

CENG-322

DELIVERABLE 4

Team name: F.R.I.E.N.D.S.& CO.

Project: Smart Parking

Members:

Ramesh Narayan Gaire – N01452430

Roshan Shrestha – N01457532

Rushi Bhandari – N01464259

Komal Bamotra – N01426087




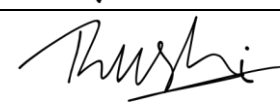
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Brief description:

The application's name is Smart Parking. Basically, we have designed our application in a way that users can reserve their parking spot in much advance. This in turn will help the user to save their time to find the parking spots. Our main objective is to make parking convenient spaces for working-class individuals in crowded cities. Due to an increase in the number of cars being owned by city residents, parking is becoming an issue for everyone. The development of a smart parking application powered by the Internet of Things (IoT) provides parking managers and drivers with crucial information about available spots as well as related services like reservations of the spots.

Signatures:

| Name | ID | Signature | Effort |
|----------------------|-----------|--|--------|
| Komal Bamotra | N01426087 |  | 100% |
| Ramesh Narayan Gaire | N01452430 |  | 100% |
| Roshan Shrestha | N01457532 |  | 100% |
| Rushi Bhandari | N01464259 |  | 100% |

GitHub Repo link

<https://github.com/RameshNarayanGaire2430/SmartParking.git>

If login required, provide credentials to test

Username: *Krrr*

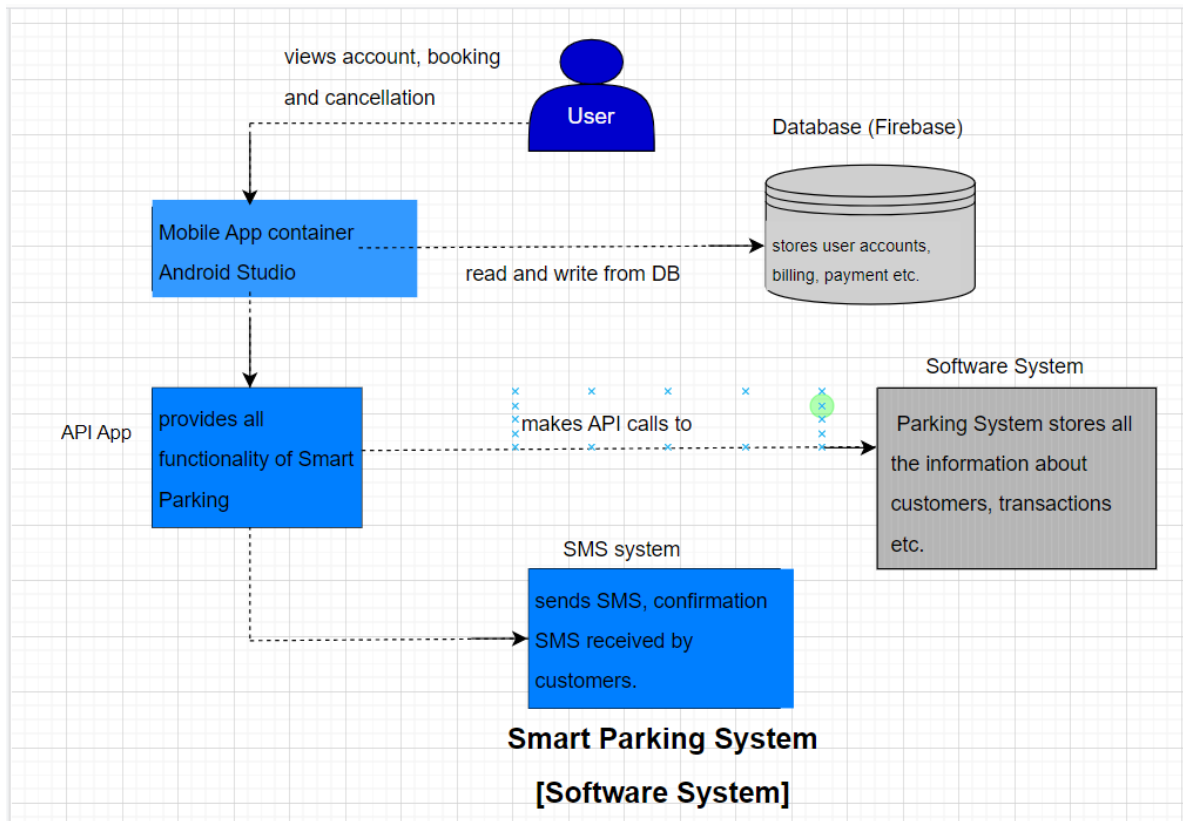
Email: aaa@bbb.com

Password: *Admin101!*

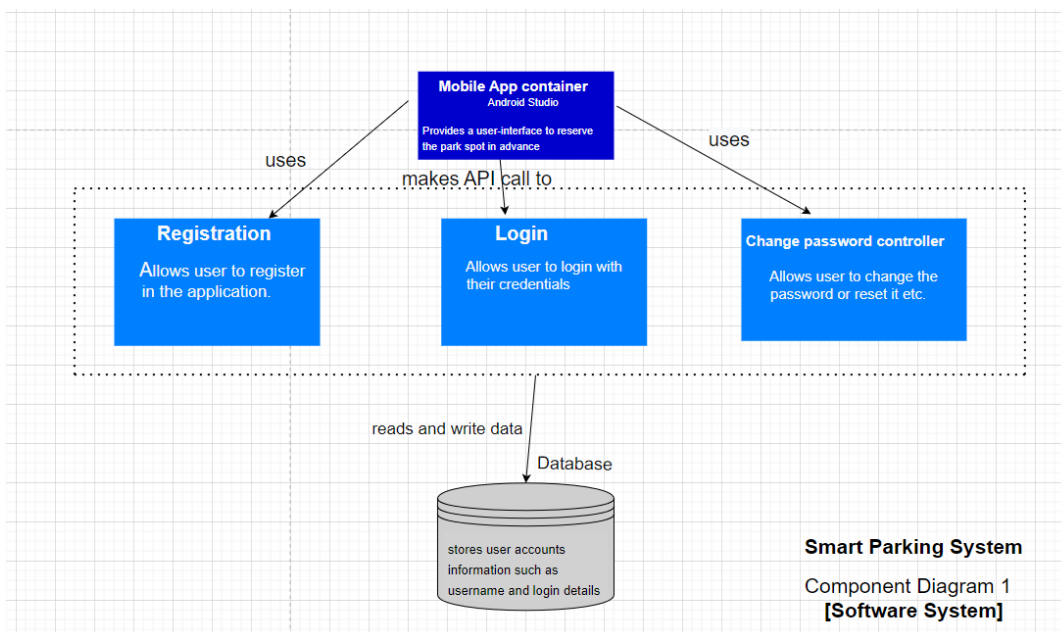
Sprint Goals (Summary):

- **Sprint 1:** Brainstorming the ideas according to the requirement of client and to implement them into the android application
- **Sprint 2:** Creative design and layout of the tabs with the functionalities.
- **Sprint 3:** Login and registration functionality with google sign-in option for the users
- **Sprint 4:** Better user-interface for an impeccable experience for our customers by implementing additional features and functionality.
- **Sprint 5:** Implementing test cases to check for any flaws in the application and addressing the technical debt.
- **Sprint 6:** Submitting the full-fledged application to the Google Play store and project closure.

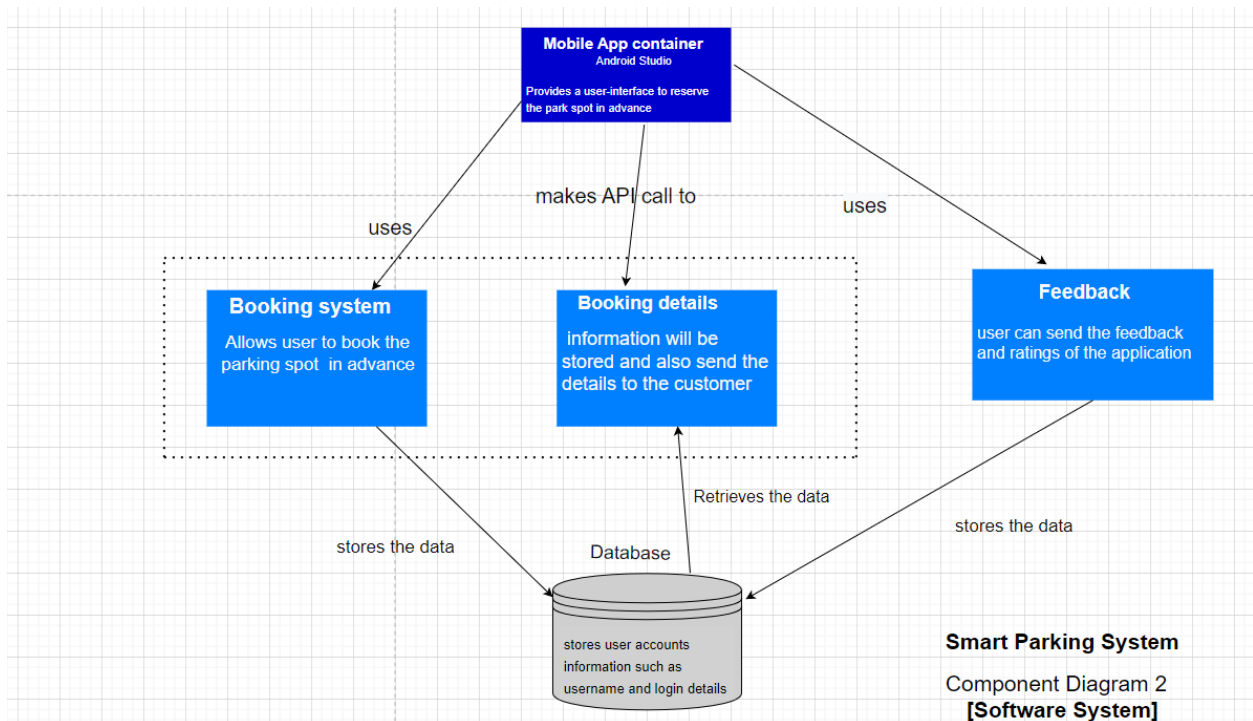
Container Diagram



Component Diagram – 1

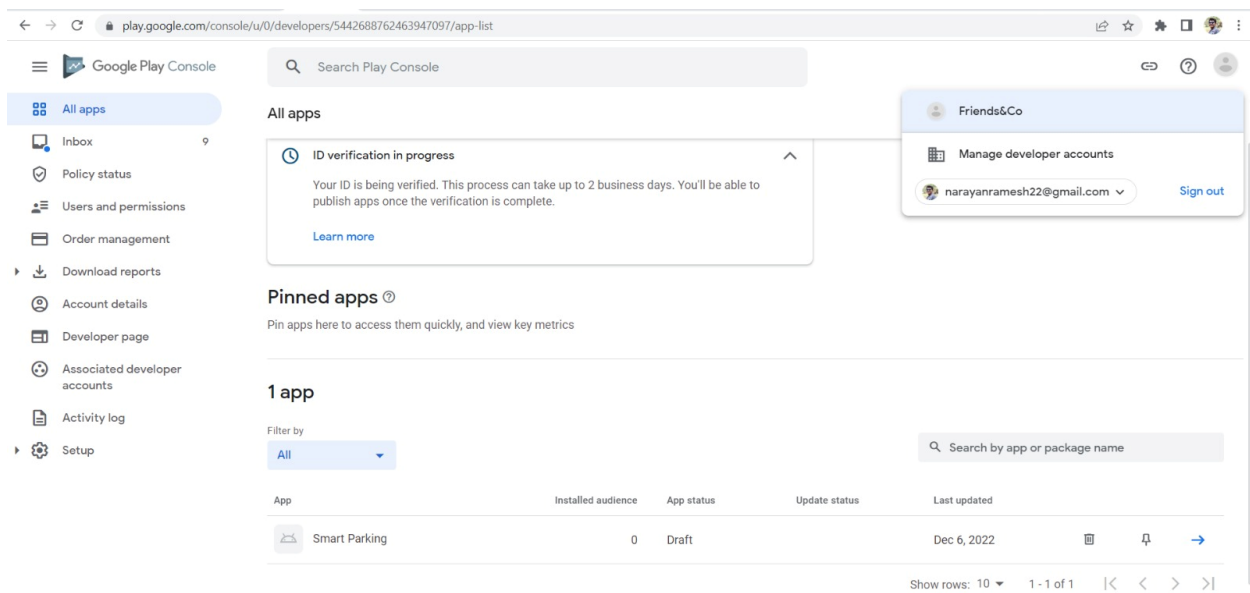


Component Diagram 2



[Link to the app from Play store](#)

Screenshot of the App Submission

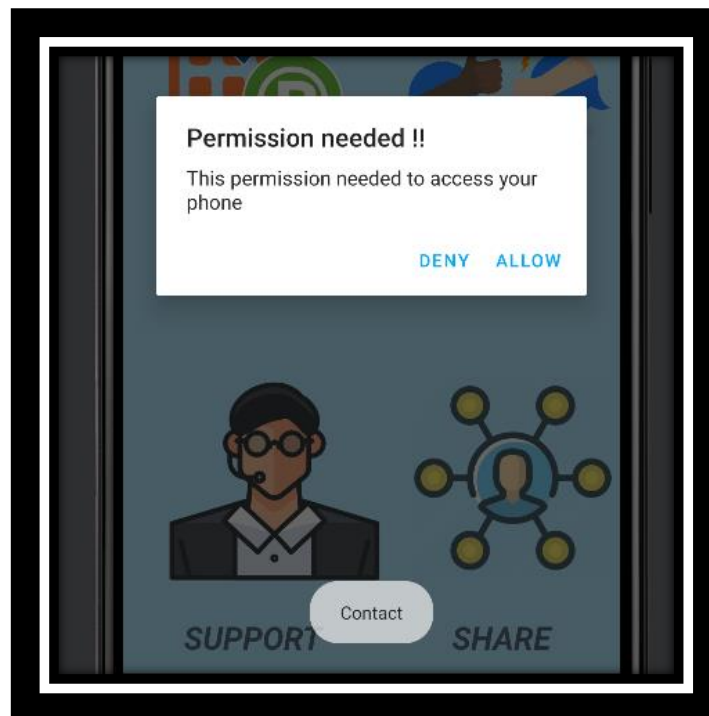
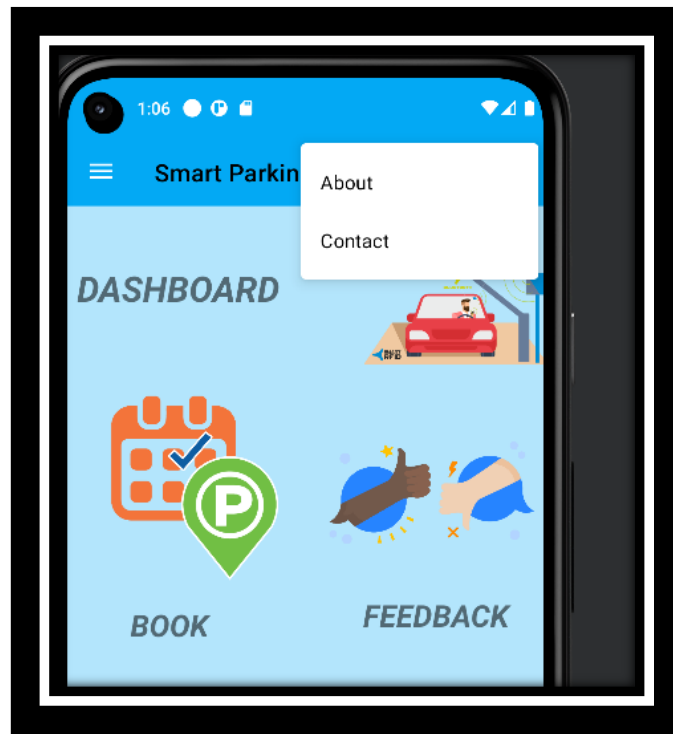


Off-line mode Functionality

We have created **Booking Details** tab to be available offline. In which, user can check his/her details anytime without the use of internet as well.

Accessing the Runtime Permission:

```
<uses-permission android:name="android.permission.CALL_PHONE" />
```



The above steps show how to access the Contact permission feature in the android application. Here is the small switch case example of the code used for the runtime permission:

This is implemented in the **MainActivity**:


```

case R.id.contact:
    Toast.makeText(this, "Contact", Toast.LENGTH_SHORT).show();
    if (ContextCompat.checkSelfPermission(MainActivity.this,
        Manifest.permission.CALL_PHONE) ==
PackageManager.PERMISSION_GRANTED) {
        Toast.makeText(MainActivity.this, "You have granted permission
already", Toast.LENGTH_SHORT).show();
        Intent callIntent = new Intent(Intent.ACTION_CALL);
        callIntent.setData(Uri.parse("tel:"+ "4379875581"));
        startActivity(callIntent);
    }
    else{
        requestPhonePermission();
    }
    break;

```

Work on the feedbacks:

Feedback from **Deliverable 1:**

.gitignore (Then add all members names and students ids).

Getting an error when cloning your project

Added the names and ids to .gitignore file and solved the cloning problem.

Feedback from **Deliverable 2:**

```
Toast.makeText(getApplicationContext(), "Booking  
Details", Toast.LENGTH_SHORT).show();
```

No hardcoding of text, should be in strings.xml

10- Splash, login and main screens must have
landscape and portrait layouts.

All images must have minimum of 3 resolutions....

There is logout and no login screen ...

Clicked on menu item and app crashed ...

Overflow not shown properly ...

Settings screen, the sliding menu disappears, have
to click on the back key

[Show less content](#)

- Hardcoding is removed from entire document
- Splash screen, login and main screens have the landscape and portrait layouts.
- Images have different resolutions
- Login and logout functionality solved
- Overflow shown in a proper manner
- The screens now has the back key option to go on previous window.

Feedback from **Deliverable 3:**

Google sign in not working!

Registration screen, I mentioned minimum info, but does not mean you dont ask for the user name!!

About Us is not important and should be in the overflow!

Settings screen should be completed ...

```
Snackbar.make(view, "Feedback Screen",  
Snackbar.LENGTH_LONG).show();  
No hardcoding of text, should be in strings.xml
```

Customer Review:
Include, name, phone number, email and comment. Use proper formats for the entries, and the number of stars selected.
In addition to above read device model programmatically, and pass to the DB.

17- Should allow for configuration setting and remember user selections. Store data into SharedPreferences and read it back.

18- Complete the implementation of the settings screen.

- Google sign-in working now
- Registration screen issues solved with better functionality
- About us transferred to the overflow
- Hardcoding removed
- Customer review screen added additional information features as suggested
- Data is now stored in SharedPreferences and read as well
- Implementation of settings screen is completed

Scrum dashboard:

Scrum Dashboard with completed stories and tasks (Only important ones included):

Navigation drawer options to make work easy for users

| <input type="checkbox"/> | Task | | Person | Status | End Date | Priority | Size | + |
|--------------------------|------------------------------------|---|--------|--------|----------|-------------------|--------|---|
| <input type="checkbox"/> | Booking slots screen creation | + | R | Done | Oct 8 | High | Large | |
| <input type="checkbox"/> | Booking details screen creation | + | R | Done | Oct 8 | Critical Δ | Large | |
| <input type="checkbox"/> | Advanced settings options for user | + | RS | Done | Oct 8 | High | Large | |
| <input type="checkbox"/> | Customer Support screen | + | RS | Done | Oct 8 | Medium | Medium | |
| <input type="checkbox"/> | Feedback screen | + | RS | Done | Oct 8 | Medium | Medium | |
| <input type="checkbox"/> | + Add Task | | | | | | | |

Creation of cloud database for storing data of users

| <input type="checkbox"/> | Task | | Person | Status | End Date | Priority | Size | + |
|--------------------------|--------------------------------------|---|--------|--------|----------|----------|--------|----------------------|
| <input type="checkbox"/> | Create firebase cloud server | + | K | Done | Oct 10 | High | Medium | |
| <input type="checkbox"/> | Trial and error logging to db | + | K | Done | Oct 10 | High | Medium | |
| <input type="checkbox"/> | source code to connect db and app | + | R | Done | Oct 10 | High | Large | |
| <input type="checkbox"/> | design of register and login screens | + | K | Done | Oct 10 | Medium | Large | |
| <input type="checkbox"/> | storage of data on firebase | + | K R | Done | Oct 10 | Low | Small | Help |

Documentation part of project

| <input type="checkbox"/> | Task | | Person | Status | End Date | Priority | Size | + |
|--------------------------|------------------------------------|---|----------|--------|----------|-------------------|--------|---|
| <input type="checkbox"/> | Updated the monday.com roadmap | + | R | Done | Oct 31 | High | Medium | |
| <input type="checkbox"/> | Working on the Gantt chart | + | RS | Done | Nov 3 | Critical Δ | Large | |
| <input type="checkbox"/> | Dashboard of the stories and tasks | + | K | Done | Oct 31 | High | Medium | |
| <input type="checkbox"/> | Daily stand-up outcome details | + | R | Done | Nov 11 | Critical Δ | Large | |
| <input type="checkbox"/> | Working on system context diagram | + | R R RS K | Done | Nov 4 | High | Large | |
| <input type="checkbox"/> | + Add Task | | | | | | | |

Additional features in login and registration screen

| <input type="checkbox"/> | Task | | Person | Status | End Date | Priority | Size | + |
|--------------------------|---|---|--------|--------|----------|-------------------|--------|----------------------|
| <input type="checkbox"/> | allowing user to login from different acco... | + | R | Done | Nov 10 | High | Large | |
| <input type="checkbox"/> | implementing the "Remember Me" functi... | + | K | Done | Nov 10 | Medium | Large | |
| <input type="checkbox"/> | Verifying the password and confirm pass... | + | RS | Done | Nov 10 | High | Medium | |
| <input type="checkbox"/> | Solving the firebase authentication proble... | + | R | Done | Nov 10 | Critical Δ | Large | |
| <input type="checkbox"/> | Code review and testing | + | R K | Done | Nov 10 | High | Medium | Help |

Home screen and settings screen features added

| <input type="checkbox"/> | Task | | Person | Status | End Date | Priority | Size | + |
|--------------------------|---|--|--------|--------|----------|----------|--------|---|
| <input type="checkbox"/> | Dashboard design update | | K | Done | Nov 7 | Medium | Medium | |
| <input type="checkbox"/> | Working of buttons on home screen | | R | Done | Nov 7 | Medium | Large | |
| <input type="checkbox"/> | Updating the "About Us" button to show i... | | R | Done | Nov 7 | Low | Small | |
| <input type="checkbox"/> | mode change in settings screen | | K | Done | Nov 7 | High | Medium | |
| <input type="checkbox"/> | Notification switch button in settings scr... | | RS | Done | Nov 7 | High | Medium | |
| <input type="checkbox"/> | + Add Task | | | | | | | |
| | | | | | | | | |

Adding feedback page and help option in toolbar

| <input type="checkbox"/> | Task | | Person | Status | End Date | Priority | Size | + |
|--------------------------|---|--|--------|--------|----------|----------|--------|---|
| <input type="checkbox"/> | Design of the feedback page | | R | Done | Nov 9 | Medium | Medium | |
| <input type="checkbox"/> | Working of the text and rating bar buttons | | R | Done | Nov 9 | High | Large | |
| <input type="checkbox"/> | Linking of the feedback page to the home... | | RS | Done | Nov 9 | High | Large | |
| <input type="checkbox"/> | Help option link to the support page | | K | Done | Nov 9 | Medium | Small | |
| <input type="checkbox"/> | code reviews and error solving | | R RS | Done | Nov 9 | High | Small | |
| | | | | | | | | |

Help

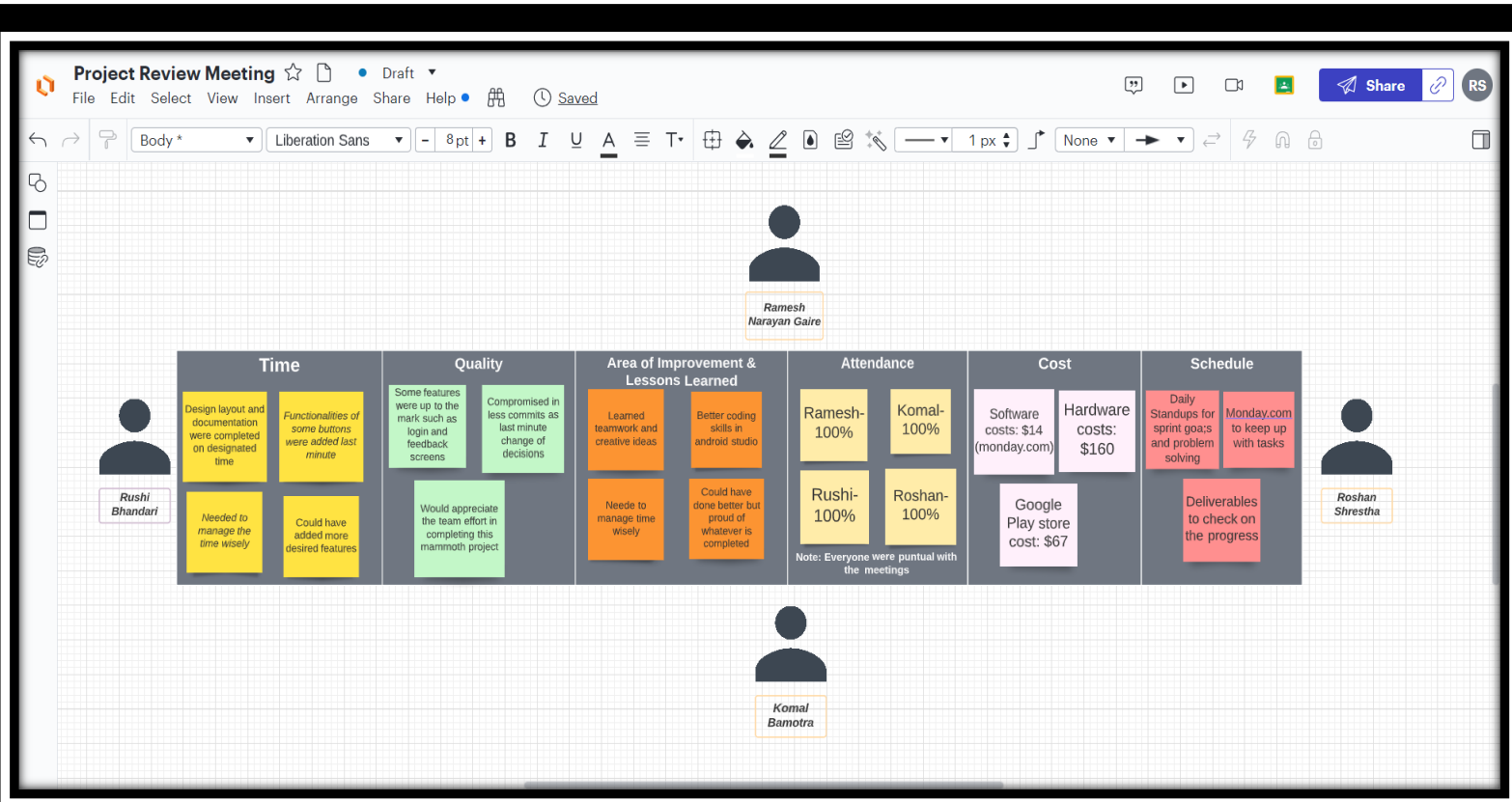
Error solving and working of fragments in application

| <input type="checkbox"/> | Task | | Person | Status | End Date | Priority | Size | + |
|--------------------------|--|--|--------|--------|----------|------------|--------|---|
| <input type="checkbox"/> | Login and registration screens test | | R | Done | Nov 12 | Critical ⚠ | Large | |
| <input type="checkbox"/> | home screen buttons test | | R | Done | Nov 12 | High | Large | |
| <input type="checkbox"/> | Booking screen and booking details scre... | | K | Done | Nov 12 | High | Large | |
| <input type="checkbox"/> | Customer support and feedback screen t... | | RS | Done | Nov 12 | High | Large | |
| <input type="checkbox"/> | Logout screen and settings screen test | | K R | Done | Nov 12 | Medium | Medium | |
| <input type="checkbox"/> | + Add Task | | | | | | | |
| | | | | | | | | |

+ Add new group

Help

Post-Mortem And Project Review Meeting



Technical Debt

The term “technical debt” refers to the costs of having to go back and resolve problems that arise because of an earlier decision to take the easy route instead of the best one when executing a software development project. Choosing a single course of action to finish tasks and reach your objectives is essentially what planning for a software development project comprises.

So here are the ways how we dealt with the **Technical Debt**:

- ***Advocated for Organizational Maintenance***- By spending the effort to promote organizational maintenance, we solved problems and preserve procedures. To proceed in the project while minimizing risks and weaknesses, we ensured that there is time in the plan to deal with technical debt as soon as possible.
- ***Don't Ask Members to Do Too Much Too Soon***- We accrued technical debt by consulting the daily stand-ups to solve any problems faced. No pressure was given to any members to forcedly complete the tasks. This way we could finish the tasks in time.

Refactoring of code:

Suggestions and Things learnt

For the future projects we are planning to manage our time in a wise manner. We liked the idea of different deliverables to check in the progress of the application. We tried our best to complete the application on time though we could not get some desired features in our application. But we learned many new things in coding with Android studio and teamwork for managing this project. For next time, we would like to complete the desired tasks on time and will not skip any tasks. We would like to take suggestions from professor as his knowledge and teaching skills led us to complete this whole project. We acknowledge Mr. Haki Sharifi for the guidance and feedback given to us for the deliverables.

