

Deliverable 3 report

Chesm

Smart City

| | |
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Team Member

| Team Member Names | Signatures | Student ID |
|--|---|------------|
| Project Leader: Thanh Phat Lam |  | N01335598 |
| Hieu Dang Chu |  | N01371619 |
| Dung Ly |  | N01327929 |
| Dinh Hoa Tran |  | N01354661 |

Github Repo

<https://github.com/nhoxrongvip/SmartCity>

Participants

| Name | ID | Signature | Effort |
|----------------|-----------|-----------|--|
| Thanh Phat Lam | n01335598 | lam | <ul style="list-style-type: none">• Created landscape for Air Quality Fragment• Used aqicn.org/api to get quality condition value• Create sprints• Complete Document Effort : 30% |
| Dung Ly | n01327929 | dung | <ul style="list-style-type: none">• Created landscape for Login Activity• Used firebase authentication of firebase with (Sign in with email, password, Sign in with Google).• Create landscape for Register Activity• Test Load Database from realtime database of Firebase to Garbage Fragment |

| | | | |
|---------------|-----------|------|---|
| | | | <ul style="list-style-type: none"> • Change background of Login Activity and Register Activity. • Use SharedPreferences on Remember me to save Username and password of Login Screen. • Notification Build for Register succeeded • Review Fragment for Customer review Screen. <p>Effort : 50%</p> |
| Hieu Chu | n01371619 | Hieu | <ul style="list-style-type: none"> - Re-design snow level fragment UI entirely to fit the team layout - Created landscape for snow level fragment - Created landscape for setting screen - Help complete document: C4, design principles and patterns <p>Effort: 10%</p> |
| Dinh Hoa Tran | n01354661 | Tran | <ul style="list-style-type: none"> - Add database on firebase - Use database to completed city light fragment - Help complete the document - Test database <p>Effort:10%</p> |

Sprint Report

Sprint 3

Task Complete : 3 / 7



[Login Screen] Login functions



in list [Sprint 3 \(Oct 25-Nov 2\): Functions for Layout](#)



Members

Labels

Due date

DL +

DONE +



Oct 19 at 12:00 AM

complete



Description

Edit

Tasks that should be done in the login screen.
Tick box if the task is done



Tasks in login screen

Hide checked items

Delete

100%



Show error when username not in database



Show error when username/password is wrong



Edit text will show the error if they are empty or what error



Include login options: Google



Should have "Remember me" option. Save username

Add an item

Suggested



Join

Add to card

Members

Labels

Checklist

Dates

Attachment

Cover

Custom Fields

Add dropdowns, text fields,
dates, and more to your cards.

Start free trial

Power-Ups



[Database] User Database



in list [Sprint 3 \(Oct 25-Nov 2\): Functions for Layout](#)



Members

Labels

Dates

DL +

DONE

+



Oct 25 - Nov 1 at 5:38 PM

complete



Suggested



Join



Description

Edit

Create Firebase database for users

Add to card

Members

Labels

Checklist

Dates

Attachment

Cover

Custom Fields

Add dropdowns, text fields, dates, and more to your cards.

Start free trial



User Database

Hide checked items

Delete

100%



Create Firebase to use realtime database



It should show all information(email, fullname, password, phone num)



Password must be encrypted



Each user has unique UID



Only Database Administrator has the edit permission, any participant must contact DBA if they want to add new things

Add an item

Power-Ups

+ Add Power-Ups



[Database] Data for Garbage Frag



in list [Sprint 3 \(Oct 25-Nov 2\): Functions for Layout](#)



Members

Labels

DL + In Progress +

Dates

☐ Oct 27 - Nov 2 at 5:38 PM overdue v



Description

Edit

Data for Garbage fragment



Data needed

Hide checked items

Delete

20%

- ☐ Include at least 5 cities(Toronto, North York, Mississauga, Scarborough, Hamilton)
- ☐ Every city have 5 garbage areas
- ☒ Each area has address and 3 bins
- ☐ 3 bins value maybe fixed or changed daily
- ☐ When the collect button is clicked, it should display on the database.

Add an item

Suggested



Join

Add to card

Members

Labels

Checklist

Dates

Attachment

Cover

Custom Fields

Add dropdowns, text fields, dates, and more to your cards.


Start free trial

Power-Ups

+ Add Power-Ups

Automation





+

In Progress

+

Dates

☐ Oct 25 - Nov 2 at 5:00 PM overdue

▼

≡


Description

Edit

API source: [🌐 Chất lượng không khí trên toàn thế giới: AirNet Sensor Network](#)

📎

Attachments



AirQuality_Fragment.JPG

Added Nov 12 at 9:57 PM - [Comment](#) - [Delete](#) - [Edit](#)

📎

[Make cover](#)

Add an attachment

☒ Functions

Hide checked items

Delete

78%

☒ Get data from API (Using AsyncTask)

☐ Current Location should display user location (from location permission). Display current city

☒ In "quality" textview, display US AQI value from API

☒ In "condition" textview, if AQI < 50, display "GOOD". If AQI is between 51 and 100, display "MODERATE". if > 100, display "UNHEALTHY"

☒ In "emotion" image, if AQI < 50, display "aq_happy.png". If AQI is between 51 and 100, display "aq_worry.png". if > 100, display "aq_angry.png"

☒ PM2.5 in Pollutants, display current pm25 value

☒ CO2 in Pollutants, display current co2 value

☒ O3 in Pollutants, display current o3 value

☐ In "Daily Graph" section, display selected field on chart.

Add an item

👤 Members

🏷️ Labels

📋 Checklist

🕒 Dates

📎 Attachment

📄 Cover

🛠️ Custom Fields

Add dropdowns, text fields, dates, and more to your cards.

📄

Start free trial

Power-Ups

+

Add Power-Ups

Automation

ⓘ

+

Add button

Actions

➔

Move

📄

Copy

📄

Make template

🕒

Watch

📄

Archive

🔗

Share

Members

Labels



NOT DONE



Dates



Oct 25 - Nov 2 at 5:00 PM

overdue



Description

Edit

Functions for Snow Level fragment



Functions

Delete

0%



Current Location should display user location (from location permission). Display current city



Get Snow level data from database and display current snow level in "Snow level" textview



Weather image change depending on snow level



Display current Temperature and Humidity



When "Call support " button is clicked, set value to database



When snow level is too high, send notification



Send notification about: snow level, temperature and humidity every date at specific time.

Suggested



Join

Add to card



Members



Labels



Checklist



Dates



Attachment



Cover



Custom Fields

Add dropdowns, text fields, dates, and more to your cards.



Start free trial

Power-Ups



Add Power-Ups

Automation



Add button



[Settings]Ask for permission



in list [Sprint 3 \(Oct 25-Nov 2\): Functions for Layout](#)



Members

Labels



In Progress



Dates



Oct 7 - Oct 11 at 4:58 PM overdue



Description

Add a more detailed description...

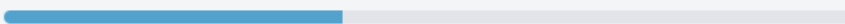


Location Permission

Hide checked items

Delete

40%



If i click in a "Get location" button, it should ask for my current location



If a permission is granted, I can see my current area/city in app.



If a permission is granted, Lat & Long will be sent to backend and it then gets the current air condition at that location.



If permission is denied, It should display a dialog explained how permission is important to this app (This happens 1 time only)



If I insist on not granting permission, snack bar display saying "Permission-denied".

Add an item

Add to card



Members



Labels



Checklist



Dates



Attachment



Cover



Custom Fields

Add dropdowns, text fields, dates, and more to your cards.



Start free trial

Power-Ups



Add Power-Ups

Automation



Add button

Actions



Move



Copy



Make a template



Settings Screen



in list [Sprint 3 \(Oct 25-Nov 2\): Functions for Layout](#)



Members

Labels



In Progress



Dates



Oct 11 - Oct 15 at 12:00 AM

overdue



Description

Add a more detailed description...



Tasks

Hide checked items

Delete

40%



Ask for user location. Display message whether successful or not



When dark mode is chosen, change every background to gray



Lock and unlock portrait mode



If temperature unit switch is chosen, change to that unit (C/F)



When "Help&Feedback" button is clicked, go to "Help&feedback" fragment

Add an item

Suggested



Join

Add to card

Members

Labels

Checklist

Dates

Attachment

Cover

Custom Fields

Add dropdowns, text fields, dates, and more to your cards.

Start free trial

Power-Ups

+ Add Power-Ups

Automation



+ Add button



[Database] City light



in list Sprint 4 (Nov 14-Nov 28): Add new activity & complete remaining functions

Members

Dates

Add to card



+



Nov 20 - Nov 28 at 7:45 PM complete

Members

Labels

Checklist

Dates

Attachment

Cover

Custom Fields

Power-Ups

+ Add Power-Ups

Automation



+ Add button

Actions



Description

Add a more detailed description...



User Database

Hide checked items

Delete

100%



~~Create Firebase to use realtime database~~



~~Save database to use on the fragment~~



~~Can manual on or off by user~~




~~The database will change by user if they want to on or off the database will not change even have a car get in the street~~




~~Set auto value of each street~~



Add an item

Sprint 4



 **[Welcome Activity] First-time user** ×

in list [Sprint 4 \(Nov 14-Nov 28\)](#) 



Members



 

Labels



Dates

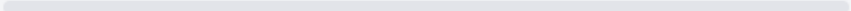
 Nov 14 - Nov 21 at 5:00 PM 

 **Description** 

This activity will start after the login screen for the new user.
There are 4 pages:

- + App introduction
- + Team members introduction
- + Fragment introduction
- + Get started

 **Components** 

0% 


☐ Provide layout for App introduction page


☐ layout for Team member introduction page

☐ layout for each fragment uses tutorial


☐ Layout for "Get started" page


☐ Animation for every page








Add to card


 Members


 Labels

 Checklist

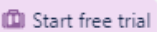
 Dates

 Attachment


 Cover


 Custom Fields


Add dropdowns, text fields, dates, and more to your cards.



Power-Ups

 Add Power-Ups

Automation 

 Add button

Actions



[Welcome Activity] Activity layout



in list [Sprint 4 \(Nov 14-Nov 28\)](#)



Members

Labels

Dates

DL



NOT DONE



Nov 14 - Nov 21 at 5:00 PM



Description

Add a more detailed description...



Functions

Delete

0%



Create 4 options that can access to 4 fragments



when option is chosen, move to that fragment



Add navigation drawer to display current user



Provide contents for each page in first-time user



Show tutorial for each options for first-time user

Add an item

Suggested



Join

Add to card

Members

Labels

Checklist

Dates

Attachment

Cover

Custom Fields

Add dropdowns, text fields, dates, and more to your cards.

[Start free trial](#)

Power-Ups

+ Add Power-Ups



[Air Quality] Complete



in list [Sprint 4 \(Nov 14-Nov 28\)](#)



Members

Labels

Dates



NOT DONE



Nov 21 - Nov 28 at 5:00 PM



Description

Edit

Complete remaining functions in Air Quality Fragment



Remaining

Delete

0%

- ☐ Complete "Quality, condition" section
- ☐ Send notification if Quality is Moderate or Unhealthy
- ☐ Send notification is AQI value is more than 51
- ☐ Complete Daily graph report
- ☐ Add reference at the end

Add an item

Add to card



Members



Labels



Checklist



Dates



Attachment



Cover



Custom Fields

Add dropdowns, text fields, dates, and more to your cards.



Start free trial

Power-Ups



Add Power-Ups

Automation





[Garbage] Complete



in list [Sprint 4 \(Nov 14-Nov 28\)](#)



Members

Dates

DL



Nov 14 - Nov 21 at 5:00 PM ▾



Description

Add a more detailed description...



Functions

Delete

0%

- ☐ Spinner displays cities on database
- ☐ With selected city, display city name is city_textview
- ☐ In listview, show address of bin
- ☐ When listview is clicked, move to Garbage_bin fragment which display detailed of each bin
- ☐ Show reference at the end (if needed)

Add an item

Suggested



Join

Add to card

Members

Labels

Checklist

Dates

Attachment

Cover

Custom Fields

Add dropdowns, text fields, dates, and more to your cards.

Start free trial

Power-Ups

+ Add Power-Ups

[Garbage_Bin Screen] Function design



in list [Sprint 4 \(Nov 14-Nov 28\)](#)



Members

Labels

Dates

DL



NOT DONE



Nov 21 - Nov 28 at 5:00 PM



Suggested



 Join



Description

Add a more detailed description...



Layout components

Delete

0%



Show selected city, address of area, number of bins



Show weight of each bin, show bin condition



Bin condition: if bin is not half full, show green. If bin is more than half, show yellow. If bin is full, show red



ImageButton for each bin, when clicked, show bin condition



Button to call Garbage collector. When clicked, update data to firebase


Add an item

Add to card

 Members


 Labels

 Checklist

 Dates

 Attachment

 Cover

 Custom Fields

Add dropdowns, text fields, dates, and more to your cards.

 Start free trial

Power-Ups

+ Add Power-Ups

Automation

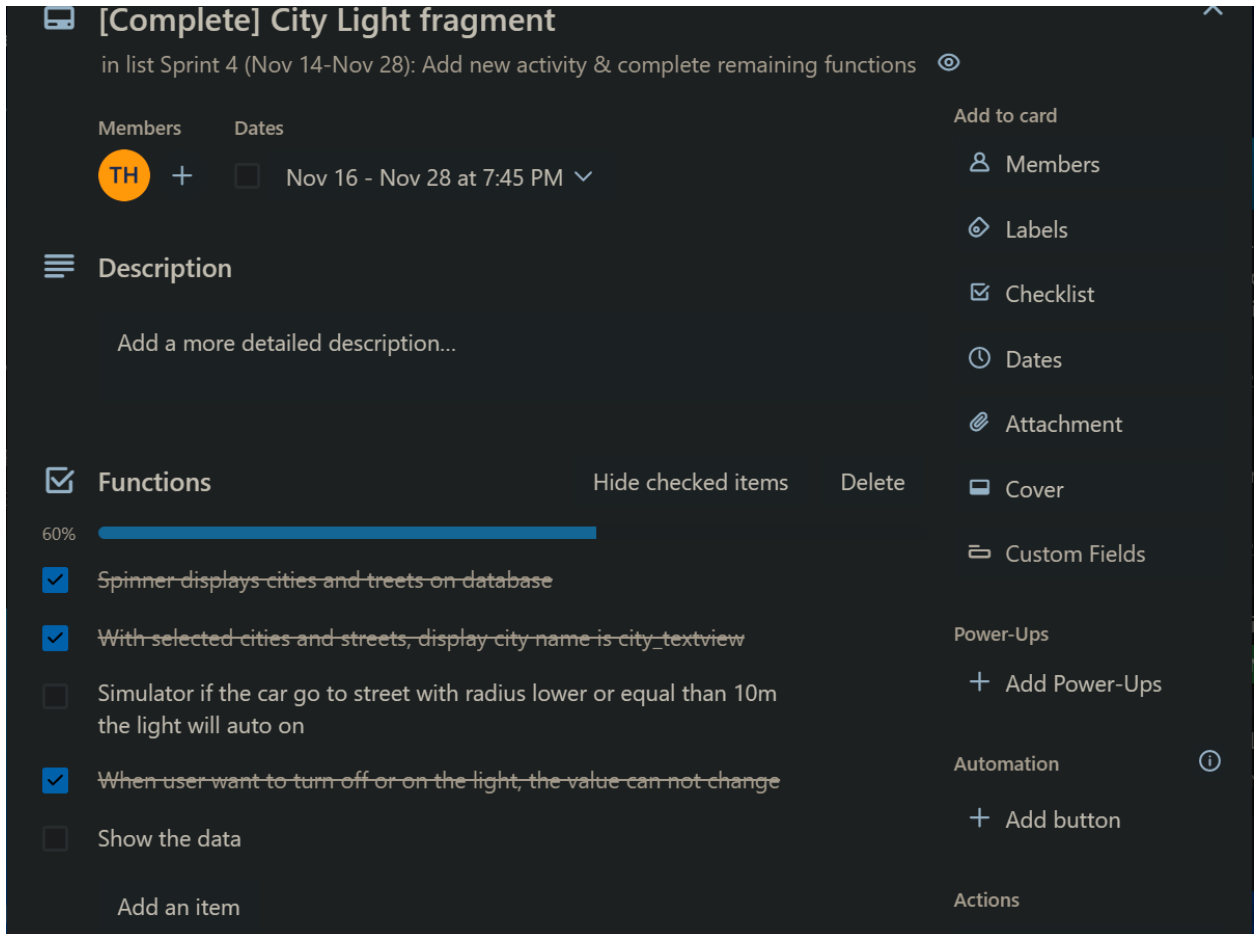


+ Add button























Activity

Show details

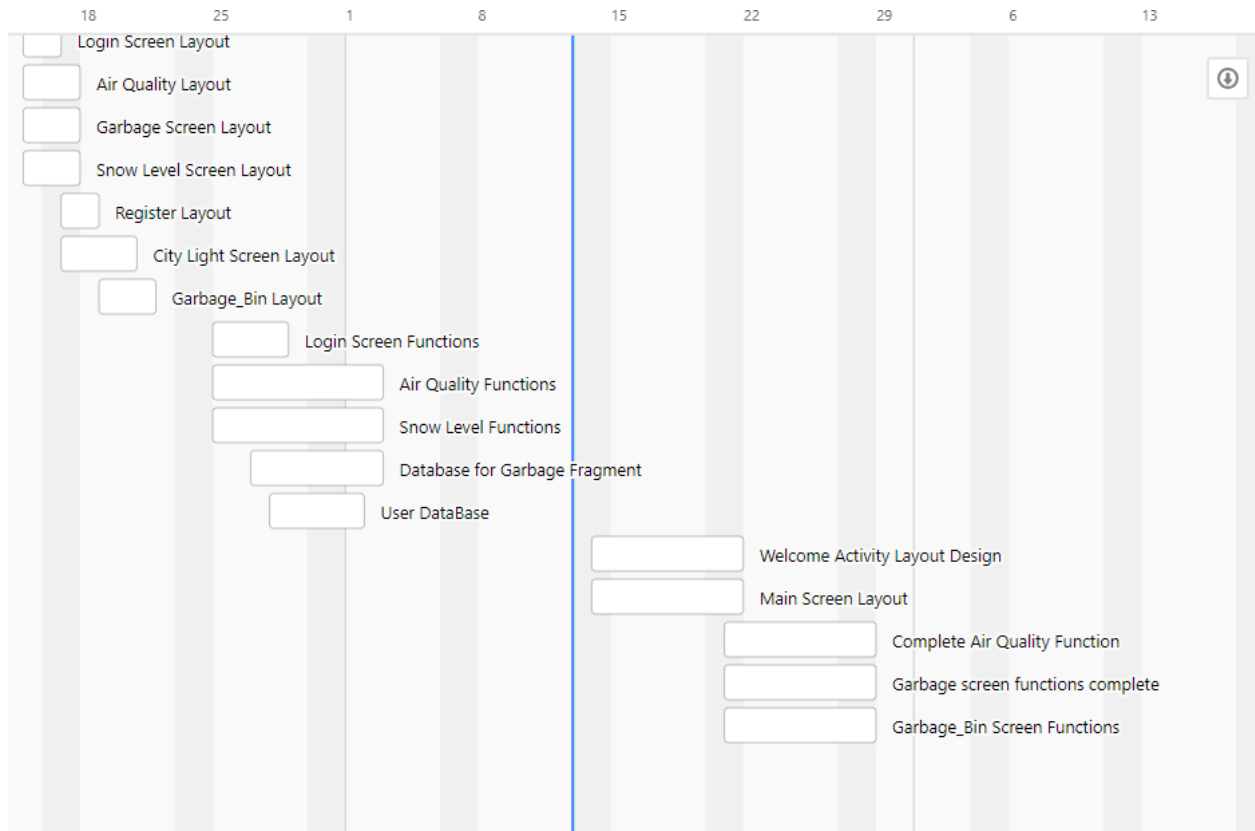


Gantt Chart

Components

| | | | | | | | |
|--------------------------|--|---|-------------|------------|------------|--------------------------------|---|
| <input type="checkbox"/> |  Login Screen Functions |  Dung Ly | Done | 10/25/2021 | 10/28/2021 | | |
| 2 | User DataBase |  Dung Ly | Done | 10/28/2021 | 11/1/2021 | | |
| 3 | Register Layout |  Thanh Phat Lam | Done | 10/17/2021 | 10/18/2021 | | |
| 4 | Air Quality Layout |  Thanh Phat Lam | Done | 10/15/2021 | 10/17/2021 | | |
| 5 | Garbage Screen Layout |  Dung Ly | Done | 10/15/2021 | 10/17/2021 | | |
| 6 | Snow Level Screen Layout |  hieuchu.d@gmail.com | Done | 10/15/2021 | 10/17/2021 | | |
| 7 | Garbage_Bin Layout |  Dung Ly | Done | 10/19/2021 | 10/21/2021 | | |
| 8 | City Light Screen Layout |  Trần Hoà | Done | 10/17/2021 | 10/20/2021 | |  |
| 9 | Login Screen Layout |  Dung Ly | Done | 10/15/2021 | 10/16/2021 | | |
| 10 | Database for Garbage Fragment |  Dung Ly | In progress | 10/27/2021 | 11/2/2021 | | |
| 11 | Air Quality Functions |  Thanh Phat Lam | In progress | 10/25/2021 | 11/2/2021 | | |
| 12 | Snow Level Functions |  hieuchu.d@gmail.com | In progress | 10/25/2021 | 11/2/2021 | | |
| 13 | Welcome Activity Layout Design |  Thanh Phat Lam | Todo | 11/14/2021 | 11/21/2021 | | |
| 14 | Main Screen Layout |  Thanh Phat Lam | Todo | 11/14/2021 | 11/21/2021 | | |
| 15 | Complete Air Quality Function |  Thanh Phat Lam | Todo | 11/21/2021 | 11/28/2021 | | |
| 16 | Garbage screen functions complete |  Dung Ly | Todo | 11/21/2021 | 11/28/2021 | | |
| 17 | Garbage_Bin Screen Functions |  Dung Ly | Todo | 11/21/2021 | 11/28/2021 | | |
| 18 | Database for city light fragment |  Trần Hoà | Done | 11/14/2021 | 11/21/2021 | Use data base for text view... | |
| 19 | | | | | | | |

Timeline



Daily Standup

We contact each other through Discord and Facebook Messages mostly. This is a wrap up for Daily Standup/

Oct 26th

| Daily Standup Sprint 3 Oct 26th | | | |
|--|--|---|--|
| Dung Ly | Thanh Phat Lam | Dinh Hoa Tran | Hieu Chu |
| <div>What did you do yesterday ?</div> <div>Complete layout for login screen</div> | <div>What did you do yesterday ?</div> <div>Complete horizontal/vertical layout for Air Quality Fragment</div> | <div>What did you do yesterday?</div> <div>Stretch layout for City Light Fragment</div> | <div>What did you do yesterday ?</div> <div>Complete layout for Setting fragment</div> |
| <div>What will you to today ?</div> <div>Function for log in/register screen</div> | <div>What will you to today ?</div> <div>Asynctask functions to get data from API</div> | <div>What will you to today ?</div> <div>Complete layout for City Light Fragment</div> | <div>What will you to today ?</div> <div>Layout for Snow level fragment</div> |
| <div>Any Blockers ?</div> <div>Not at this moments</div> | <div>Any Blockers ?</div> <div>Find A good data source</div> | <div>Any Blockers ?</div> <div>Not at this moments</div> | <div>Any Blockers ?</div> <div>Not at this moment</div> |

Nov 3rd

Daily Standup
Sprint 3
Nov 3rd

| Dung Ly | Thanh Phat Lam | Dinh Hoa Tran | Hieu Chu |
|--|--|---|---|
| <div>What did you do yesterday ?</div> <div>Login/Register functions</div> | <div>What did you do yesterday ?</div> <div>Asynctask functions to get data from API</div> | <div>What did you do yesterday?</div> <div>Complete layout for City Light Fragment</div> | <div>What did you do yesterday ?</div> <div>Complete layout for City Light Fragment</div> |
| <div>What will you to today ?</div> <div>Firebase data design</div> | <div>What will you to today ?</div> <div>Display to graph</div> | <div>What will you to today ?</div> <div>Finish city light layout design and implement to app</div> | <div>What will you to today ?</div> <div>Complete functions for snow level fragment</div> |
| <div>Any Blockers ?</div> <div>No good data sources so insert manually</div> | <div>Any Blockers ?</div> <div>Not at this moments</div> | <div>Any Blockers ?</div> <div>Not at this moments</div> | <div>Any Blockers ?</div> <div>Not at this moment</div> |

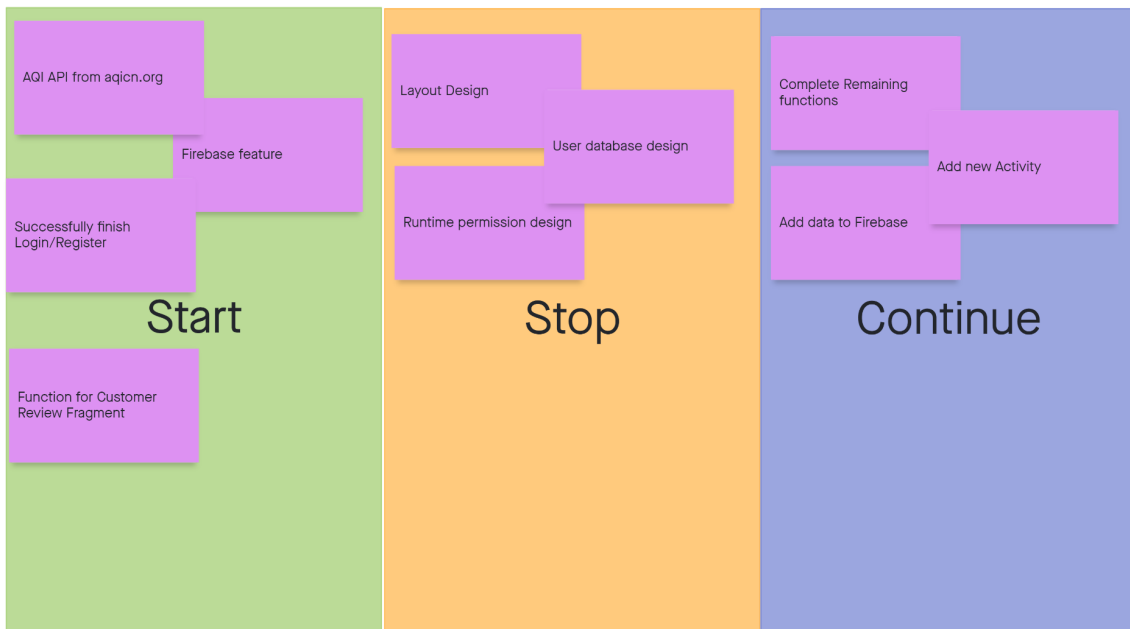
Nov 13rd

| | | | |
|---|--|--|--|
| Daily Standup Sprint 3 Nov 13rd | | | |
| Dung Ly | Thanh Phat Lam | Dinh Hoa Tran | Hieu Chu |
| What did you do yesterday ? Firebase data design | What did you do yesterday ? Display data from API to proper field | What did you do yesterday? Finish city light layout design and implement to app | What did you do yesterday ? Complete layout for City Light Fragment |
| What will you to today ? Customer Review Screen layout/functions | What will you to today ? Change layout depending on AQI value | What will you to today ? (Absent 1 day) | What will you to today ? Complete functions for snow level fragment |
| Any Blockers ? No good data sources so insert manually | Any Blockers ? Not at this moments | Any Blockers ? Not at this moments | Any Blockers ? Finding data source |

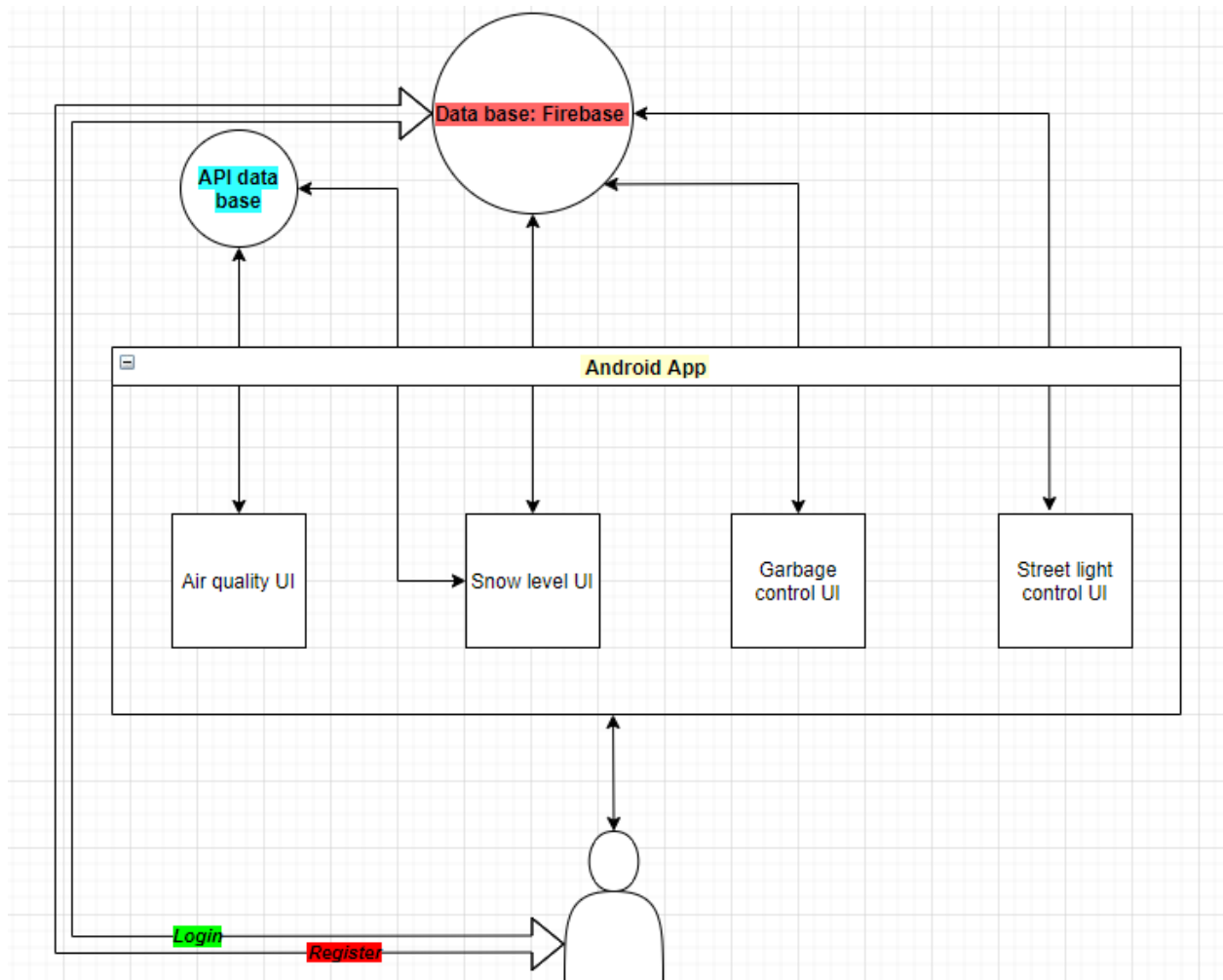
Sprint Retrospective

Sprint 3

Team Meeting Absence:
+Nov 13: Dinh Hoa Tran



C4 Model



Design Principles

In this project, we use DRY and KISS principles. Every function should be simple and easy to read. Most of them should be used once only.

In code

These principles are not applied in this yet. Everything is still messy and it will be cleaned up in the next Deliverable.

Design Patterns

Creational Patterns - Builders

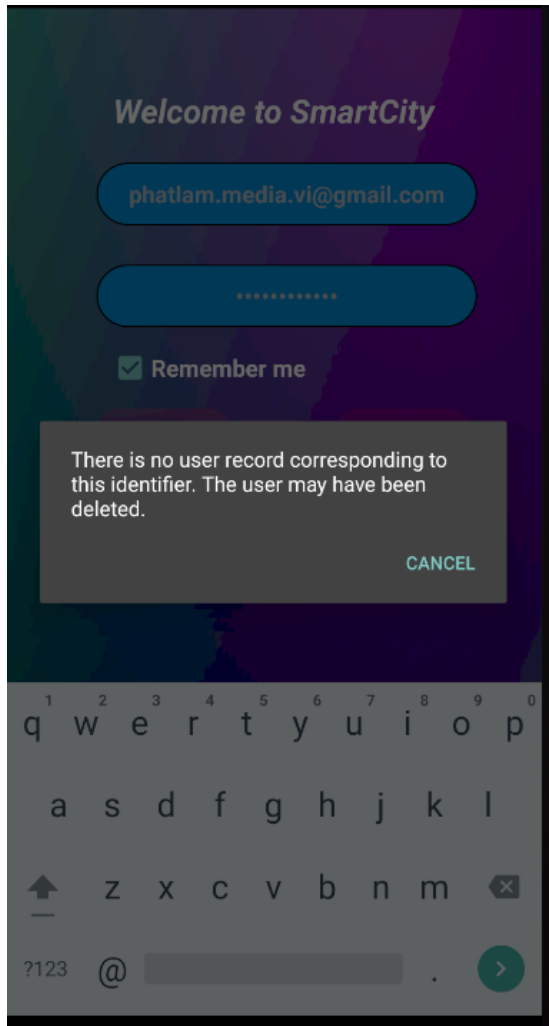
Creational Patterns - Singleton

Coding Progress

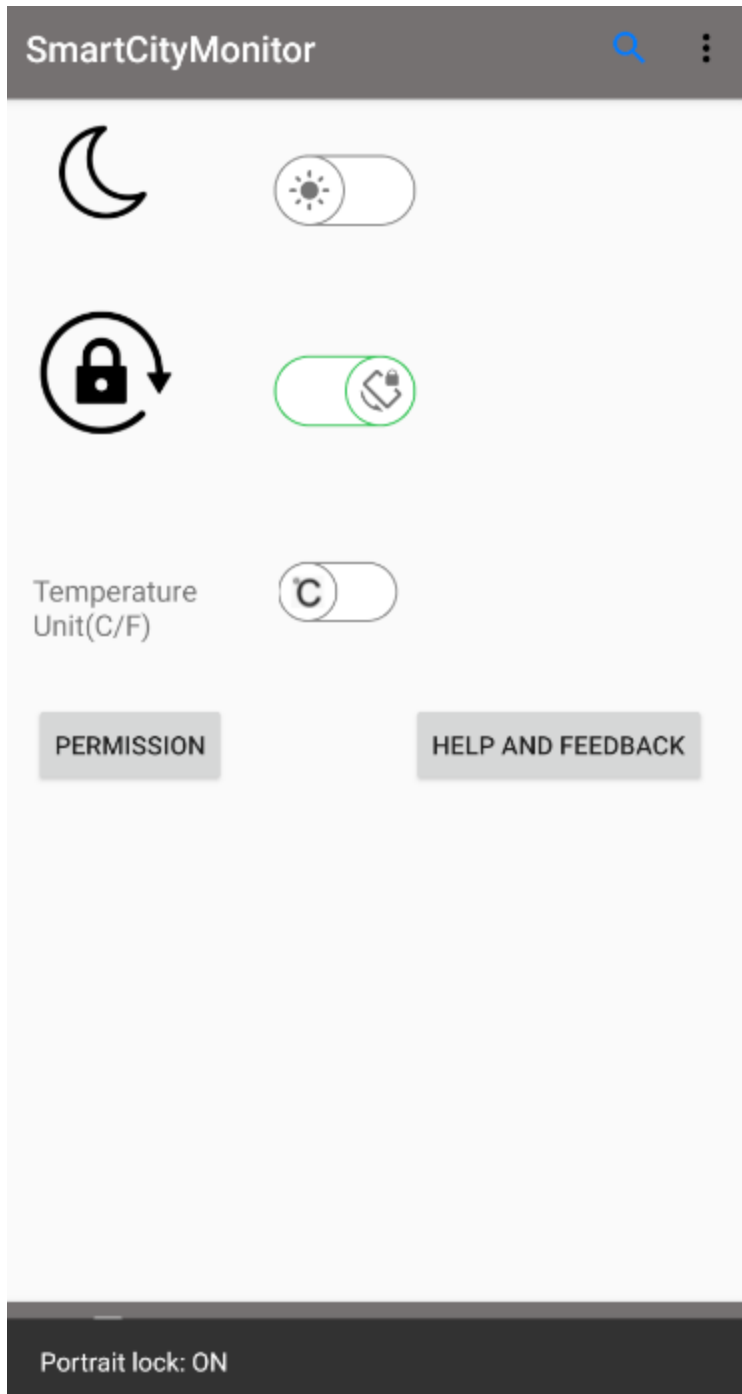
- _ Add data to database (FireBase)
- _ Interact with Database
- _ Change UI & layout
- _ Complete Login & Register
- _ Half-complete settings screen
 - + Not complete runtime permission implementation
 - + Terrible layout

Coding Update

- 2. UI Complete
 - 3. There are more than 10 java classes in the project
 - 6,7 (not implement design principles, patterns yet)
 - 8. Half-finish
 - 9. Not implement runtime permission yet
 - 10. Complete portrait lock
 - 11. In Login, Register, City light fragment
 - 12. Complete, in setting screen
 - 13. In Air Quality Fragment
 - 14,15. Login screen
 - 16.
- Demonstrate of
- a. AlertDialog: Login Screen



b. Snackbar:



- c. Toast:
Toast displays when user registers successfully
- d. Notification:

8:23

Sun, Nov 14

100%



Notifications

SmartCityMonitor • now

Smart City

Registered Succeeded !

Silent

REGISTER

LOGIN



Android System

Serial console enabled

Performance is impacted. To disable, check bootloader.

Settings



Virtual SD card

Tap to set up

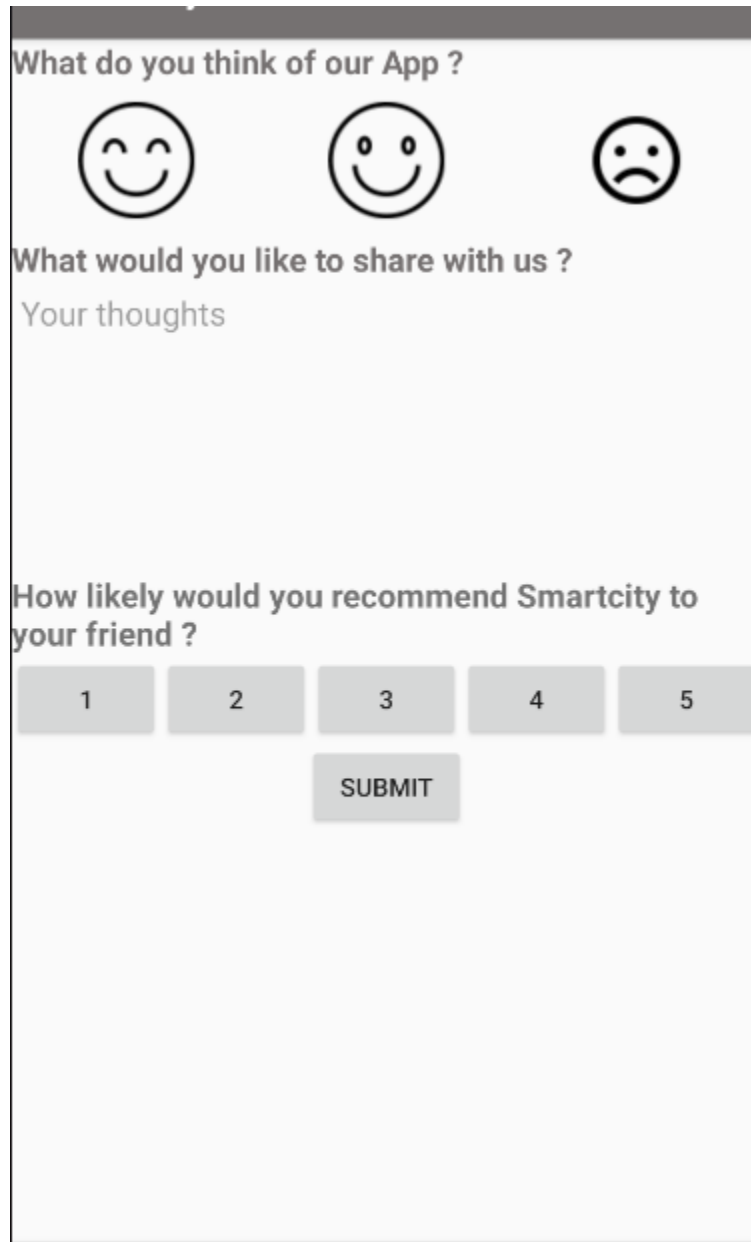
Manage

Clear all

17.

Customer Review Screen

In Menu> Settings > App Setting > Help & Feedback



The image shows a customer review screen with a light gray background and a dark gray header. The header contains the text "What do you think of our App ?". Below the header, there are three circular icons: a happy face, a neutral face, and a sad face. Below the icons, there is a text input field with the placeholder text "What would you like to share with us ?" and "Your thoughts". Below the input field, there is a question "How likely would you recommend Smartcity to your friend ?". Below the question, there are five buttons labeled 1, 2, 3, 4, and 5. Below the buttons, there is a "SUBMIT" button.

18. Completed

(There are bugs in the app that can crash: Rotate from portrait to horizontal in Air Quality fragment crash (RetainFragment problem), but if the phone is already rotated, it works).