



COMPUTER ENGINEERING DEPARTMENT  
L. D. COLLEGE OF ENGINEERING  
AHMEDABAD

**Gujarat Technological University**  
Chandkheda, Ahmedabad

A Design Engineering Project Report

On “**App for Residential Societies**”

Submitted By

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**Internal Guide**

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Assistant Professor  
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LDCE, Ahmedabad

**HOD**

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Professor & HOD  
Computer Engineering Department  
LDCE, Ahmedabad

## CANDIDATE'S DECLARATION

We have finished our project report entitled “**App for residential societies**” and submitted to our respective guide. We have done our work proficiently with utter preciseness and prior to our knowledge.

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Branch : **Computer Engineering**  
Enrollment No. : **170280107104**  
Signature :

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Submitted to:

**L.D College of engineering, Ahmedabad**

Affiliated to: **Gujarat Technological University**

## ACKNOWLEDGEMENT

We would like to extend our heartily thanks with a deep sense of gratitude and respect to all those who has provided us immense help and guidance during our project.

We would like to express our sincere thanks to our internal guide Mr. Pragnesh G. Patel for providing a vision about the system and for giving us an opportunity to undertake such a great challenging and innovative work. We are grateful for the guidance, encouragement, understanding and insightful support given in the development process.

We would like to extend my gratitude to Dr. S. M. Shah, Head of Computer Engineering Department, LDCE, Ahmedabad, for his continuous encouragement and motivation.

Last but not the least, we would like to mention here that we are greatly indebted to each and everybody who has been associated with our project at any stage but whose name does not find a place in this acknowledgement.

Yours Sincerely,

Dhyey Savaliya (170280107104)

Meet Patel (170280107084)

Sanket Patel (170280107086)

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## 1) INTRODUCTION:

In these modern times, when urbanization is at its peak, the migrations of people towards the cities is at its peak. Hence with the growing population in urban as well as rural areas, the trend of housing societies has reached its zenith. With the population increasing leaps and bounds, the size of the housing societies has also increased substantially. Many societies have a capacity of around 5000 people and are also considered as mini-towns. Hence, in order to maintain an efficient and effective system within the society, automation is required in the conduction of habitual events or processes.

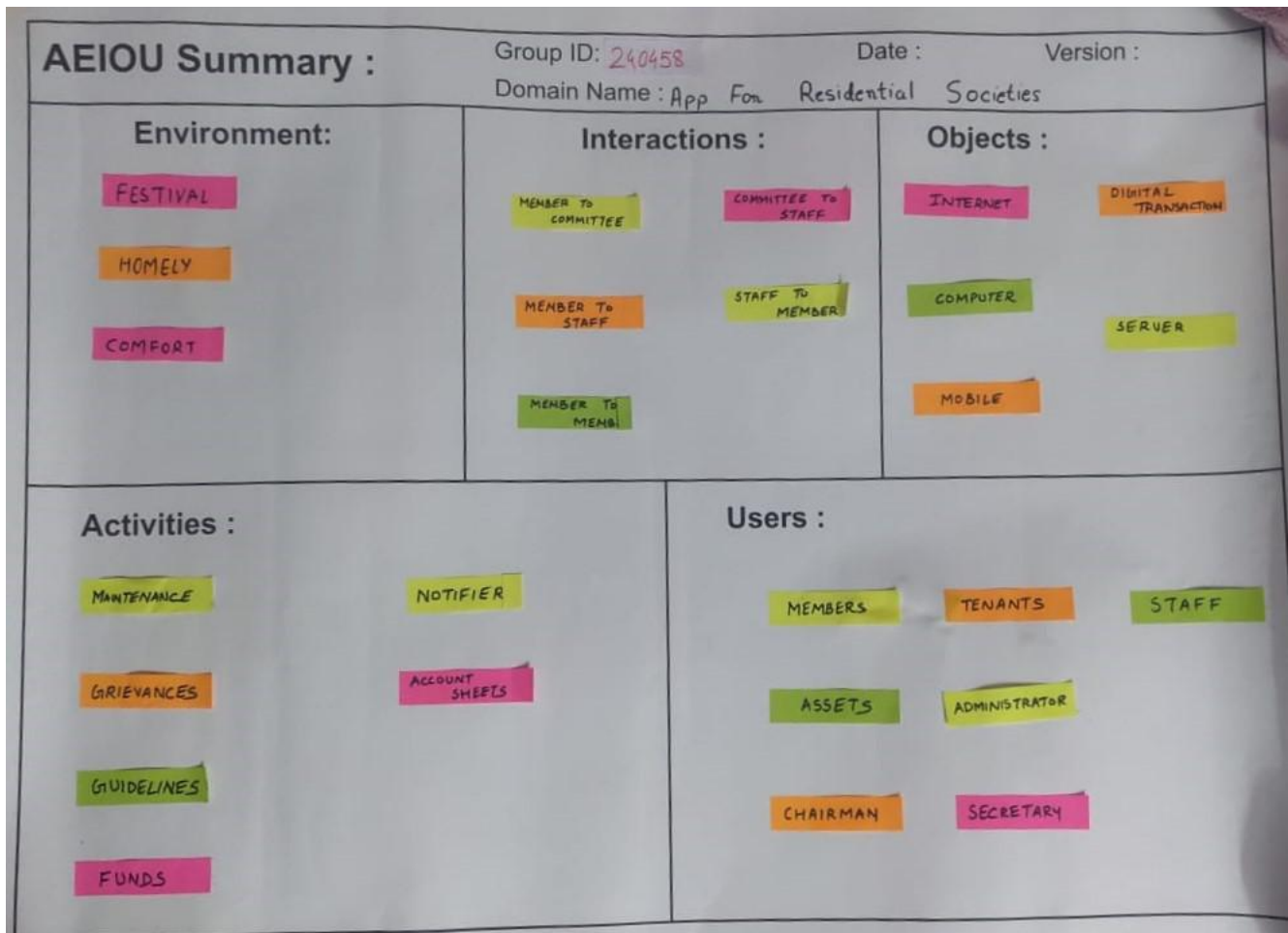
Hence our web-application 'App For Residential Societies' is an online platform which provides various features to its users ranging from online maintenance payment to reporting complaints anonymously among the various functionalities provided.

### **Aim:-**

- Remote payment of maintenance as well as various festival funds.
- To verify and alert the members whose maintenance payment as well as other dues are left.
- Complain about something inappropriate going on in the society anonymously.
- To circulate notices without going anywhere physically on the application itself and uploading the receipts of various bills paid.

## 2) CANVASES:

### 2.1) AEIOU Canvas:-



#### ACTIVITIES:

- Maintenance
- Grievance
- Guidelines
- Funds
- Account sheets
- Notifier

## ENVIROMENT:-

- Server
- Web application
- Spring Boot

## INTERACTIONS:-

- Member to committee
- Member to vendor
- Member to member
- Committee to vendor

## OBJECT:-

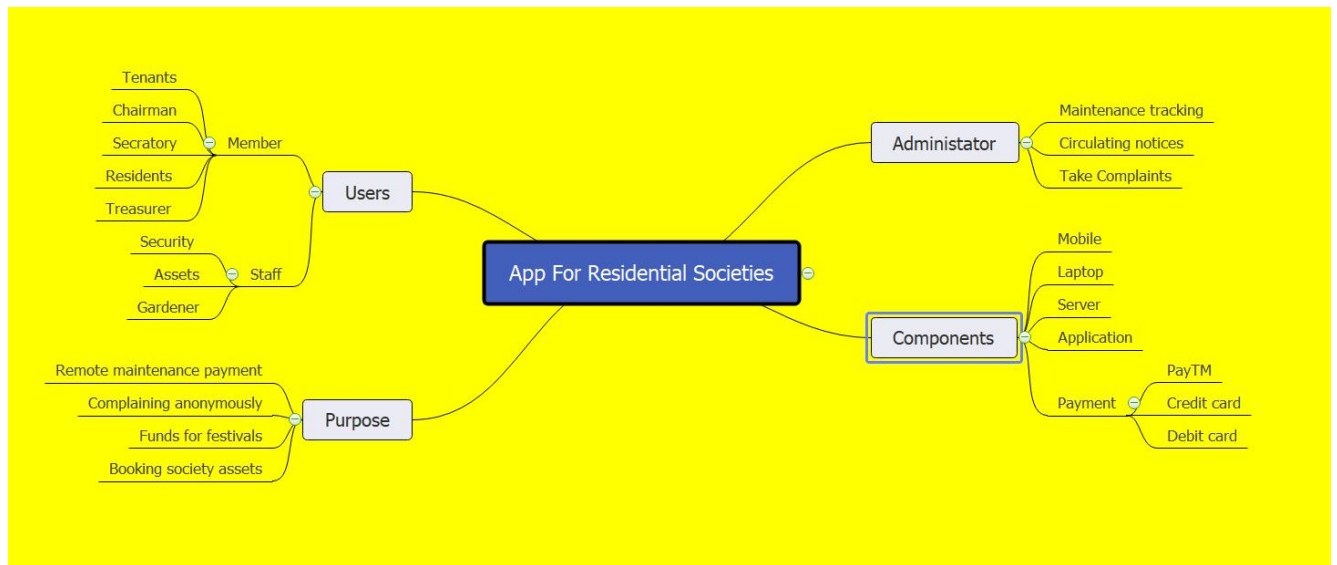
- Internet
- Mobile
- Server
- Computer
- Digital transactions

## USERS:-

- Members
- Tenants
- Vendor
- Administrator
- Secretary
- Chairman
- Assets

## 2.2) Mind Map:-

“A mind map is a visual representation of hierarchical information that includes a central idea surrounded by connected branches of associated topics”



**Mind-Map of System**



### 2.3) Empathy MappingCanvas:-

Design For <u>App For Residential Societies</u> Date _____	Design By <u>240458</u> Version _____
<b>USER</b> <div style="display: flex; flex-wrap: wrap; padding: 5px;"> <div style="background-color: yellow; padding: 2px; margin: 2px;">MEMBER</div> <div style="background-color: green; padding: 2px; margin: 2px;">COMMITTEE</div> <div style="background-color: orange; padding: 2px; margin: 2px;">TENANT</div> <div style="background-color: pink; padding: 2px; margin: 2px;">ADMINISTRATOR</div> </div>	<b>STAKEHOLDERS</b> <div style="display: flex; flex-wrap: wrap; padding: 5px;"> <div style="background-color: yellow; padding: 2px; margin: 2px;">CHAIRMAN</div> <div style="background-color: green; padding: 2px; margin: 2px;">SECRETARY</div> <div style="background-color: orange; padding: 2px; margin: 2px;">TREASURER</div> <div style="background-color: pink; padding: 2px; margin: 2px;">MEMBER</div> </div>
<b>ACTIVITIES</b> <div style="display: flex; flex-wrap: wrap; padding: 5px;"> <div style="background-color: yellow; padding: 2px; margin: 2px;">MAINTENANCE</div> <div style="background-color: orange; padding: 2px; margin: 2px;">NOTIFIER</div> <div style="background-color: green; padding: 2px; margin: 2px;">GRIEVANCES</div> <div style="background-color: green; padding: 2px; margin: 2px;">ACCOUNT SHEET</div> <div style="background-color: orange; padding: 2px; margin: 2px;">CLUB MEMBERSHIP</div> <div style="background-color: yellow; padding: 2px; margin: 2px;">GUIDELINES</div> <div style="background-color: pink; padding: 2px; margin: 2px;">FUNDS</div> <div style="background-color: yellow; padding: 2px; margin: 2px;">SERVICE REQUEST</div> <div style="background-color: green; padding: 2px; margin: 2px;">ALLOCATION OF SERVICES</div> </div>	
<b>STORY BOARDING</b> <p>HAPPY WITH THE INTRODUCTION OF APP, ALL THE MEMBERS PAID THEIR DUES ONLINE WHICH LED TO SAVING OF TIME AND ENERGY</p> <p>HAPPY AS THE INFO OF ALL MEMBERS ARE AVAILABLE ONLINE, WHEN A MEMBER FELT SICK, HE CALLED HIS NEIGHBOUR DOCTOR WHO CAME IN TIME WHICH PROVIDED HIS DETEORITATION OF HEALTH</p> <p>SAD SECRETARY OF THE SOCIETY HAD TO ROAM AROUND THE SOCIETY TO COLLECT MAINTENANCE WHICH LED TO HIS WASTAGE OF TIME AND ENERGY</p> <p>SAD WHEN A MEMBER FELL SICK, HE CALLED A DOCTOR WHO CAME LATE WHICH LED TO HIS DETEORITATION OF HEALTH</p>	

## USERS: –

- Members
- *Tenants*
- Administrator
- *Secretary*
- Chairman

## STAKE-HOLDERS: –

- Chairman
- Secretary
- Member

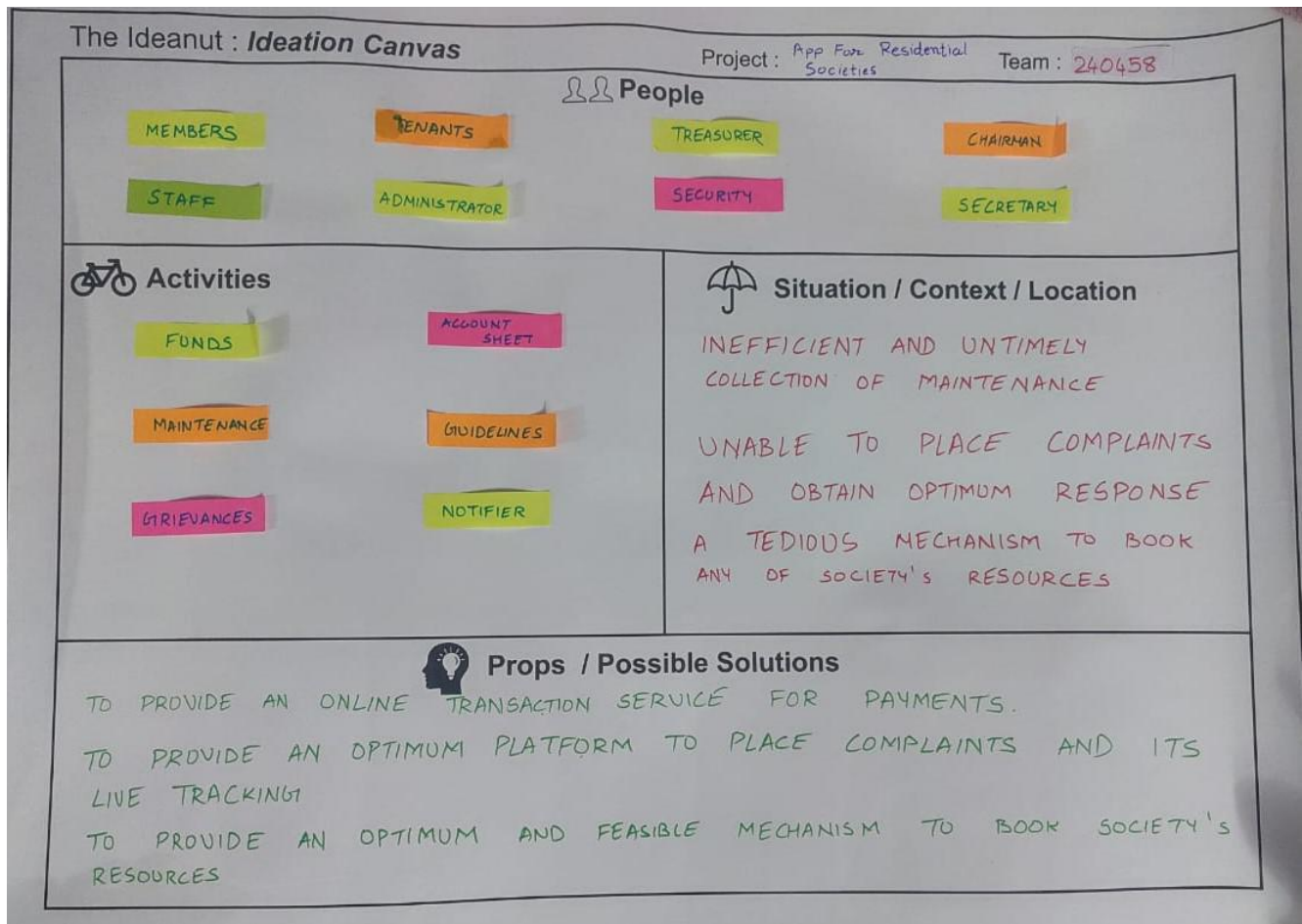
## ACTIVITIES:

- Maintenance
- Grievance
- Guidelines
- Funds
- Service Request
- Club membership
- Account sheets
- Notifier

### Story Boarding:

- HAPPYSTORY:- With the introduction to this app, all the members paid their dues online which led to saving time and energy.
- HAPPY STORY:-As the information of all members are available online, when a member felt sick , he called his member doctor who came in time which prevent the worsening of his health.
- SADSTORY:-Secretary of the society had to roam around the society to collect maintenance which led to his wastage of time and energy.
- SAD STORY:- When a member fell sick, he called a doctor who came late which led to worsening of his health

## 2.4) IdeationCanvas:-



### PEOPLE: -

- Members
- Tenants
- Vendor
- Administrator
- Security
- Secretary
- Chairman

## ACTIVITIES:

- Maintenance
- Grievance
- Guidelines
- Funds
- Account sheets
- Notifier

## SITUATIONS/CONTEXT/LOCATION: –

- Inefficient and incongruous collection of maintenance
- Unable to place complaints and obtain optimal response
- Tedious mechanism to book any of societies resources

## PROPS/POSSIBLE SOLUTIONS: –

- To provide an online transaction service for payments
- Provide an optimum platform to place complaints and its live tracking
- To provide an optimum and feasible mechanism to book societies resources

## 2.5) Product Development Canvas:-

Product Development Canvas		
<b>🔍 Purpose</b> What is the purpose of this concept you're developing? Does it solve a problem, or it enhances a certain experience? Is it serving a need or it is trying to create a new need or fill an untapped need?  <b>EFFICIENT MANAGEMENT</b>  <b>TIME SAVING</b>  <b>EASE OF ACCESSIBILITY</b>	<b>⚓ Product Experience</b> Define what your customer should feel like when he uses your product / service? emotions, feelings would define his experience? feeling of Comfort, Convenience, or feeling of buying more with less (post-conscience) or feeling of greater security, safety etc. <b>USER FRIENDLY</b> <b>CONVENIENCE</b>	<b>✅ Customer Revalidation</b> Once you're finished with your feature set, test with the customer / user if the features, functions are useful. Speak to the customer / user.  <b>SLOW SERVER</b> <b>UNAVAILABILITY AT HELPDISK</b> <b>PROBLEMS IN NETBANKING</b> <b>BALANCE SHEET UPDATION PROBLEM</b> <b>WRONG INFO</b> <b>NO RESPONSE OF COMPLAINTS</b> <b>INEFFICIENT MANAGEMENT OF RESOURCES</b>
	<b>✖ Product Functions</b> 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 function. 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). <b>ONLINE PAYMENT</b> <b>IMMEDIATE LOGGING OF COMPLAINTS</b> <b>EFFICIENT MANAGEMENT OF RESOURCES</b>	
	<b>⚙ Product Features</b> Product features are specific. One or more features will power a function. Antilock Brakes, Airbags are features 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 component and a feature at the same time powering the in car entertainment function powering entertainment as a product experience. <b>PAY AT ANYTIME ANYPLACE</b> <b>ANONYMOUS COMPLAINTS</b> <b>ACCESS TO ACCOUNT SHEET</b> <b>LIVETRACKING OF COMPLAINTS</b> <b>NOTIFIERS AND REMINDER</b> <b>ONLINE SERVICE REQUEST</b>	
<b>👤 People</b> 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.  <b>MEMBERS OF A SOCIETY</b>  <b>TENANTS OF A SOCIETY</b>	<b>⚙ Components</b> Components build up the features. For a website it will comprise a list of component like blogs, 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. <b>SERVER</b> <b>LAPTOP</b> <b>PAYMENT API</b> <b>MOBILE</b> <b>INTERNET</b>	<b>🧪 Reject, Redesign, Retain</b> Pool customer validation, reject those function or feature that the customers didn't find useful. Redesign those that were partially useful and retain those that met the bar. Iterate with this until all functions / features are accepted. <b>24x7 HELPLINE</b> <b>CENTRAL ADMINISTRATOR</b> <b>APPLICATION MANAGER</b>

Purpose of system

### PURPOSE:-

- Efficient management
- Time saving
- Ease of accessibility

## PRODUCT EXPERIENCE:-

- User friendly
- Convenient

## PRODUCT FUNCTION:-

- *Online payment*
- *Immediate Lodging of complaints*
- Efficient management of resources

## PEOPLE: –

- Members of society
- Tenants of society

## PRODUCT FEATURES:-

- Pay at any time anyplace
- Anonymous complaints
- Access to account sheet
- Notifier and reminder
- Online service request
- Live tracking of complaint

## COMPONENTS: –

- Payment API
- Email API
- Internet
- Laptop
- Server

## API-S USED:-

- Flyway
  - ◆ This third party API was used for the Database Migration.
- Authorized.net(Sand-Box account)
  - ◆ We use this API to integrate payment gateway into system.
- Sendgrid:
  - ◆ This third party API was used for the sending emails

## REJECT, REDESIGN, RETAIN: –

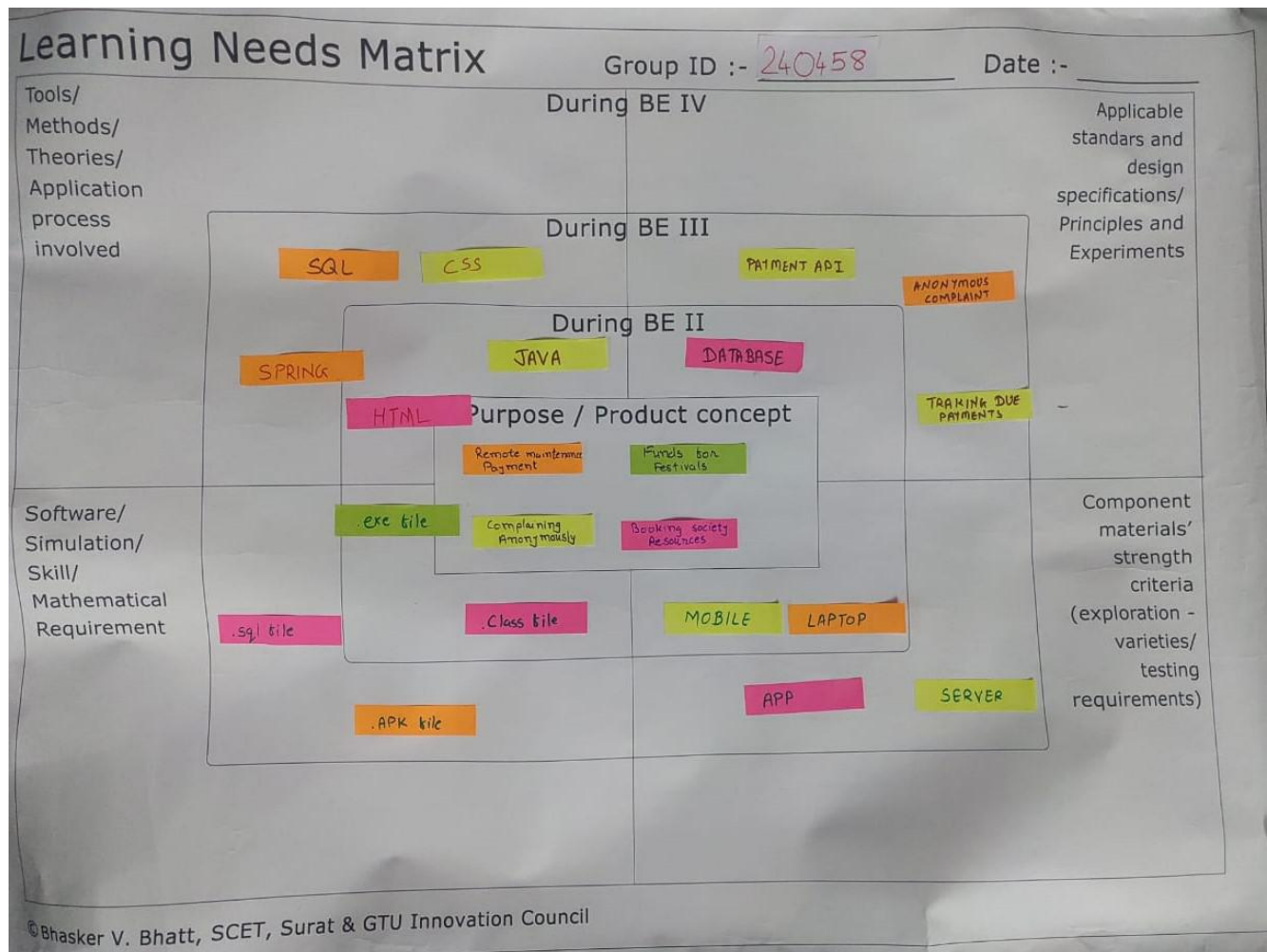
- 24X7 helpline
- Central administrator
- Application manager

## CUSTOMER REVALIDATION:-

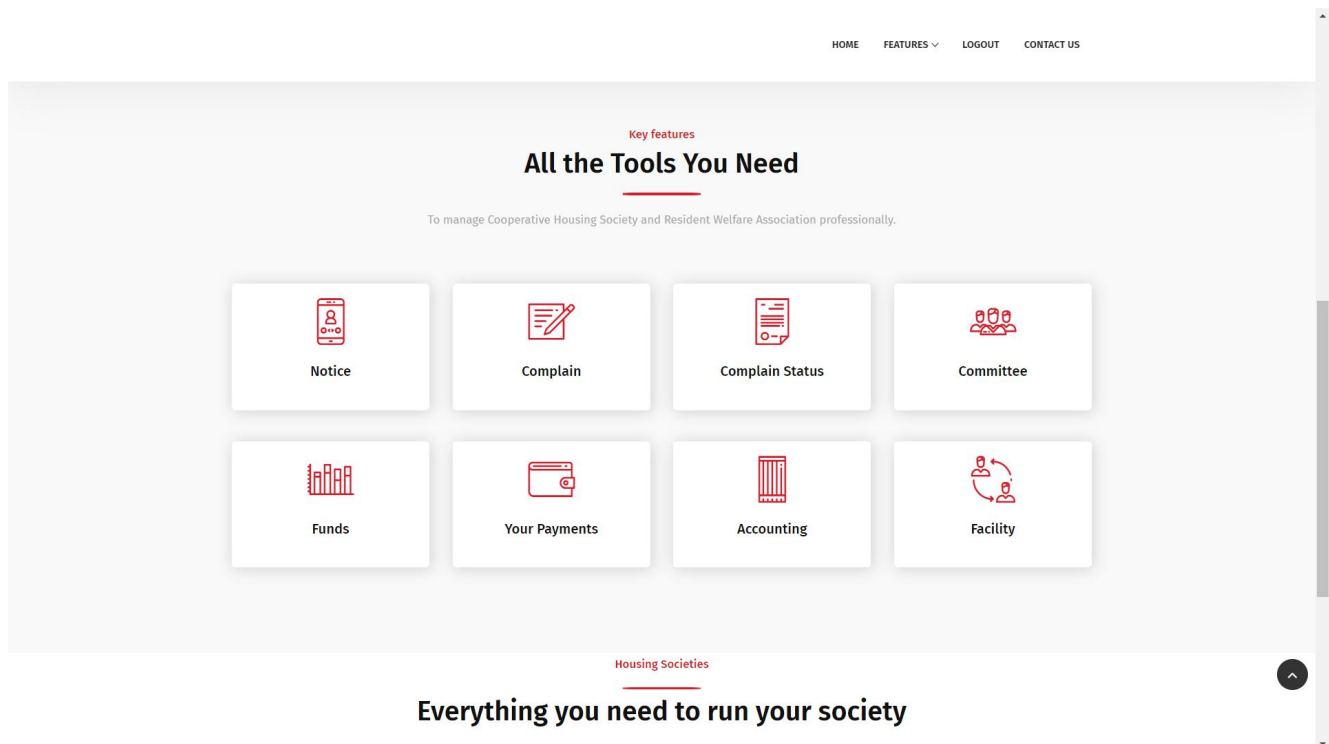
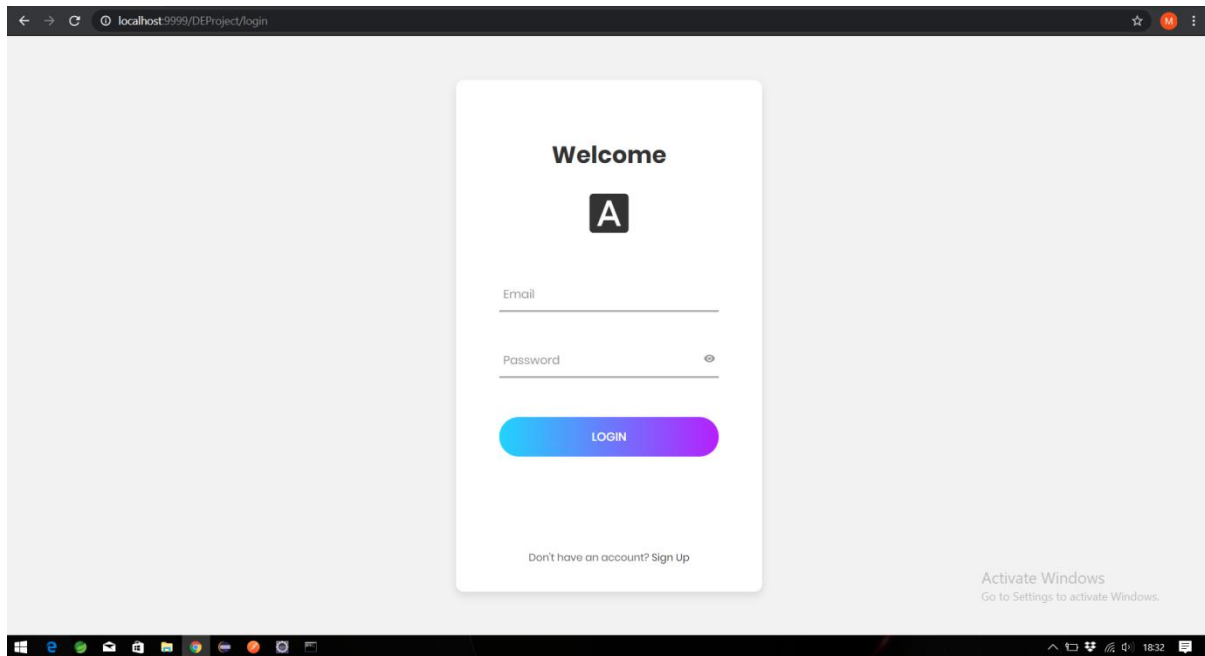
- Slow server
- Problems in net banking
- Wrong information
- Inefficient management of resources
- Unavailability at help-desk



## 2.6) LNM Canvas:-



### 3) PROTOTYPE:



<a href="#">HOME</a> <a href="#">FEATURES</a> <a href="#">LOGOUT</a> <a href="#">CONTACT US</a>							
Date	Request ID	Name	Flat No	Email	Mobile	Approve	Reject
2017-09-29 01:22	16	Sanket Patel Pravinbhai	B301	sanket@sanket.com	9871236126	<a href="#">APPROVE</a>	<a href="#">REJECT</a>
2017-09-29 01:22	19	Avadh Patel SatisBhai	W301	avadh@avadh.com	789456238	<a href="#">APPROVE</a>	<a href="#">REJECT</a>
2017-09-29 01:22	20	Het Patel S	Q301	het@het.com	8956237412	<a href="#">APPROVE</a>	<a href="#">REJECT</a>
2017-09-29 01:22	21	Purushtotam Shah D	R301	purushtoam@gmail.com	7894589645	<a href="#">APPROVE</a>	<a href="#">REJECT</a>

Housing Societies

## Everything you need to run your society

It's time to make society administration rewarding.

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E-Maintenance is a cloud based society accounting and management software.



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E-mail: support@emaintenance.in

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## SEND US A MESSAGE

B301

This complain is about to...

SEND

## LIST OF COMMITTEE MEMBERS

Member ID	Name	Post	Contact Number	Email	House Number
3	Purshtamm Bhai Shah	chief secretary	9428410496	purushtoam@gmail.com	E301
4	PravinBhai Patel	Secretary	9425126126	pravinbhai@gmail.com	B301

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- > Contact Us

### Ahmedabad Office:

B-601 chinmay complex,  
Navrangpura,Ahmedabad - 380048.  
Tel: (91) 9898989898  
E-mail: support@emaintenance.in

- > Terms of Services
- > Privacy Policy

## LIST OF VENDORS

Vendor ID	Name	Profession	Contact Number	Email	House Number
3	Patel Meet	software developer	8238803462	spemeet999@gmail.com	A301
4	Malav	MBA from IIM'A	9468512361	malav@malav.com	C301
5	Sanket	LIC Agent	9451126126	sanket@sanket.com	B301
6	Dhyey	Doctor	9878987845	dhyey@dhyey.com	D301

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Awesome, that's 1500 !

☐ Debit/ Credit Card



Name

e.g. Richard Bovell

Card number


8888-8888-8888-8888

Expiry

MM / YYYY

CVC/CVV

123



Confirm and Pay

```
meetde=# select * from vendor;
 vendorid | name | profession | email | mobileno | houseno
-----+-----+-----+-----+-----+-----
(0 rows)

meetde=# select * from payment_m;
 fundid | userid | paymentid | name | phone_no | flate_no | email | status | amount | due_amount | isfine | paymentdate | auth_code
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
 1 | 13 | | Meet patel Dineshbhai | 8238803462 | A201 | spemeet999@gmail.com | due | 15001 | 15001 | 0 | | 
 1 | 12 | | malav patel D | 823880346 | Q301 | malav@gmail.com | due | | 0 | 0 | | 
 1 | 12 | | malav patel D | 823880346 | Q301 | malav@gmail.com | due | | 0 | 0 | | 
 1 | 12 | | malav patel D | 823880346 | Q301 | malav@gmail.com | due | | 0 | 0 | | 
 1 | 14 | | Meet patel Dineshbhai | 8238803462 | A301 | spemeet999@gmail.com | paid | 15001 | 15001 | 0 | 2020-05-26 | Z67NIV
 1 | 15 | | Dhyey M S | 9428410482 | Q301 | dhyey@dhyey.com | due | | 0 | 0 | | 
(6 rows)
```

```
meetde=# select * from complain;
 time | complain_no | userid | name | flate_no | email | phone_no | regarding | complain | status | comment
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
(0 rows)

meetde=# select * from committee;
 memberid | name | post | email | mobileno | houseno
-----+-----+-----+-----+-----+-----
(0 rows)

meetde=# select * from fund;
 id | type | amount | info | date | rep
-----+-----+-----+-----+-----+-----
 1 | maintenance | 15001 | 122121 | 2020-05-31 | 0
(1 row)

meetde=# select * from notice;
 date | notice_id | heading | notice
-----+-----+-----+-----
 2020-05-26 13:36:30 | 17 | Checking | Signup Check
(1 row)

meetde=#
```

```
meetde=# select * from users;
userid | fname | mname | lname | phone_no | flate_no | user_type | email | password | isactive | status | comment | date
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
 13 | Meet | patel | Dineshbhai | 8238803462 | A201 | Member | spemeet999@gmail.com | 123456 | true | approved | | 2020-05-26 13:06:22
 14 | Meet | patel | Dineshbhai | 8238803462 | A301 | Member | spemeet999@gmail.com | 123456 | true | approved | | 2020-05-26 13:07:44
 9 | sanket | patel | a | 741852963 | B301 | Tenant | sanket@sanket.com | 123456 | false | rejected | | 2020-05-26 12:54:07
 10 | a | a | a | 1 | a | Tenant | admin1@admin.com | 123456 | false | rejected | | 2020-05-26 12:54:50
 11 | as | as | as | 34532 | B301 | Member | admin2@admin.com | 123456 | false | rejected | | 2020-05-26 12:55:12
 12 | malav | patel | D | 823880346 | Q301 | Member | malav@gmail.com | 123456 | true | approved | | 2020-05-26 12:55:55
 15 | Dhyey | M | S | 9428410482 | Q301 | Tenant | dhyey@dhyey.com | 123456 | true | approved | | 2020-05-26 15:13:05
(7 rows)
```

#### **4) Conclusion and Future Scope:**

##### **Conclusion:-**

By creating this project, it will benefit all the people who will use our app and ease the method of tracking maintenance and funding.

##### **Future Scope:-**

We will make periodic improvement to our System to help people by adding various functionalities and also provide wider range of choices and 3<sup>rd</sup> party applications to pay the bills.

#### **5) References:**

➤ Society123

➤ <http://www.society123.com>

➤ ADDA

➤ <https://apartmentadda.com>