

Smart City Data Report Dashboard Based On Open Data

AT71.05 – Information Systems Development and Management

January 2022

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Content

1. Project Charter	1
2. High Level Requirement Description	4
3. Baseline Project Plan Report	6
4. User Stories	12
5. Use Case Diagram and Document	15
6. Class Diagram	18
7. Activity Diagram	19
8. Sequence Diagram	20
9. Prototype	22
10. PO and Team Collaboration	23
11. Sprint Retrospective	25
12. User Acceptance Testing	28
13. Project Dimensions	30
14. Conclusion	31

1 Project Charter

Smart City Data Report Dashboard Based on Open Data Prepared: Mar 10, 2022

Project Charter

Project Name: Smart City Data Report Dashboard Based on Open Data
Project Manager: Marie Curie Salera (st122895@ait.asia)

Customer: Public Users
Project Sponsor: Dr. Marut Buranarach

Project Start/End (projected): (marut.bur@nectec.or.th)
February 21, 2022 - April 22, 2022

Project Overview:

The purpose of the project is to build a data report dashboard platform for cities based on the data retrieved from open data portals. The system can be used to build data dashboards related to a city such as crime statistics, PM2.5 statistics, number of patients in the area for a given time period and more.

The data shown in the dashboard will be taken from an open data portal hosted by CKAN software (ckan.org) via CKAN API. The user generated dashboard will be shared via a dynamic URL, and the dashboard can be used by embedding the URL in a webpage. The final system design will be used by users who live in the cities and benefit them based on existing open data from various open data sources.

Objectives:


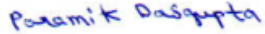
- Design an application that allows the users to create a data display or visualization based on the selected dataset on a given CKAN open data site.
- Create a **“City Data Report”** dashboard based on open data in order to create a platform that help people to create data report based on their preferred city data

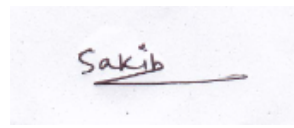

Key Assumptions:

- The project will be built on top of an existing web application (<http://catalog-agency1.opend.cloud/>)
- Open data is very popular since it can enable the government to follow data-drive decision-making process and increase the organizational participation
- People can engage with the open data based on the release of the governmental data
- Open data is basically a machine readable data in a dataset in spreadsheets
- Open data will be more data set made available in the future

Stakeholders and Responsibilities:

Stakeholder	Role	Responsibility	Signatures
Dr. Marut Buranarach	Product Owner/ Project Sponsor	Defines the product vision, reviews the project charter and other documents, clarifies user stories, clarify requirements to the Scrum Team, Accept/Reject Deliverables, Provide necessary feedback	
Dr. Chutiporn Anutariya	Subject Matter Expert	Provides expertise on a specific subject, maintain up-to-date experience and knowledge on the subject matter, provide advice to the team	
Younten Tshering	Subject Matter Expert	Provides expertise on a specific subject, maintain up-to-date experience and knowledge on the subject matter, provide advice to the team	

Marie Curie Salera	Project Manager, Developer	Leads in the planning and development of the project, manages the project to scope, develops the project plan, oversees quality assurance of the project management process, maintains all documentation including the project plan, resolves conflicts within the project, ensures that the project's product meets the business objectives, and communicate project status to stakeholders.	
Paramik Dasgupta	Project Designer, Developer	Provide assistance in project design and development activities according to customer requirements. Work with the manager in developing the project plan, budget and schedule. Help other developers, perform peer reviews and provide feedback for improvements. Perform research and recommend new technologies to carry out tasks	

		related to project development.	
Md. Sakib Bin Alam	Project Designer, Developer	Similar as previous (Paramik)	
Aiman Lameesa	Project Designer, Developer	Similar as previous (Paramik)	

2 High-Level Requirement Description

Project Title Smart City Data Report Dashboard Based on Open Data

Product Owner Dr. Marut Buranarach (marut.bur@nectec.or.th)

Project Manager Marie Curie Salera (st122895@ait.asia)

Members Paramik Dasgupta (st122804@ait.asia)
Md. Sakib Bin Alam (st122574@ait.asia)
Aiman Lameesa (st122876@ait.asia)

No.	Requirement	Priority	Type (Functional/Non-Functional)
1	The application will allow the users to create data reports on a city using open data.	High	Functional
2	Detected or recommended events are notified to users through sound, vibration, screen, etc.	High	Non-functional (Usability)
3	The user can be able to access to historical data, stored in the corresponding database/repository, must be made available for the	High	Functional

	server/client application in order to fulfill the corresponding functionality		
4	System must have a web interface for users to register personal information into the database	High	Functional
5	Both smartphone and computer users must find the user interface easy to use	Medium	Non-functional (usability)
6	The system will use real-time data in order to create live dashboard	High	Functional
7	The system should show the dashboard on the web browser in a H24/7 modality	High	Non-functional (dependability)
8	The system should show data both real-time and historical, allowing the drill down on time, space and relationships among data and city entities	Low	Non-functional (dependability)
9	The input dataset should contain at least the fields of the city name, date (or month/year) and measures (numbers) such as PM2.5 value, temperature value, crime cases, etc.	High	Functional
10	The system should have the capacity to hold Personal information in a secure way	High	Non-functional (security)
11	Appropriate data visualization should be generated from the uploaded dataset.	High	Functional
12	The data visualization can generate an URL for the other users to be able to make use of the visualized data.	High	Functional

3 Baseline Project Plan Report

Baseline Project Plan Report

Project Title	Smart City Data Report Dashboard Based on Open Data
Product Owner	Dr. Marut Buranarach (marut.bur@nectec.or.th)
Project Manager	Marie Curie Salera (st122895@ait.asia)
Members	Paramik Dasgupta (st122804@ait.asia) MD. Sakib Bin Alam (st122574@ait.asia) Aiman Lameesa (st122876@ait.asia)

1.0 Introduction

A. Project Overview

The purpose of the project is to build a data report dashboard platform for cities based on the data retrieved from open data portals. The system can be used to build data dashboards related to a city such as crime statistics, PM2.5 statistics, the number of patients in the area for a given time period, and more.

The data shown in the dashboard will be taken from an open data portal hosted by CKAN software (ckan.org) via CKAN API. The user-generated dashboard will be shared via a dynamic URL, and the dashboard can be used by embedding the URL in a webpage. The final system design will be used by users who live in the cities and benefit them based on existing open data from various open data sources.

B. Recommendation

The Smart City Data Dashboard will be created on city-data by building a platform that uses open data from CKAN, where the software can access and retrieve the data through API. An application is recommended to be created which would allow the user to create data display in the form of visualization based on the civic data.

2.0 System Description

A. Alternatives

There are alternatives to making this project. Since there is an existing platform that is already built in relation to this project, it will be developed from the existing platform. Another alternative will be building this project by doing it independently from the existing platform which means that the development will not be closely working with the existing repositories of the development team of the existing platform. But, the independently built platform can be integrated with the existing software in the time wherein the project reaches its minimum viable product.

B. System Description

Given that the existing project is a web-based platform, it is expected that this project will be also built in a similar manner. The project will be built using several web technologies and frameworks such as Django and ReactJs and Figma for the creation of the mockups and prototypes. For the live dashboards, different web-based libraries built from Javascript will be used such as Google Charts or Chart.js

3.0 Feasibility Assessment

A. Economic Analysis

Tangible benefits include:

Reduced staffing

Intangible benefits include:

Increased quality service to customers.

Training employees to become more efficient.

Increase in customer satisfaction.

Tangible costs include

Development costs such as networked PC and software.

User manuals and videos for training

Annual operating costs for software update and hardware replacement and technical support

B. Technical Analysis

The project manager and the two project designers have an educational background in Computer Science and Engineering and the other has a background in Robotics Engineering. Now, The project manager is studying Information Management and the three product designers are studying Data Science and Artificial Intelligence at the Asian Institute of Technology (AIT). The objectives of this application are well within their capabilities.

C. Operational Analysis

The application will be a **“Smart City Data Dashboard”** that will enable the users to create data reports using the open data available about cities. The data reports will be the displays of city data in the form of visualization.

D. Legal and Contractual Analysis

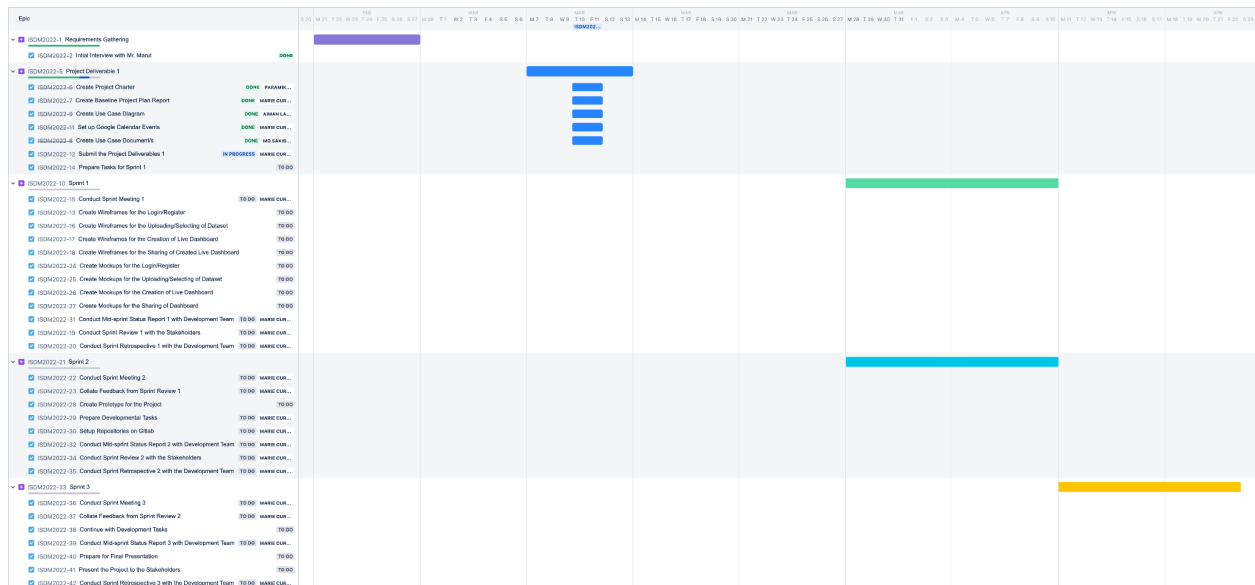
The datasets will be used from CKAN (<https://ckan.org/>), which is an open-source data management system. The datasets residing in this system are password protected and only authorized users can access them.

E. Political Analysis

The project will have the following main stakeholders involved: The Product Owner, Development Team (including the Project Manager), Subject Matter Experts, and the end-users. The development team will be able to work with the Product Owner and the Subject Matter Experts during the course of the project. End users will benefit from the MVP of the project.

F. Schedules, Timeline, and Resource Analysis

The figure below shows the roadmap of the entire project. There will be 5 epic milestones with tasks assigned to each milestone. Tasks are initially assigned to some of the team members. For the tasks that were unassigned, these tasks will be worked on by multiple people. Tasks should be completed on time and in the case that a task will not be completed within the sprint, it can be carried over to the next possible sprint. Team members will follow standard procedures for reporting progress, documenting work, and communicating with other members.



4.0 Management Issues

A. Team Configuration and Management

The development team will be composed of four (4) members including the Project Manager. All members will be considered as developers with one being the Project Manager and the others being the Product Designers. The table below shows the roles and responsibilities of the team members.

Team Member	Role	Responsibilities
Marie Curie Salera	Project Manager Developer	Leads in the planning and development of the project, manages the project to scope, develops the project plan, oversees quality assurance of the project management process, maintains all documentation including the project plan, resolves conflicts within the project, ensures that the project's product meets the business objectives, and communicate project status to stakeholders.
Md. Sakib Bin Alam	Product Designer Developer	Provide assistance in project design and development activities according to customer requirements. Work with the manager in developing the project plan, budget, and schedule. Help other developers, perform peer reviews and provide feedback for improvements. Perform research and recommend new technologies to carry out tasks related to project development.
Paramik Dasgupta	Product Designer Developer	(similar to above)

Aiman Lameesa	Product Designer Developer	(similar to above)
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B. Communication Plan

All communications will be in an online manner because of different restrictions and constraints due to the pandemic. Whatsapp will be used as the messaging platform to quickly communicate with the team members. In communicating with the product owner, this will be done through email, and in the event that it needs to be done through a call, Google Meet will be used.

For the development team, there will be a **daily standup meeting** that is scheduled at **5:45 PM BKK Time** from **Monday to Friday**. The daily standup meeting will be held on Google Meet (<https://meet.google.com/yzy-xyuv-reu>) and a recurring Google calendar event has been created to serve as a reminder. During the daily standup meeting, the members should answer the following questions:

1. What have you done for today?
2. What will you do next?
3. What are the problems/blockers that you've encountered?

In the event that the team member cannot attend the daily standup, the member must inform the team ahead of time.

At the end of the sprint, there will be a Sprint Retrospective for the team to discuss the recently concluded sprint. Initially, this is scheduled on the **last day of every sprint at 1:00 PM BKK Time**. The sprint retrospective will be held on Google Meet and a Google calendar event should be sent to the team members to serve as a reminder.

During this meeting, the members should answer the following questions:

1. What went well?
2. What should we cease doing in the next sprint?
3. What are the things we can improve in the next sprints?

All team members should attend this sprint retrospective. In case of a team member is not available at the initially scheduled meeting time, the team member must inform the team ahead of time so that it can be rescheduled as soon as possible.

C. Project Standards and Procedure

For all deliverables from the team members will be checked by other team members with the final checking done by the Project Manager. For the development phase, such as developing the platform, there will be a code review that should take place. The code review will confer with the coding standards agreed by the team. The code review should have the "Looks Good To Me (LGTM)" mark from all the team members, including the project manager.

In terms of quality assurance, as soon as the code has been approved, it will be tested in terms of its usability and acceptance criteria being set for a specific task. In the event that it gets approved in the quality assurance phase, it will be merged into the working environment.

Risk Assessment Plan

Risk	Likelihood of Occurrence	Impact Severity	Risk Level	Mitigation Plan
User interface is not intuitive enough for the end-users leading to poor user experience	Medium	High	High	Create mockups and have it reviewed by some of the end-users. From then, the team can use the feedback and make some adjustments.
Failure to learn new technical techniques	Low	High	Medium	Factor in the learning time for the development team to ensure that things will be done in a proper and swift manner during the development phase. Also, look into resources that will help in the learning process.
Poor time management leading to the delay of the project	Medium	High	High	Plan the project with sufficient time for each of the task so that when some tasks take longer than expected, there is still a buffer time.
Insufficient privacy of users and their data	Medium	High	High	Ensure that data are well protected by doing some extensive research on how to ensure the protection and safeguarding of the users and their data
Project purpose and need is not well defined	Medium	High	High	Prepare the necessary documents such as project charter, project plan, high-level requirements and use case diagram and definition and have it reviewed by the stakeholders to ensure that everyone is on the same page. If there are still unclear documents, organizing a meeting with the needed personnel will be helpful.
System integration is more complex than	Medium	High	High	Early development of integration plan, check the

estimated				related systems for integration and its prerequisites ahead of time.
The server capacity might be inadequate	Low	Medium	Medium	Capacity analysis should be done during the early stages, preferably during the design stage.
Miscommunication and misunderstanding among team members	Low	Medium	Medium	Do daily standups and meetings to avoid the issues that may arise. Do sprint retrospective at every end of the sprint to discuss the problems within the team.

4 User Stories

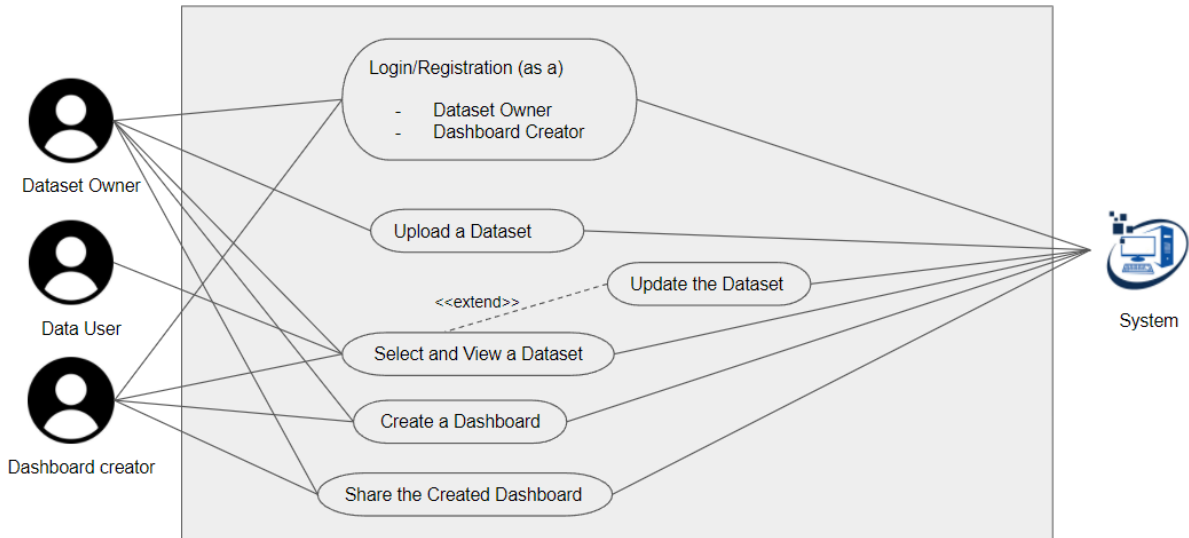
1. Users can store their personal information
2. Users can search for a specific type of dataset.
3. Regular users can view the dataset.
4. Dataset owner can upload a dataset.
5. Dataset owner and Dashboard creator users can create a dashboard.
6. Dataset owner and Dashboard creator users can share dashboard
7. Dashboard will be available online
8. Regular users can see the shared dashboard

<p>Story ID: 1 Story Title: Users can store their personal information</p> <p>As a user I want to store my name, email, graphs and dashboard in my account.</p> <p>So that I can access them instantly when I log in the system.</p> <p>Acceptance Criteria: Users can access their personal information perfectly.</p>	Approved
<p>Story ID: 2 Story Title: Users can search for a specific type of dataset.</p> <p>As a user I want to search for specific dataset by their type.</p> <p>So that I get only my required datasets.</p> <p>Acceptance Criteria: Users get the dataset that they need.</p>	Approved

<p>Story ID: 3 Story Title: Regular users can view the dataset.</p> <p>As a user I want to view the existing datasets in the system.</p> <p>So that I get an idea about the type of datasets and look for my required ones.</p> <p>Acceptance Criteria: Users find all the existing datasets in the system.</p>	Approved
<p>Story ID: 4 Story Title: Dataset owner users can upload a dataset.</p> <p>As a user I want to upload a dataset.</p> <p>So that I can add new data in the system.</p> <p>Acceptance Criteria: Uploading a dataset successfully.</p>	Approved
<p>Story ID: 5 Story Title: Dataset owner and Dashboard creator users can create a dashboard</p> <p>As a user I want to build a dashboard from scratch using the data.</p> <p>So that I can look at the insights of the data using the dashboard.</p> <p>Acceptance Criteria: Creating the dashboard and viewing the data insights using it.</p>	Approved
<p>Story ID: 6 Story Title: Dataset owner and Dashboard creator users can share dashboard</p> <p>As a user I want to share the dashboard</p> <p>So that other users can get the shared dashboard and use it to check insights.</p> <p>Acceptance Criteria: Dashboard will be shared with others, and they successfully receive it.</p>	Approved
<p>Story ID: 7 Story Title: Dashboard will be available online.</p> <p>As a user I want to view/create/share the dashboard any time.</p> <p>So that users can use the dashboard to check insights.</p>	Approved

Acceptance Criteria: Users can access the dashboard 24 hours.	
Story ID: 8 Story Title: Regular users can see the shared dashboard As a user I want to view the created dashboard. Acceptance Criteria: Regular users can view the dashboards in real-time.	Approved

5 Use Case Diagram and Document



Use Case Title	Login/Registration
Primary Actor	Dataset owner and dashboard creator
Stakeholders	User (dataset owner and dashboard creator) and system
Precondition	User has to register or login by valid information
Minimal Guarantee	Staying to the login/registration page
Success Guarantee	System approves the authentication
Trigger	User enters information during login/registration
Main Success Scenario	<ol style="list-style-type: none"> 1. Users browse the options 2. Dataset owner can upload the dataset 3. Dataset owner and dashboard creator can view the desired data 4. Dataset owner and dashboard creator can create and share dashboard
Extensions	In case of invalid information for login/registration, users check the information (email, password) and provide them again

Use Case Title	Upload a dataset
Primary Actor	Dataset owner
Stakeholders	Dataset owner and system
Precondition	Dataset owner has to login/register into the system
Minimal Guarantee	Staying on the login/registration page since the next page might take time to load properly for uploading the dataset
Success Guarantee	Upload and view the necessary dataset to create a dashboard and share it later
Trigger	Dataset owner uploads the dataset properly
Main Success Scenario	<ol style="list-style-type: none"> 1. Dataset owner uploads the dataset 2. Dataset owner can view the dataset 3. Dataset owner can create a dashboard 4. Dataset owner can share the created dashboard
Extensions	Check the internet connection to reload the page where the dataset owner has to upload the dataset

Use Case Title	Select and view a dataset
Primary Actor	Dataset owner, data user and dashboard creator
Stakeholders	User (dataset owner, data user and dashboard creator) and system
Precondition	User has to register or login by valid information and the dataset owner has to upload the required dataset in order to view it
Minimal Guarantee	The chosen dataset might not show up due to connectivity issues so that the user has to wait in the uploading/selecting dataset options
Success Guarantee	View the necessary dataset and create required dashboard which can be shared with others
Trigger	User selects and views the dataset
Main Success Scenario	<ol style="list-style-type: none"> 1. User selects and views the dataset properly 2. User can create a dashboard with the dataset 3. User can share the dashboard with others
Extensions	Check the internet connection and reload the page to access and

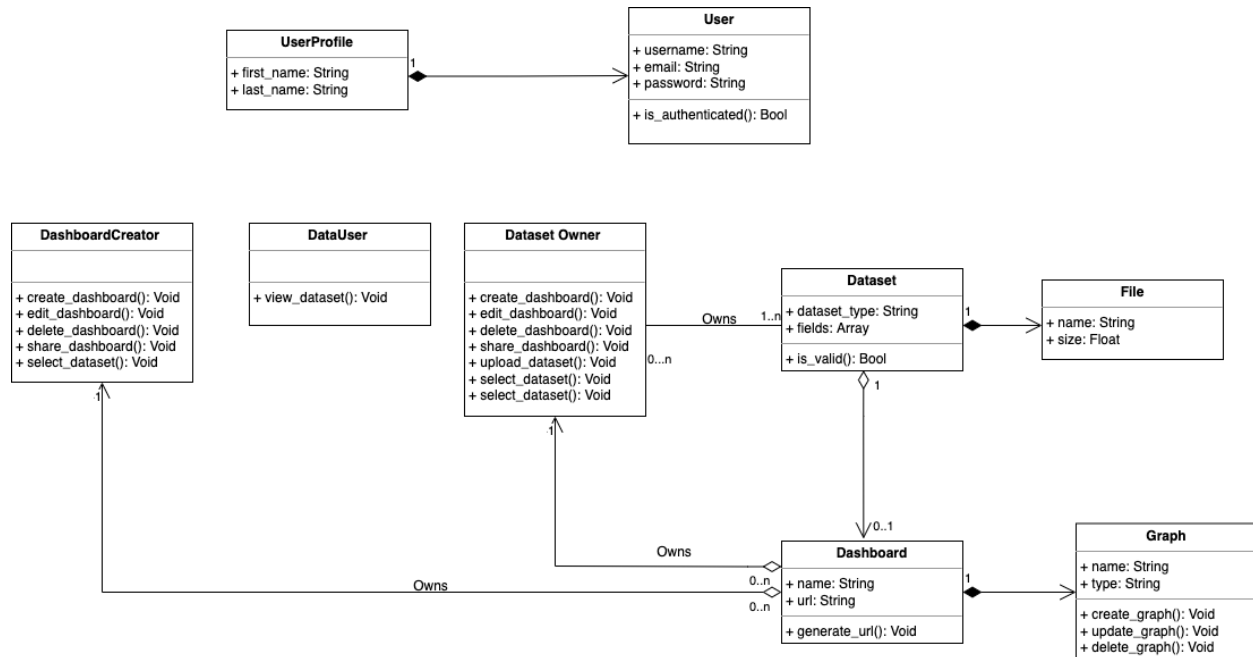
	view the dataset
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Use Case Title	Create a dashboard
Primary Actor	Dataset owner and dashboard creator
Stakeholders	User (dataset owner and dashboard creator) and system
Precondition	User has to login/register into the system, dataset owner has to upload the dataset, dataset owner and dashboard creator both has to select, view the dataset and create the data reports properly
Minimal Guarantee	User has the individual data reports to create the dashboard
Success Guarantee	Create the required dashboard and share the databoard with others
Trigger	User uses drag and drop methods to combine the data reports in order to create a dashboard
Main Success Scenario	<ol style="list-style-type: none"> 1. User creates the dashboard properly 2. User can share the created dashboard with others
Extensions	Check if the necessary steps are taken such as using the proper filters or using the necessary data reports

Use Case Title	Share the created dashboard with others
Primary Actor	Dataset owner and dashboard creator
Stakeholders	User (dataset owner and dashboard creator) and system
Precondition	User has to login/register into the system, dataset owner has to upload the dataset and dashboard creator has to select, view the dataset and create the dashboard properly
Minimal Guarantee	User has the required dashboard
Success Guarantee	Share the databoard with others publicly
Trigger	User saves the dashboard using required format and then shares it with others
Main Success Scenario	<ol style="list-style-type: none"> 1. User shares the dashboard with others

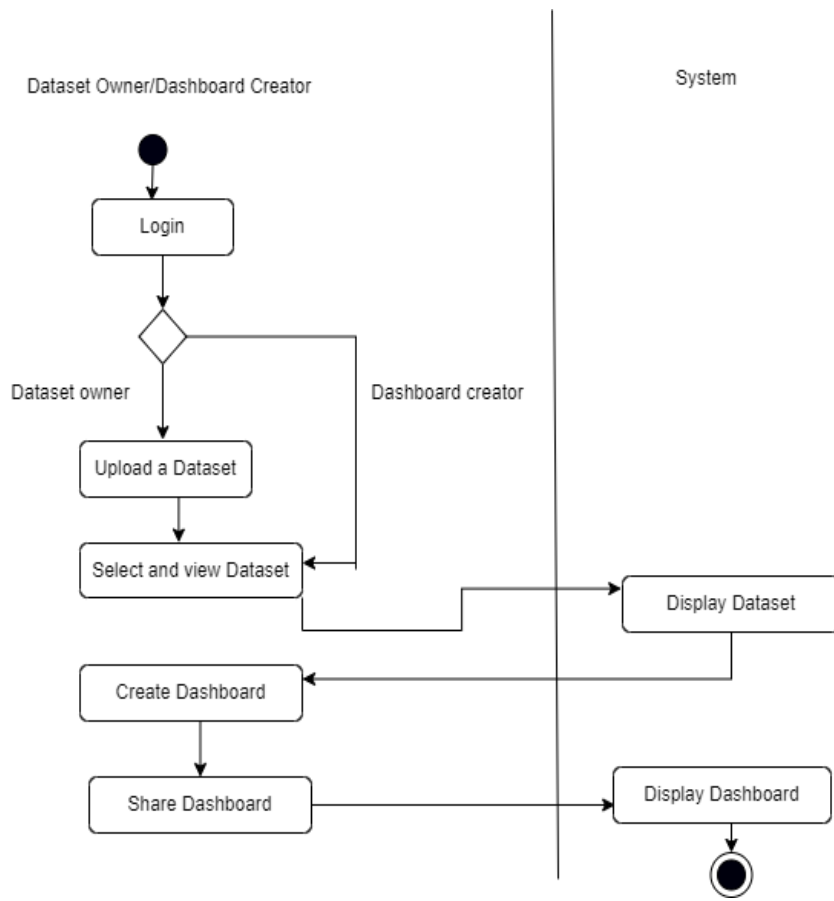
	2. User can recreate the dashboard again if they get new ideas to work on it
Extensions	Check the internet connection to share the dashboard publicly

6 Class Diagram

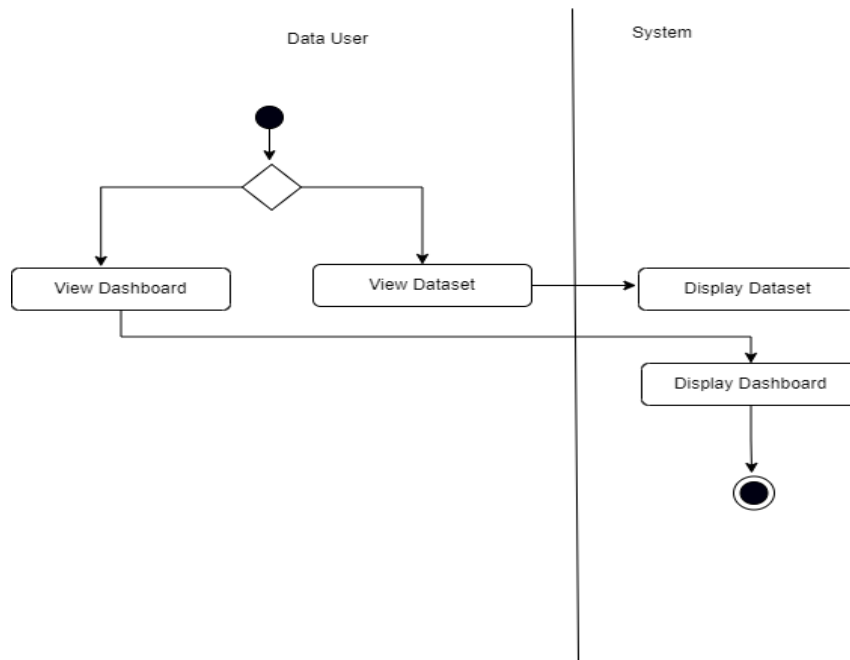


7 Activity Diagram

7.1 Activity Diagram for Dataset owner and Dashboard Creator

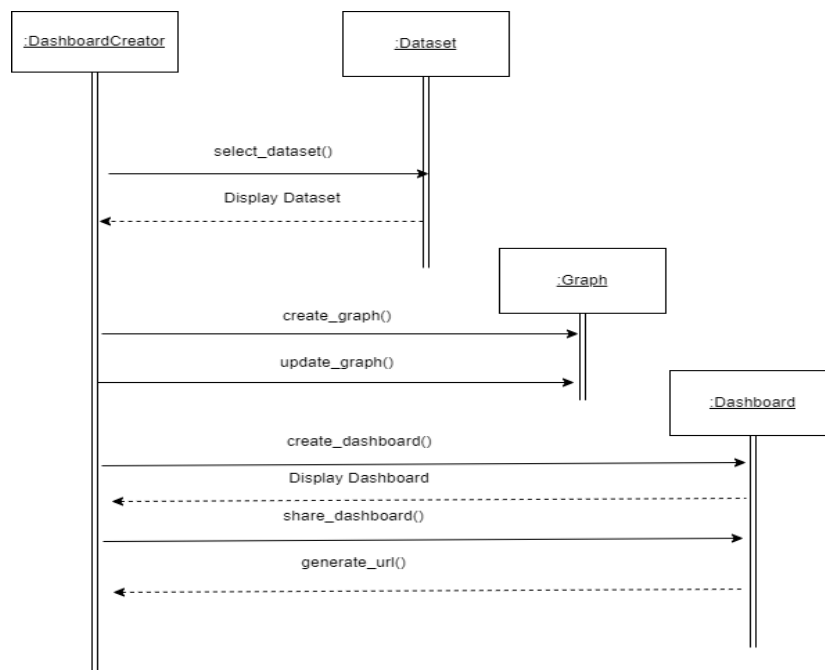


7.2 Activity Diagram for Data User

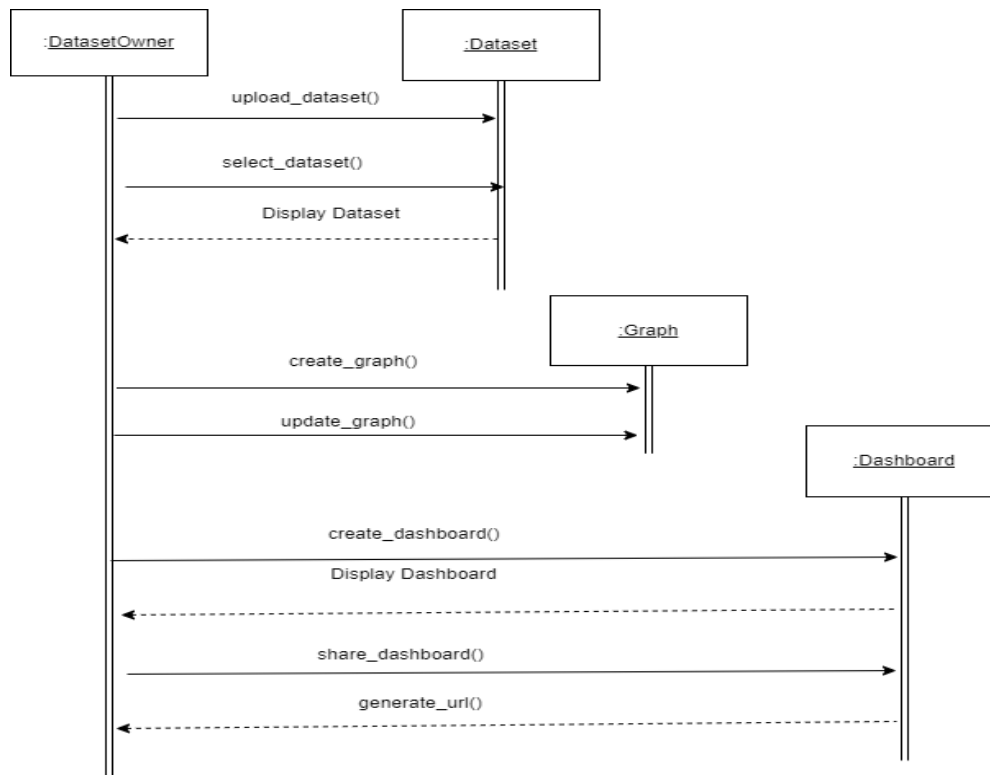


8 Sequence Diagram

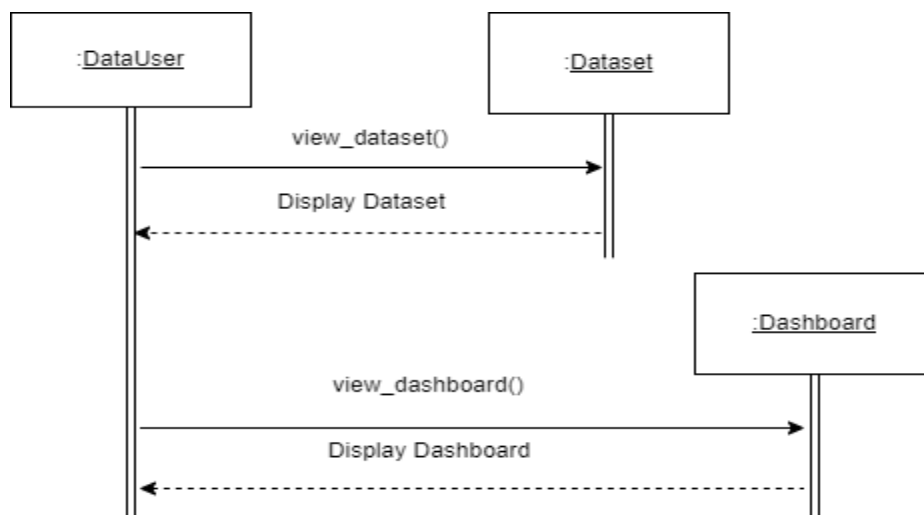
8.1 Dashboard Creator



8.2 Dataset Owner



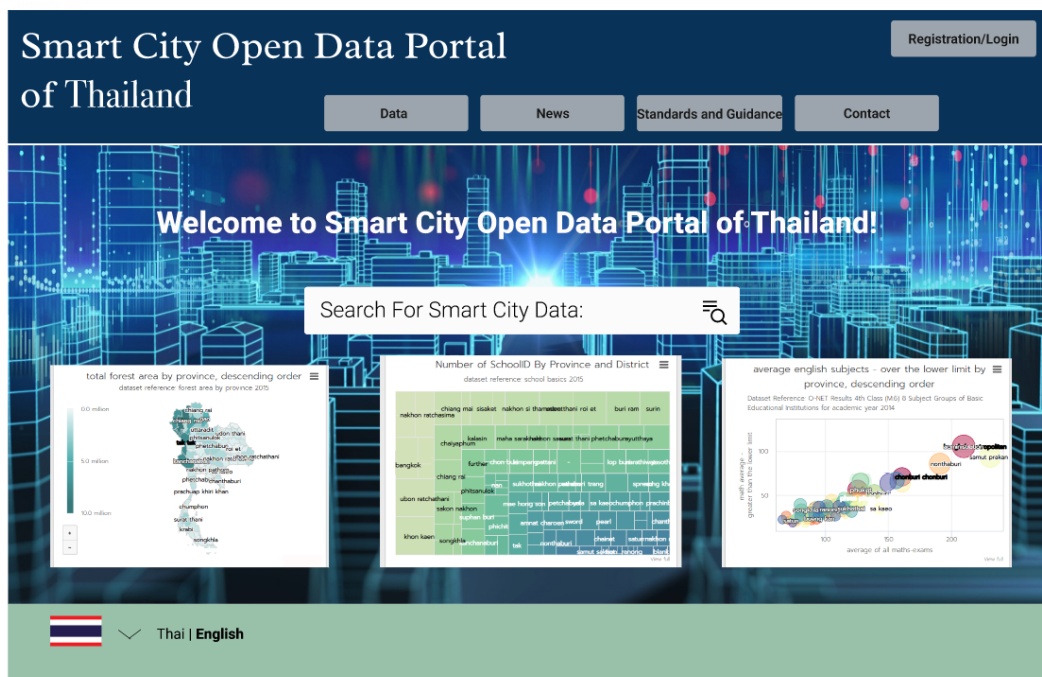
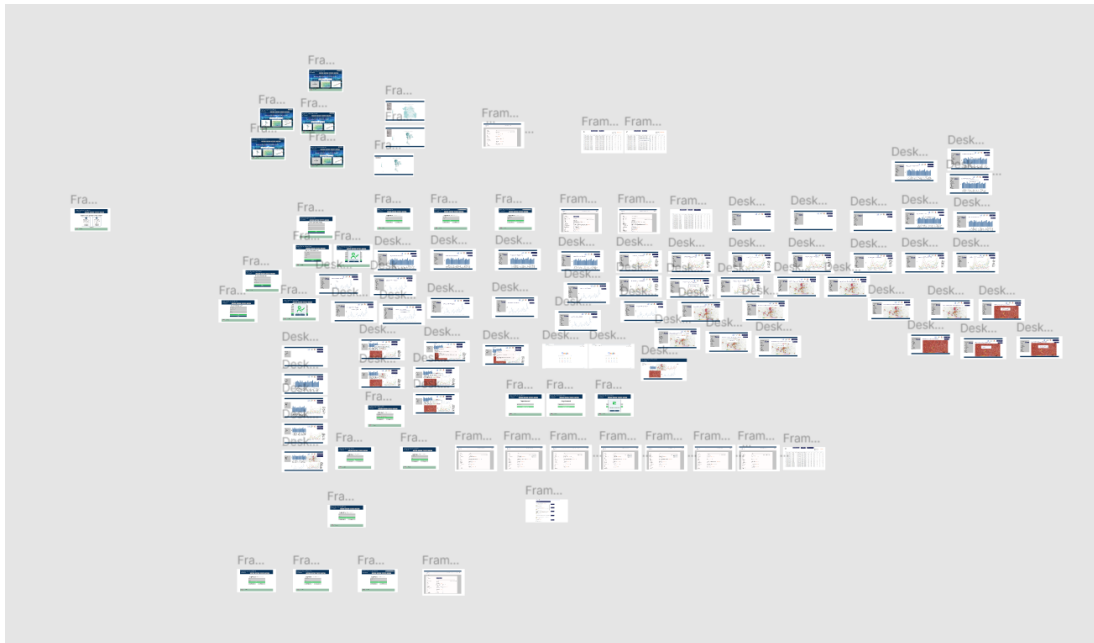
8.3 Data User



9 Prototype

The prototype is created using Figma. The working prototype can be seen here:

<https://www.figma.com/proto/4q0ZWGSHI0Ucsv5UqKxVbh/Wireframe-of-Uploading%2FSelecting-Dataset?node-id=338%3A83&scaling=scale-down&page-id=0%3A1&starting-point-node-id=338%3A83&show-proto-sidebar=1>



10 PO and Team Collaboration

Date	Meeting	Purpose	Method	Audience
26-Feb-2022	1st meeting with the Project Owner	Initial Requirements Gathering Introduction of Team Members	Email Google Meet	<ul style="list-style-type: none"> - Dr. Marut Buranarach (PO) - Marie Curie Salera - Paramik Dasgupta - Md Sakib Bin Alam - Aiman Lameesa
14-Mar-22	1st Sprint Planning with Project Owner	Officially started the sprint Went through the product backlog and discussed what should be worked on this sprint Set the expectations for this sprint	Email Google Meet	<ul style="list-style-type: none"> - Dr. Marut Buranarach (PO) - Marie Curie Salera - Paramik Dasgupta - Md Sakib Bin Alam - Aiman Lameesa
21-Mar-22	1st progress meeting with Professor	Discussed the project deliverables documents Initially discussed about the status of the project	Zoom	<ul style="list-style-type: none"> - Chutiporn Anutariya - Younten Tshering - Marie Curie Salera - Paramik Dasgupta - Md Sakib Bin Alam - Aiman Lameesa
28-Mar-22	1st Sprint Review	Presented the wireframes and mockups	Email Google Meet	<ul style="list-style-type: none"> - Dr. Marut Buranarach (PO) - Marie Curie Salera - Paramik Dasgupta - Md Sakib Bin Alam - Aiman Lameesa

28-Mar-22	2nd Sprint Planning	<p>Officially started the sprint</p> <p>Went through the product backlog and discussed what should be worked on this sprint</p> <p>Collated the changes and feedback from the previous sprint</p> <p>Set the expectations for this sprint</p>	Email Google Meet	<ul style="list-style-type: none"> - Dr. Marut Buranarach (PO) - Marie Curie Salera - Paramik Dasgupta - Md Sakib Bin Alam - Aiman Lameesa
08-Apr-22	2nd Sprint Review	Presented the prototype v1	Email Google Meet	<ul style="list-style-type: none"> - Dr. Marut Buranarach (PO) - Marie Curie Salera - Aiman Lameesa
08-Apr-22	2nd progress meeting with Professor	Discussed the project progress	<ul style="list-style-type: none"> - Email - Zoom 	<ul style="list-style-type: none"> - Chutiporn Anutariya - Younten Tshering - Marie Curie Salera - Paramik Dasgupta - Md Sakib Bin Alam - Aiman Lameesa
10-Apr-22	3rd Sprint Planning	<p>Officially started the sprint</p> <p>Went through the product backlog and discussed what should be worked on this sprint</p> <p>Collated the changes and feedback from the previous sprint</p> <p>Set the expectations</p>	Email Google Meet	<ul style="list-style-type: none"> - Dr. Marut Buranarach (PO) - Marie Curie Salera - Paramik Dasgupta - Md Sakib Bin Alam - Aiman Lameesa

		for this sprint		
16-Apr-22	Mid-Sprint Progress Report	<p>Presented Prototype v2</p> <p>Asked for another set of feedback before the presentation</p>	Email Google Meet	<ul style="list-style-type: none"> - Dr. Marut Buranarach (PO) - Marie Curie Salera - Paramik Dasgupta - Md Sakib Bin Alam - Aiman Lameesa
20-Apr-22	Project Review with the PO	<p>Presented Prototype v2.1</p> <p>Went through the User Acceptance Test Document and check if every user story has been satisfied</p>	Email Google Meet	<ul style="list-style-type: none"> - Dr. Marut Buranarach (PO) - Marie Curie Salera - Paramik Dasgupta - Md Sakib Bin Alam - Aiman Lameesa

11 Sprint Retrospective

Sprint 1

What went well

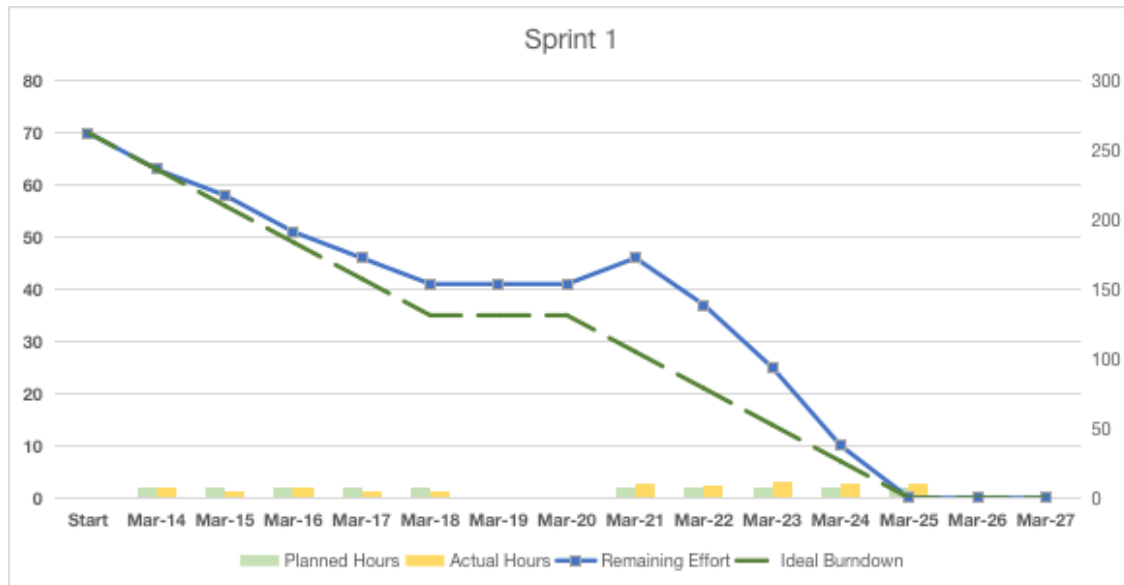
We finished the task ahead of time. We completed the class diagram and the sequence diagram also. We worked on the feedback on the use case diagram from the professor and the product owner.

What went wrong

We had other deadlines that we could not review our task properly and could not send the meeting invitation to the product owner earlier. There were also some errors in our wireframes and mockups.

What should we improve for the next sprint

We will fix the sprint meeting earlier next time and also send the meeting invitation to the product owner at least before a day. Improve the mockups. Moreover, our design has to be interactive as mentioned by the product owner.



Sprint 2

What went well

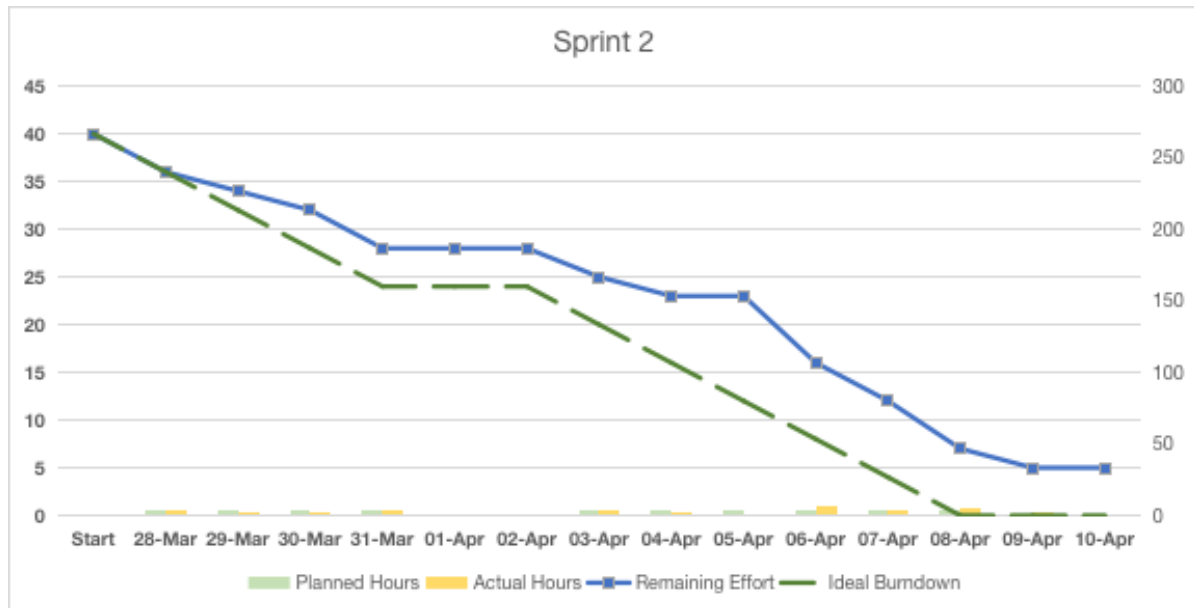
Improvement from the mockups that were presented during the first sprint with the integration of prototyping. Meetings were scheduled ahead of time.

What went wrong

There were unfinished tasks for this sprint, hence it was moved to the next sprint. We also underestimated some tasks.

What should we improve in the next sprint

Improve the tasks estimation and the commitment for the next sprint.



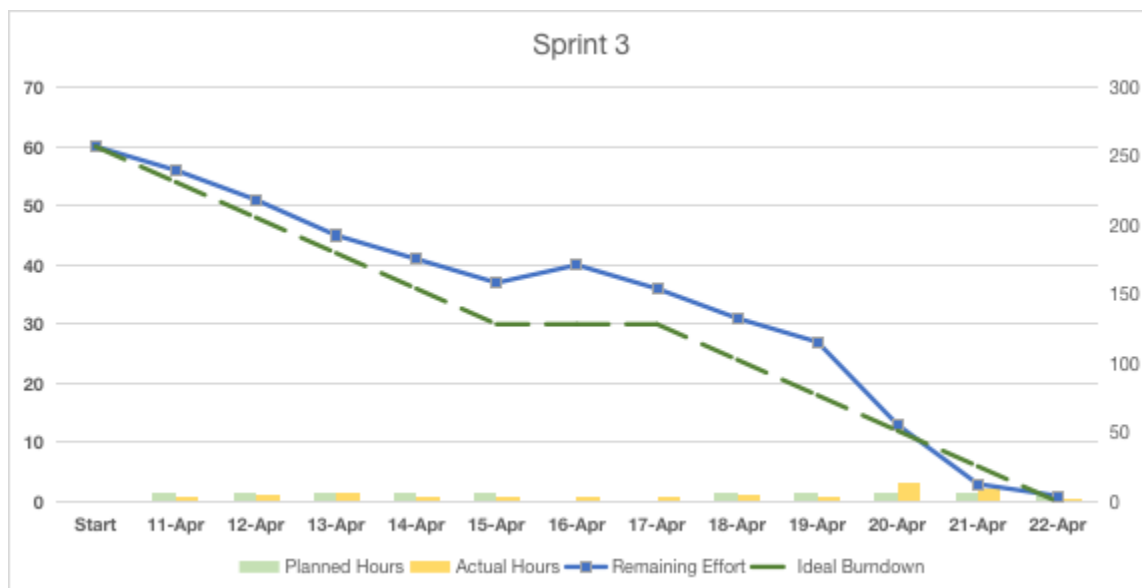
Sprint 3

What went well

Improvement in prototyping is done. The meeting was planned ahead of time and prototyping and other design improvements were made.

What went wrong

Some connections were not properly aligned in prototyping and some minor design issues.



12 User Acceptance Testing

Story ID: 1	Story Title	Users can store their personal information
	User Story	As a user I want to store my name, email, graphs and dashboard in my account. So that I can access them instantly when I log in to the system.
	Acceptance Criteria	Users can access their personal information perfectly.
	Critical	Yes
	Test Result	Pass
	Comments	Approved and checked by Product Owner
Story ID: 2	Story Title	Users can search for a specific type of dataset.
	User Story	As a user I want to search for specific dataset by their type So that I get only my required datasets.
	Acceptance Criteria	Users get the dataset that they need.
	Critical	Yes
	Test Result	Pass
	Comments	Approved and checked by Product Owner
Story ID: 3	Story Title	Regular users can view the dataset
	User Story	As a user I want to view the existing datasets in the system So that I get an idea about the type of datasets and look for my required ones.
	Acceptance Criteria	Users find all the existing datasets in the system.
	Critical	No
	Test Result	Pass
	Comments	Approved and checked by Product Owner

Story ID: 4	Story Title	Dataset owner users can upload a dataset.
	User Story	As a user I want to upload a dataset So that I can add new data in the system.
	Acceptance Criteria	Uploading a dataset successfully.
	Critical	Yes
	Test Result	Pass
	Comments	Approved and checked by Product Owner
Story ID: 5	Story Title	Dataset owner and Dashboard creator users can create a dashboard
	User Story	As a user I want to build a dashboard from scratch using the data So that I can look at the insights of the data using the dashboard.
	Acceptance Criteria	Creating the dashboard and viewing the data insights using it.
	Critical	Yes
	Test Result	Pass
	Comments	Approved and checked by Product Owner
Story ID: 6	Story Title	Dataset owner and Dashboard creator users can share dashboard
	User Story	As a user I want to share the dashboard So that other users can get the shared dashboard and use it to check insights.
	Acceptance Criteria	Dashboard will be shared with others, and they successfully receive it.
	Critical	No
	Test Result	Pass
	Comments	Approved and checked by Product Owner
Story ID: 7	Story Title	Dashboard will be available online.
	User Story	As a user I want to view/create/share the dashboard any time So that users can use the dashboard to check insights.

	Acceptance Criteria	Users can access the dashboard 24 hours.
	Critical	Yes
	Test Result	Pass
	Comments	Approved and checked by Product Owner
Story ID: 8	Story Title	Regular users can see the shared dashboard
	User Story	As a user I want to view the shared dashboard So that I can get some insight and information with what the dashboard is all about
	Acceptance Criteria	Regular users can view the dashboard that was shared
	Critical	No
	Test Result	Pass
	Comments	Approved and checked by Product Owner

13 Project dimensions

Success dimensions

- Complete the objective of the project.
- Good communication and relationship with client and satisfaction of the client

Challenges dimensions

- Hard to make the prototype properly in the given time scope.

Failure dimensions

- Fail to implement the prototype in real-time during the given time scope.

14 Conclusion

The project was highly beneficial for the entire team, as we learned a lot from it. We got the chance to interact with the PO, who supported us from the beginning of the project till the end. We understood the requirements very well, applied Agile methodology, and used Jira software to create user stories. We understood that time management is also a highly important skill while performing sprint planning. A Burndown chart was used to measure each sprint. Overall, we learned how to maintain relationships with clients, manage time and perform mockups and prototyping, all of which were very important to us, and it was a good learning curve for all of us.