security.

- **Mobile:** Mobile will be basic component which is used because you need mobile to make any kind of payment because it is the basic need to make anykind of offline or online payment mobile is necessary.

- **Massage :** We will notify the user with the message system when user makepayment

   We will also notify the user when we add new link of government websiteand also notify when some of the schemes has their last dates to fill the forms.

- **Activities**

- **UPI(Unifies user Interface)**

- **Offline Instant Payment :** Instantaneous online as well as offline payment

- **Sharing Government Information:** Having the all government websites links that has any type of New or Old schemes regarding growth and development of India

- **Helpdesk:** we will provide a help desk in which user can get information or counseling about the government schemes and their pros and cons we will first use "**AI Responsive Bot"** that will give a counseling to the users and if user want to talk with a human we will also provide this facility .

- **Money Transfer:** User can transfer the money from one account to another account without facing any consequences.

o **Instant Receipt:** we will provide an Receipt after each and every payment which will be generated automatic

o **Users:**

Here are the users who are going to use our this app

o Admin
o Customer
o Consumers
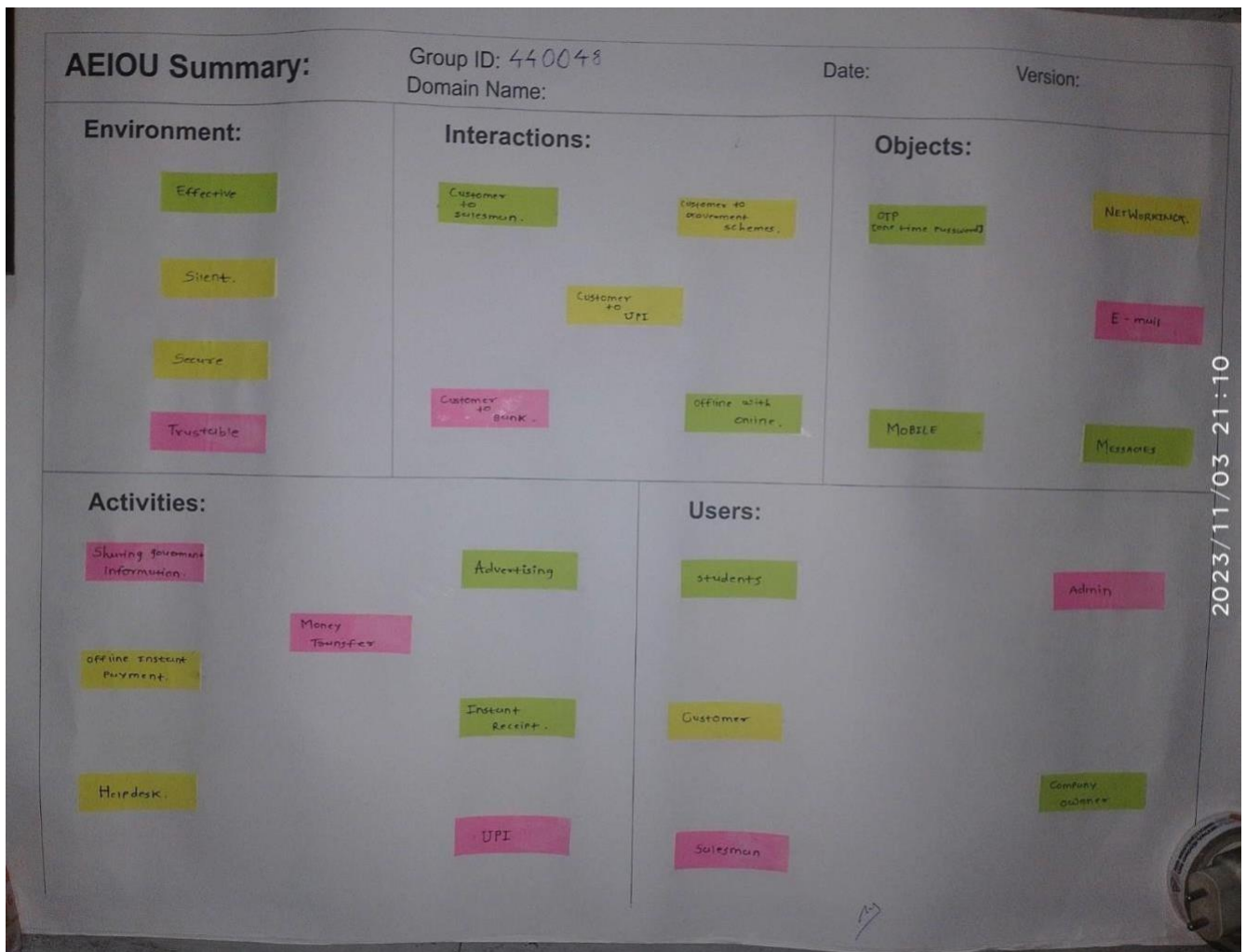o Salesman
o Company Owner
o Students

Fig 3.1 AEIOU CANVAS

People

- here is the people who has their role in project .
  - Admin
  - User
  - Customer
  - Salesman
  - Company
  - Student
  - Consumers
  - Citizens

Activities

- here is the all activities mentioned below
  - Advertising
  - Verification
  - 24*7 Available
  - Checking
  - Customer help line
  - Secure

Situation/Constant

- here is the situation.
  - Server down
  - Network Issue
  - Transection Error
  - Time Complexity
  - Space Complexity
  - Application Glitch

Props/tools/Objects/Equipment

  - Java Programming
  - Android studio
  - Database like SQL, MYSQL, MongoDB etc.
  - Server
  - Visual Studio Code
  - Applications for development
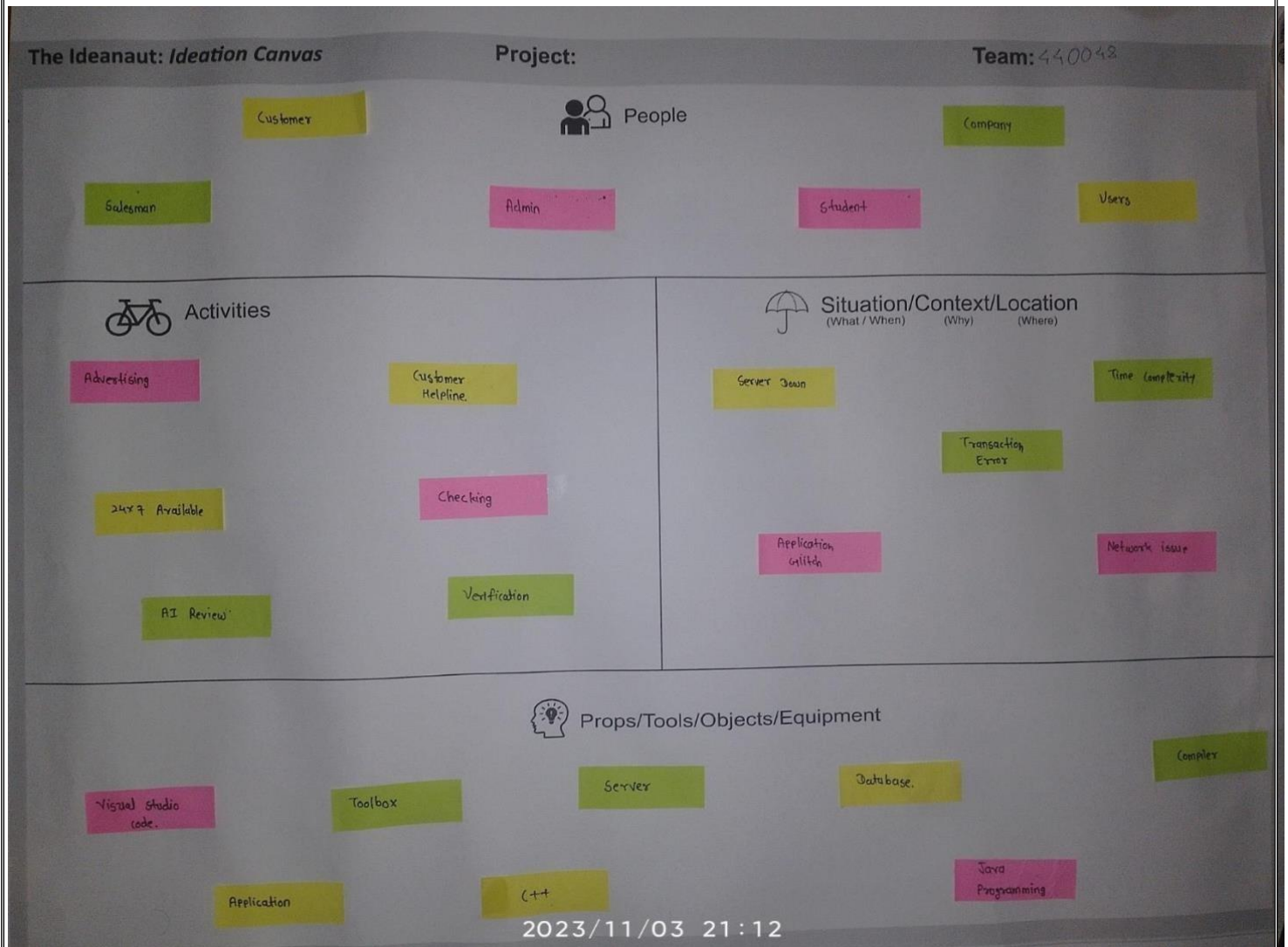 - Frame works
  - C++
  - Toolbox
  - Compiler

Here will be 3rd picture
Ideation Canvas

Fig 3.2 The Ideation Canvas

3.2 Empathy Mapping/Framework

(FIG 3.3 : Product Development Canvas)

3.Product Development Canvas

Here is the purposes.

- o   Easy transactions
- o   Quick response
- o   Offline Transactions
- o   Cashless Transactions

Here are the People

- o   Admin
- o   Users
- o   Company
- o   Customers
- o   Consumers

Here is the product Experience.

- o   Secure
- o   Offline Access
- o   Easy Access
- o   User friendly
- o   Secure
- o   24*7 available
- o   Helpdesk
- o   Feedback
- o   Up to date

Here is product Functions.

- o   offline payments
- o   free access
- o   online payment
- o   informative
- o   24*7 Available

Here is some Product Feature

- o   Guidance
- o   Update
- o   Safe

Components

- o Computer
- o Visual studio code
- o Frameworks
- o Database
- o Android studio
- o Programming tools

Customer revalidation

- o Easy to use.
- o Server down
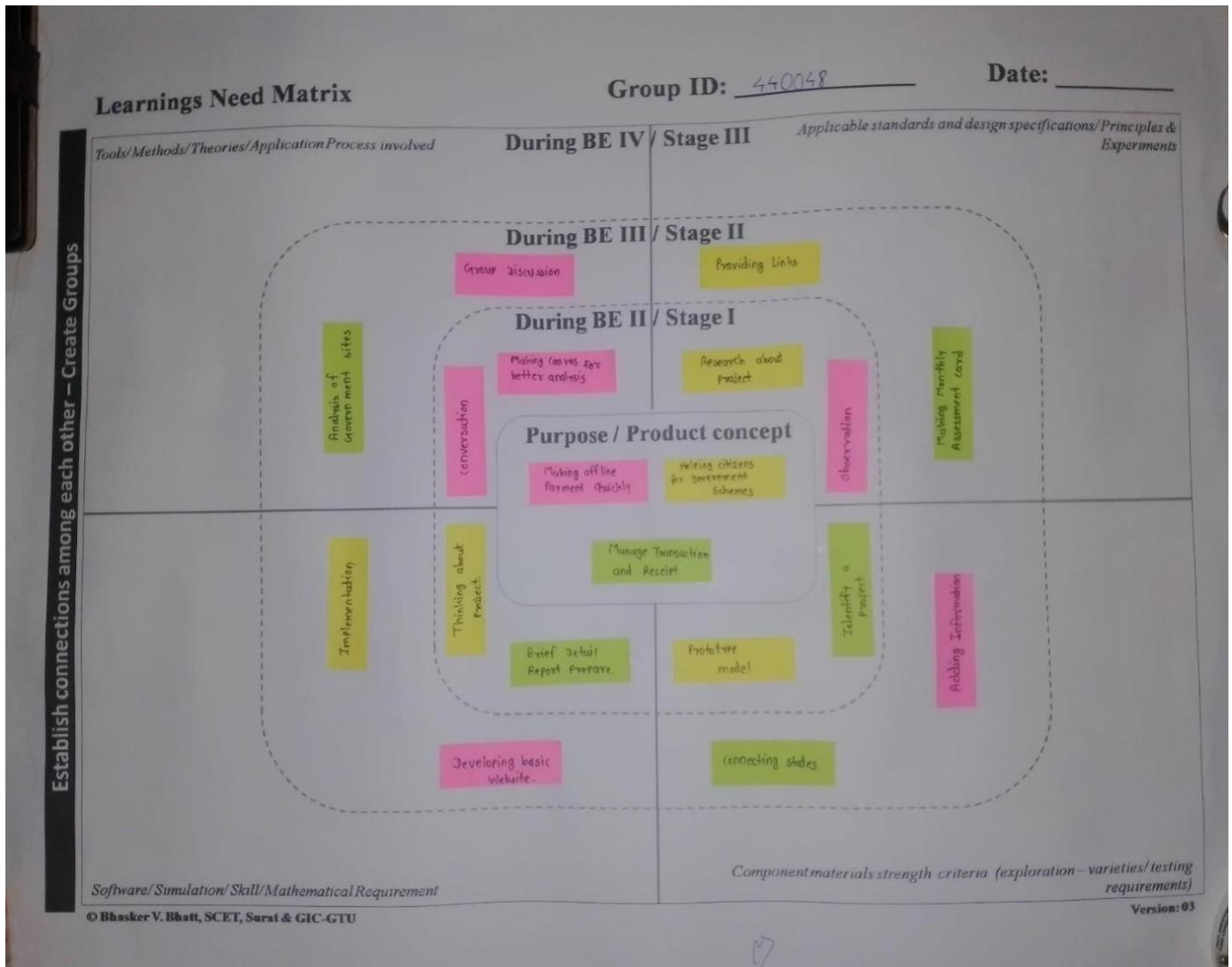- o Network issue
- o General working

The LNM Canvas:
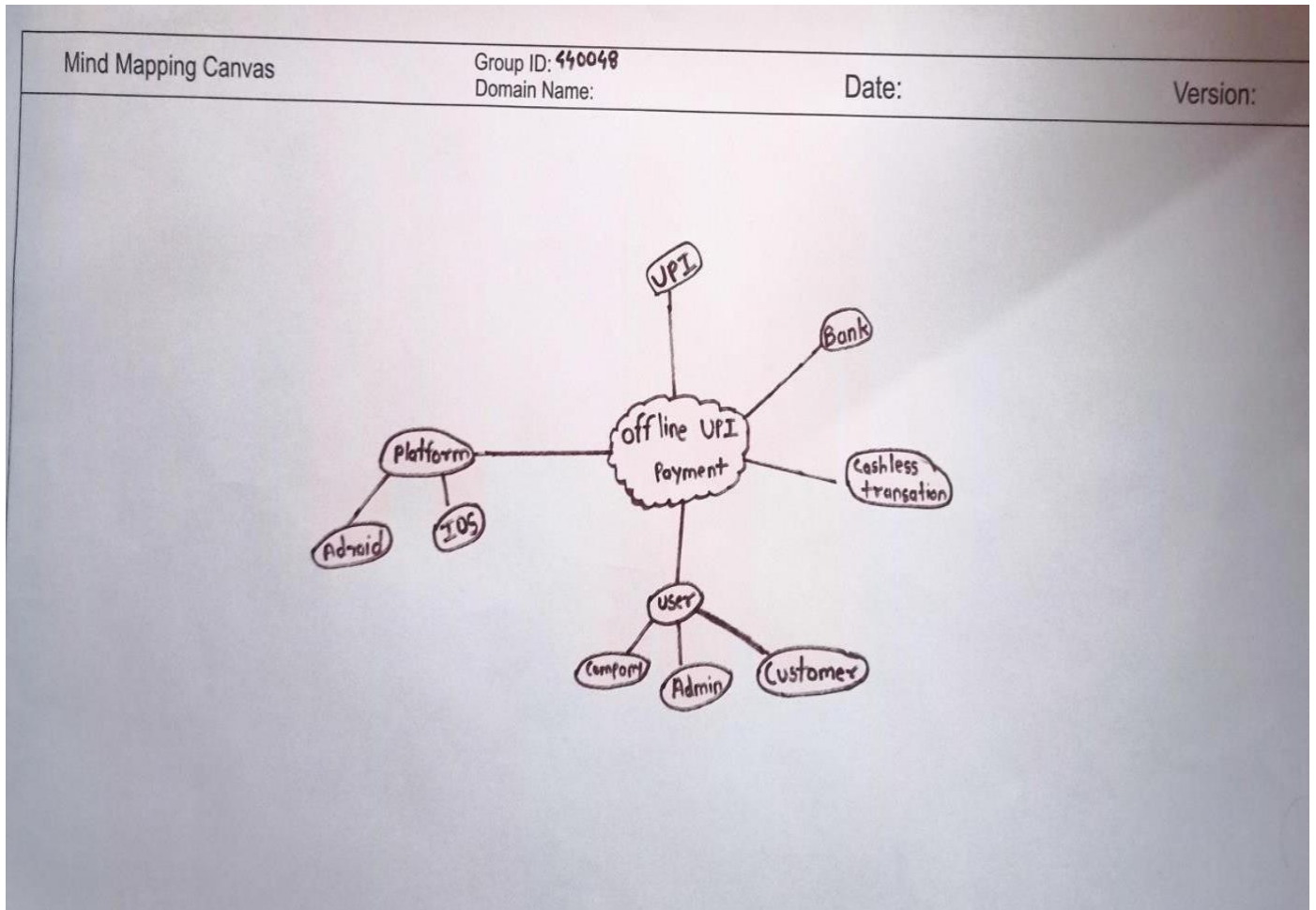

Fig.3.4 LMN Canvas

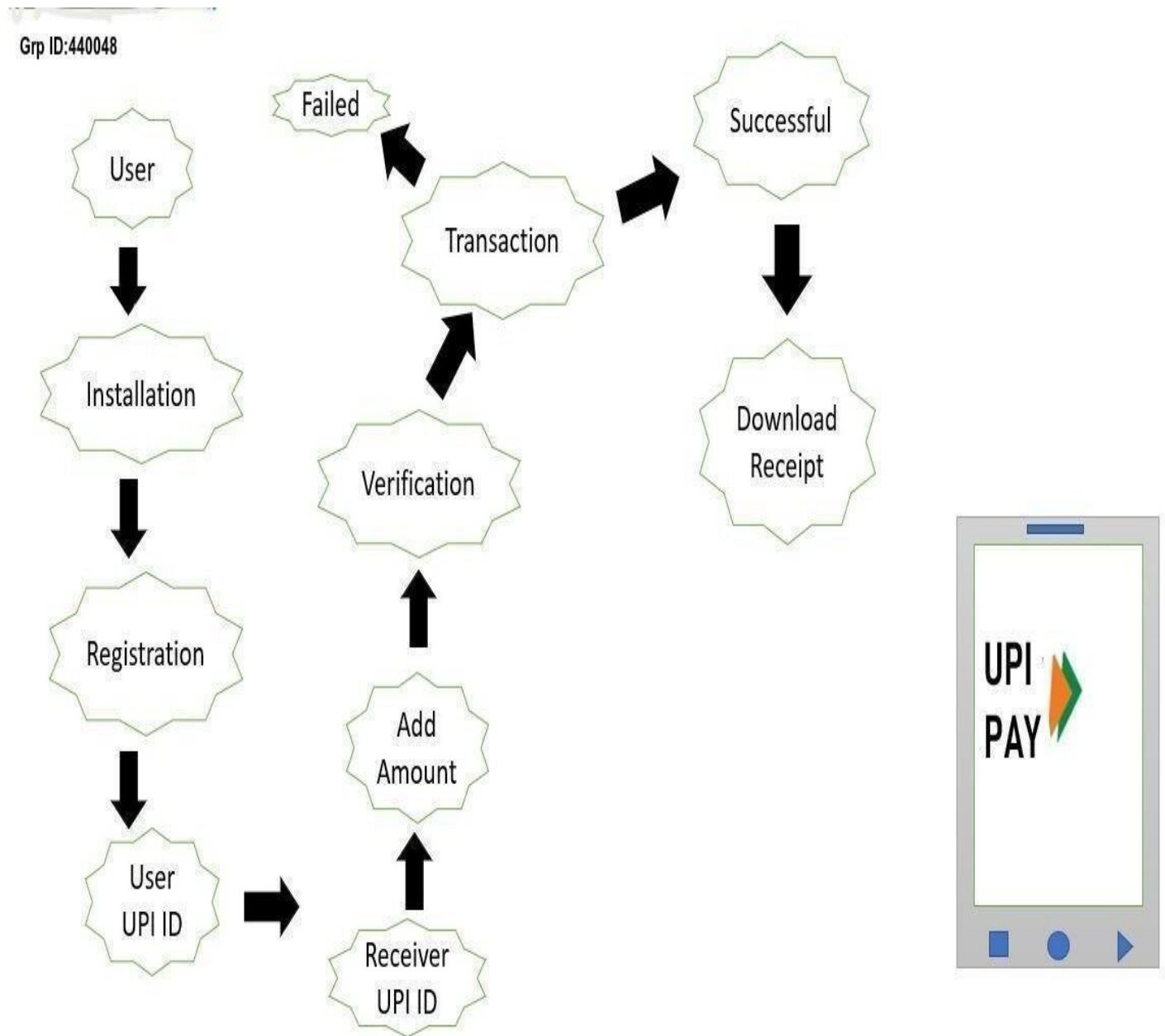## The Mind Map Canvas:

Fig. 3.5 The Mind Map Canvas

The Prototype:

Grp ID:440048

Fig 3.6. The Prototype

CHAPTER 4: Conclusion

"InfOPAY" is all about making payments without internet connection and this will lead to next step in digital payments and another phase of our app is to provide an information about all government schemes this includes existing and new Schemes of government this will lead the user to get all knowledge at one platform as well as our app will guide the user for schemes of their interest.

CHAPTER 5: REFERENCE

Here is the major reference that we have covered during our study regarding our project.

The government website: https://www.india.gov.in/my-government

The informative websites regarding UPI:

https://en.wikipedia.org/wiki/Unified_Payments_Interface

Another website for information about the UPI:

https://www.npci.org.in/what-we-do/upi/product-overview