



Module	Portfolio	Assessment Type
Collaborative Development (5CS024)	2	Individual Report

## **Agriculture Information Management System – Project Manager**

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Group : L5CG2 Group E  
Module Leader: Uday Kandel  
Lecturer : Anmol Adhikari  
Submitted on : May 16, 2022

## **Acknowledgement**

As the project manager of Agriculture Information Management System, I would like to thank every person who has helped me to ensure smooth and successful implementation of the requirements of the project. I would also like to thank the Herald College Kathmandu for offering me the chance to lead this project and gather an experience of real-world project management that I wouldn't have gotten from anywhere else.

I would also like to thank my team members, Prajwal Adhikari and Sugat Paudyal, for doing proper collaboration with me which helped flow the project's progress smoothly. I would also like to thank my family and friends for constantly motivating me to push myself through the limits which helped me to face the challenges that I got with the role of project manager. I also wouldn't be able to complete in time without proper guidance from my peers, friends, and teachers.

I would like to thank Uday Kandel sir for teaching the contents in the lecture with great motivation and energy which increased my attention in the lecture. I would also like to thank my tutor, Mr. Anmol Adhikari, for providing support and feedbacks on this task due to which I was able to correct many mistakes. I, personally, would like to thank Anmol Adhikari sir even more for the time he allocated to help me gain feedbacks on my work, and to detect the mistakes and errors in this sprint's coursework and solve them.

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## Self-appraisal form

Student number	2058939	Name	Sujan Neupane
Project	Agriculture Information Management System	Date	16 May, 2022
Role	Project Manager	Team	L5CG2 (group E)
Sprint (1 or 2)	2		

## Personal objectives – performance measurement

Objectives	Evidence provided	Evaluation Student / tutor
People and project management	<p>As a project manager in second sprint, I used Gantt charts and WBS to track and report the project's current status throughout the sprint. I assigned tasks to business analyst and developer, and scheduled meetings using basecamp as my main platform. Similarly, I utilized campfire and message board on basecamp and discord to constantly communicate with my team members. To share files relating to the project, I utilized Basecamp's docs and files feature.</p> <p>Screenshots of basecamp and Gantt-chart, WBS, and meetings are provided as the evidence.</p> <p><a href="#"><u>Link to Appendix A</u></a></p>	9
Tutor feedback:		

<b>Objectives</b>	<b>Evidence provided</b>	<b>Evaluation Student / tutor</b>	
Client presentation	<p>In the second sprint, as a project manager, I was responsible for creating the presentation to showcase our group's project to the client. I was responsible to make sure that the clients would be impressed with our product by giving a proper, professional and effective presentation. As a project manager, I lead the presentation on the final day of week 11 and presented our group's project to the clients.</p> <p>Screenshots of the client presentation and user manual documentation are provided as evidence.</p> <p><a href="#"><u>Link to Appendix B</u></a></p>	9	
Tutor feedback:			
		18/20	/20

## **Collaboration Document**

### **Evidence of good collaboration**

#### **1. Good communication and file sharing**

Like in sprint 1, I shared necessary files by uploading them in Docs and Files on basecamp. I also messaged and interacted with other team members through campfire. I uploaded the meeting's agenda ahead of time and scheduled the meeting on Basecamp so that others may join by reviewing the agenda. I also collaborated with team members to perform issue tracking. I also shared research papers relating to usability testing on basecamp's docs and files feature so that the project will fulfil usability requirements.

The evidence is provided as screenshots of basecamp and discord.

[Link to Appendix C](#)

#### **2. Continuing Personal Development (CPD)**

While leading the project as a project manager, I acquired skills such as management, documentation, communication, and research. Furthermore, I also took YouTube lesson videos on being an effective team manager. I also read different articles and journals to improve myself as a qualified project manager. I also learned to create a user manual and prepare for the final presentation, which has helped enhance my research and presentation skills.

The evidence is provided as screenshots of YouTube courses, articles, and journals.

[Link to Appendix D](#)

### **3. Issue tracking**

Like in the first sprint, there were several bugs in the project's software in this sprint. As a project manager, I was responsible for supplying precise insight and guidance to the team during the times of problem. I constantly raised issues in the project's GitHub repository, in coordination with the developer and business analyst, if the requirements were not fully addressed and assisted in their resolution. I ensured that all the tracked issues were resolved properly, guaranteeing that the project was completed successfully and without complications.

Screenshots of personal contributions to GitHub are provided as evidence.

[Link to Appendix E](#)

## Appendix A

For people and project management section, I will add images from Basecamp, Gantt-Chart, WBS, and meetings.

### 1. Gantt-chart

I have added the screenshot of the Gantt-chart below.

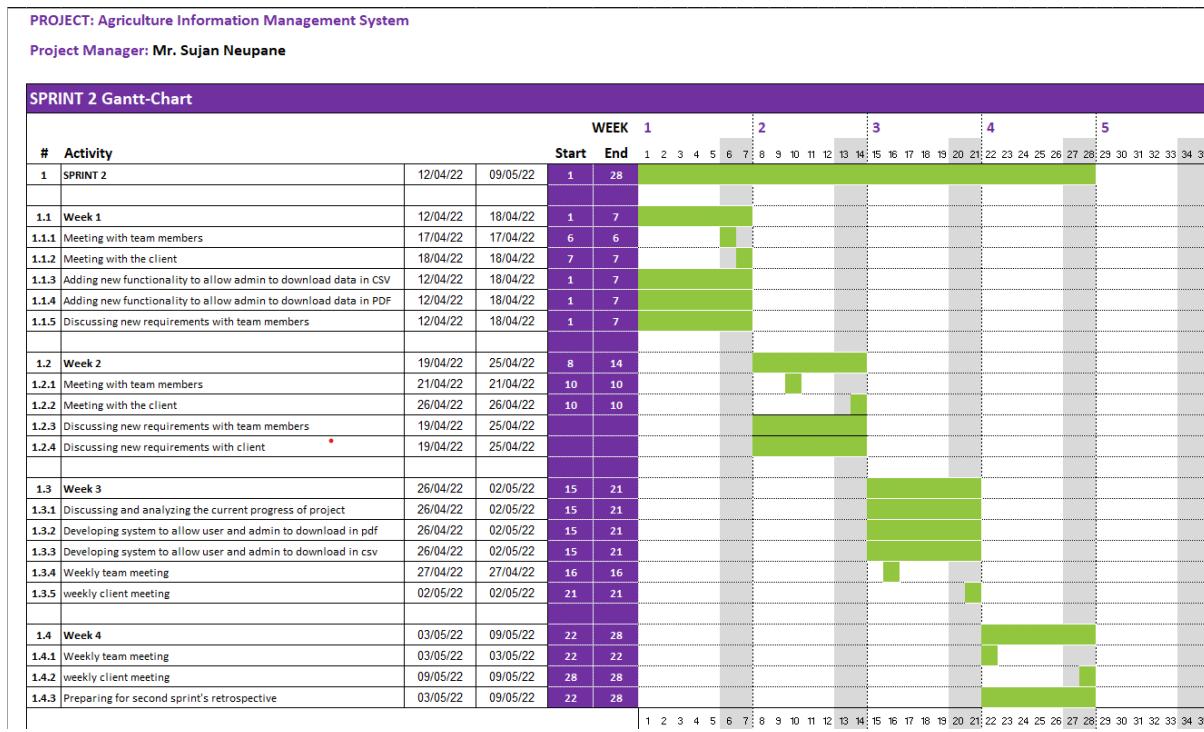


Figure 1 Sprint 2 Gantt-Chart

A Gantt-chart, simply, is a graphical depiction of a project's schedule (Grant, 2021).

## 2. Work Breakdown Structure

I will add the table below showcasing the breakdown of the work structure for sprint 1 of Agriculture Information Management System.

**Scrum Master: Mr. Sujan Neupane**  
**Project: Agriculture Information Management System**  
**Sprint: 2**

No	Type of task	Description of task	Responsible person(s)	Deadline	Status
1	<b>Week 1</b>				
1.1	Sub-task	Wireframes for Function to download data into csv file for admin	Sugat Paudyal	4/18/2022	Completed
1.2	Sub-task	Wireframes for Function to download data into PDF file for admin	Sugat Paudyal	4/18/2022	Completed
1.3	Sub-task	Function to download data into PDF file for admin	Prajwal Adhikari	4/18/2022	Completed
1.4	Sub-task	Function to download data into CSV file for admin	Prajwal Adhikari	4/18/2022	Completed
2	<b>Week 2</b>				
2.1	Sub-task	Gather new productive ideas for project	Sugat Paudyal	4/26/2022	Completed
2.2	Sub-task	Optimize product's software	Prajwal Adhikari	4/26/2022	Completed
3	<b>Week 3</b>				
3.1	Sub-task	Create wireframes for system to allow user to download data in csv and pdf file format	Sugat Paudyal	5/2/2022	Completed
3.2	Sub-task	Developing system to allow user and admin to download in pdf	Prajwal Adhikari	5/2/2022	Completed
		Developing system to allow user and admin to download in csv	Prajwal Adhikari	5/2/2022	Completed
4	<b>Week 4</b>				
4.1	Sub-task	Preparing for sprint retrospective	Sugat Paudyal	5/9/2022	Completed
4.2	Sub-task	Preparing for sprint retrospective	Sujan Neupane	5/9/2022	Completed
4.3	Sub-task	Preparing for sprint retrospective	Prajwal Adhikari	5/9/2022	Completed

Table 1 Work Breakdown Structure (WBS)

A work breakdown structure, also known as WBS, is a software project management tool that integrates scope, cost, and schedules by making sure that the requirements of the project are properly completed (Project Manager, 2022). WBS is very useful for project managers as it allows project managers to break down the scope of their project effectively (Work Breakdown Structure, 2022).

### 3. Basecamp

As a project manager, I am responsible to manage project as well as people. I will add screenshots of team management done on basecamp below.

Like in sprint 1, I managed team and project by using different aspects like message board, schedule, To-Dos, docs and files, and campfire available on basecamp.

In the second sprint, I consistently posted on message board to keep track of team's success and news.

The screenshot shows the Basecamp interface for the 'Agriculture Information Management System' project. The top navigation bar includes links for Home, Lineup, Pings, Hey!, Activity, My Stuff, and Find. The main header is 'Message Board'. A green button on the left says '+ New message'. Below the header, there is a link to 'Continue writing your draft...'. The message list starts with a message from 'SN' congratulating everyone on completing the project. Subsequent messages from 'SN' include 'Hello everyone. How is sprint 2 going?', 'Welcome to Sprint 2', 'Preparing for Sprint Retrospective', 'Please view your corresponding the weekly tasks in To-dos!', 'Hey everyone, How's the work going?', and 'Welcome Everyone'. Each message includes the poster's name and the date it was posted. There are also small numbers indicating the number of replies or interactions for each message.

Figure 2 Second sprint's message board

The image above shows that, I as a project manager, have been consistently posting on message board to get latest news of team's success, problems, and issues.

Like in sprint 1, I consistently added new task for business analyst and developer to complete in this sprint. The deadlines were taken seriously, due to which our project got completed on time.

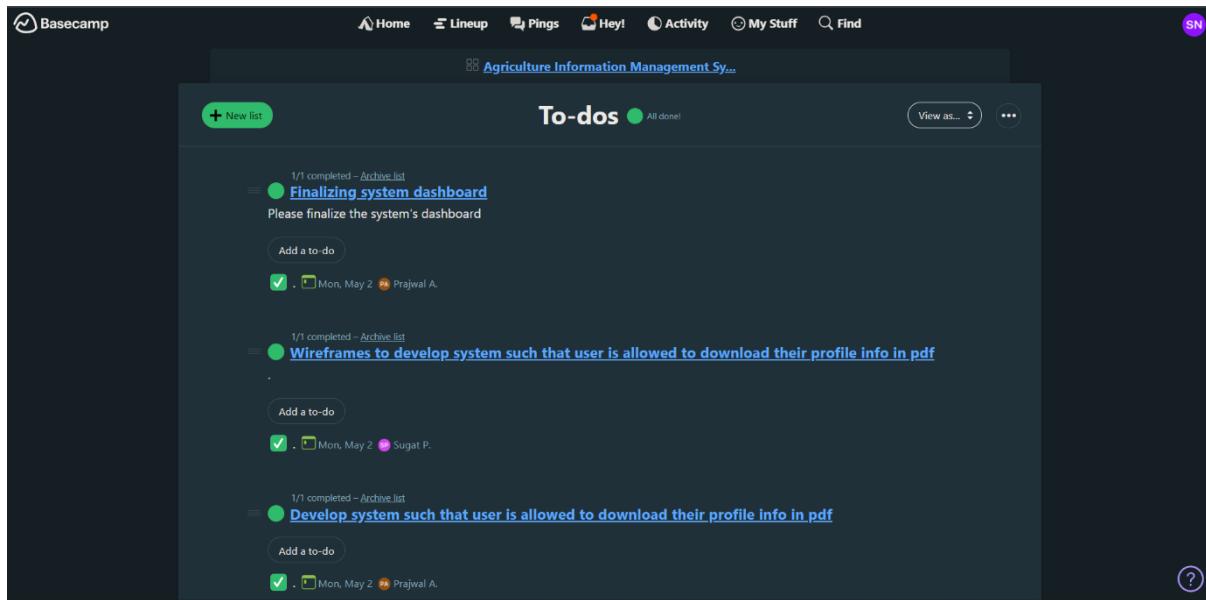


Figure 3 Sprint 2 To-dos

Similarly, I also added relevant files on the Docs & Files portal like meeting agendas, WBS, and Gantt-Chart. This helped team to perform better in meetings as they could read and understand meeting agendas beforehand.

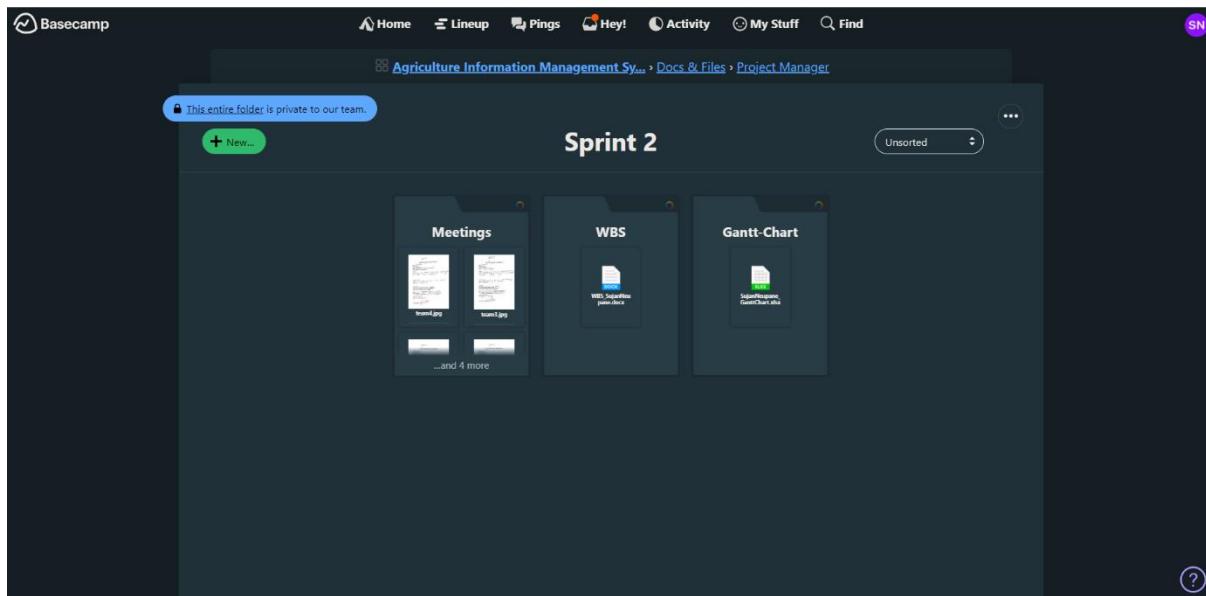


Figure 4 Docs and Files

Using the Schedule option present on basecamp, I held two meetings in a week: Team meeting and client meeting. I will add screenshot below.

The screenshot shows the Basecamp interface with the 'Schedule' tab selected. At the top, there's a navigation bar with links like Home, Lineup, Pings, Hey!, Activity, My Stuff, and Find. Below the navigation is a title bar for 'Agriculture Information Management Sy...'. The main area is titled 'Schedule' and features a monthly calendar view for April 2022 and May 2022. The date 'May 3' is highlighted in a dark box, indicating a scheduled event. Below the calendar, a message reads 'Nothing's on the schedule'. There's also a link to 'Add an event...' and another to 'Show everything up to Oct 31'.

Figure 5 Schedule on Basecamp

Finally, I also consistently messaged on basecamp's campfire to communicate effectively with team members. I helped solve their issues to ensure the smooth functioning of the project.

The screenshot shows the Basecamp interface with the 'Campfire' tab selected. At the top, there's a message stating 'This Campfire is private to our team. Change...' with a lock icon. Below the message is a title bar for 'Agriculture Information Management Sy...'. The main area is titled 'Campfire' and shows a private team chat from 'Friday, April 29'. Participants include Prajwal Adhikari (PA), Sugat Poudyal (SP), and Me (SN). The conversation includes messages like 'I will be there', 'Looks good', 'please be on time for the sprint retrospective', 'hello guys', and 'what have you been up to lately?'. There are also timestamps for each message.

Figure 6 Sprint 2 campfire

In this way, by making effective use of basecamp, I managed my team members as well as project. Effective implementation of basecamp was a key reason for my successful performance as a project manager.

Basecamp is a project management tool that is mainly used for scheduling team meetings, communication, which results in a team being more effective and productive (Basecamp , 2022). In this sprint, I made use of basecamp to continuously communicate and collaborate with my team members.

## 4. Meeting minutes

As a project manager, I, with the help of basecamp, held 8 meetings in total for sprint 2. I held 4 meetings with client and team members each. I will add screenshots of the meetings below.

The image below is of the first meeting with client which was scheduled on first week of the second sprint.

*Sprint 2*

Week 1 Meeting with Client  
60 Minutes

Date: 18/04/2022  
Section: L5CG2  
Group: L5CG2 Group E  
Location: TR-01 Dudley

Agenda:  
→ Gathering new requirement with collaboration with client. Similarly, the main thing we will be doing is Sprint review

Meeting Outcome:  
→ Gathering new ideas for new requirement-Sprint review

Attendance:  
Sujan Neupane, Project Manager, Sign Sujan  
Sugat Poudyal, Business Analyst, Sign Sugat  
Prajwal Adhikari, Developer, Sign Prajwal

Date	Sujan Neupane	Sugat Poudyal	Prajwal Adhikari
18/04/2022	P	P	P

P = Present, A = Absent (apology received), AB = Absent (no apology received)

Agenda for Next Meeting:

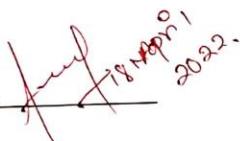
Client Signature   
*18/04/2022*

Figure 7 Sprint 2 first client meeting

The image below is of the first meeting with team which was scheduled on first week of the second sprint.

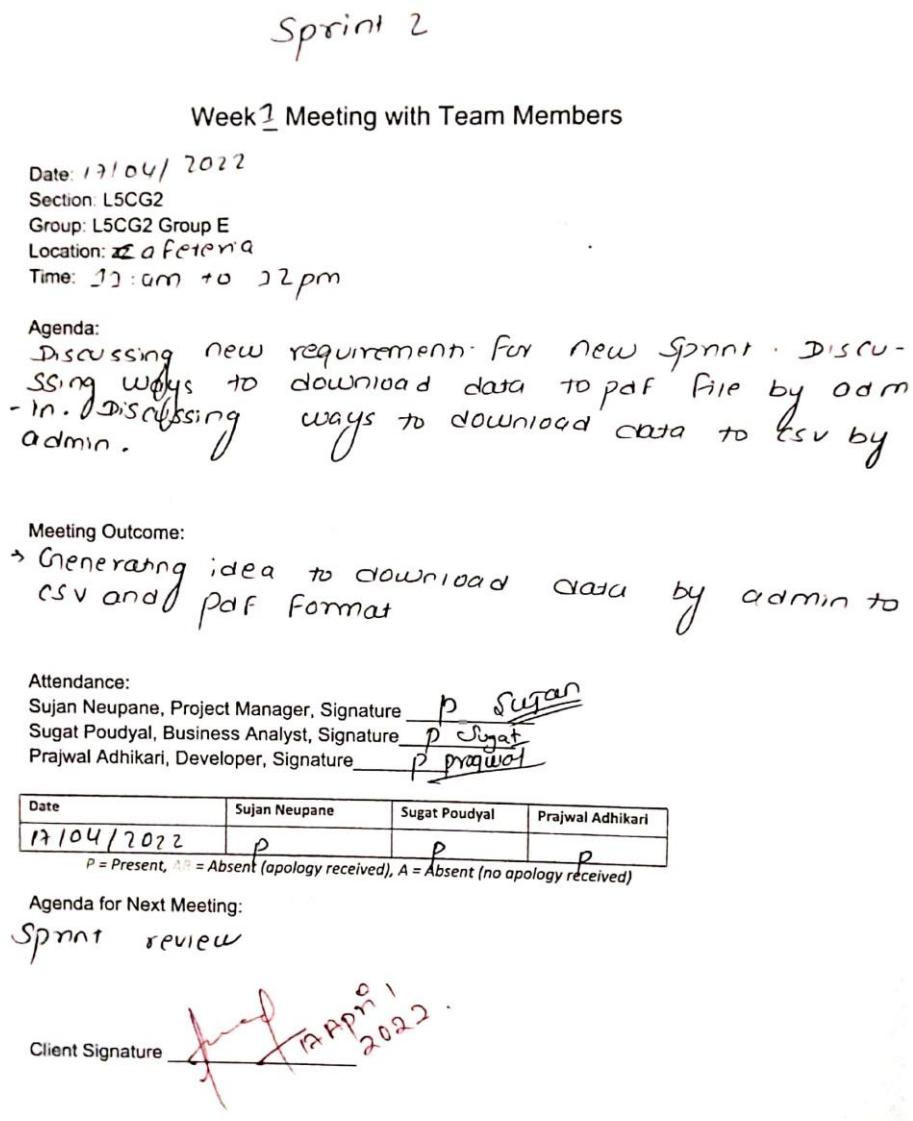


Figure 8 Sprint 2 first meeting with team

The image below is of the second meeting with client which was scheduled on second week of the second sprint.

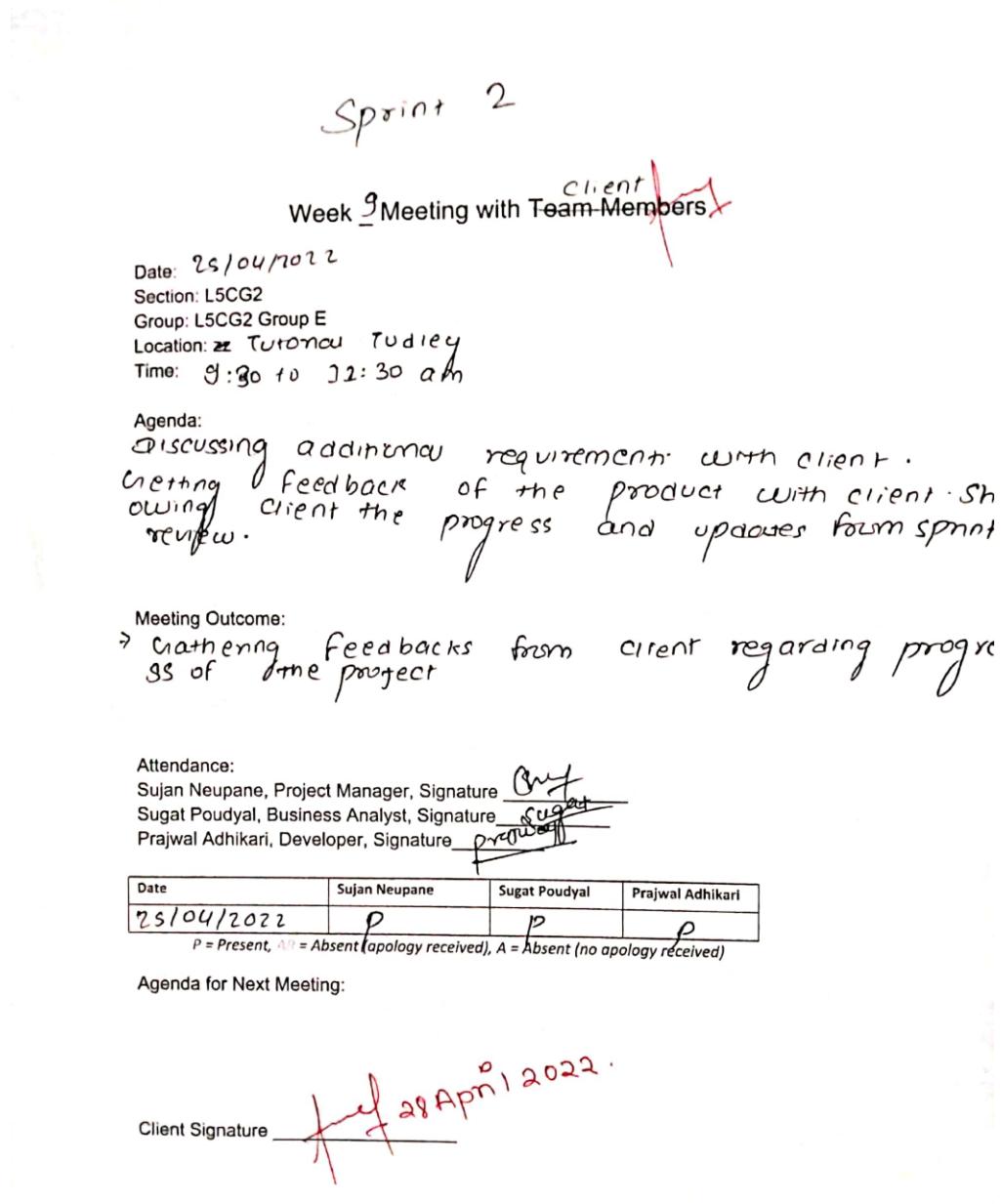


Figure 9 Sprint 2 second meeting with client

The image below is of the second meeting with team which was scheduled on second week of the second sprint.

Meeting minutes for Sprint 2

## Sprint 2

### Week 2 Meeting with Team Members

Date: 21/04/2022

Section: L5CG2

Group: L5CG2 Group E

Location: ~~Office~~ Fetenka block

Time: 11:30 am to 12:30 pm

Agenda:

Discussing additional requirements with team. planning additional possibilities with team. Starting to plan for user manual as well.

Meeting Outcome:

Planned for additional information management system for agriculture

Attendance:

Sujan Neupane, Project Manager, Signature Sujan

Sugat Poudyal, Business Analyst, Signature Sugat

Prajwal Adhikari, Developer, Signature Prajwal

Date	Sujan Neupane	Sugat Poudyal	Prajwal Adhikari
21/04/2022	P	P	P

P = Present, A = Absent (apology received), A = Absent (no apology received)

Agenda for Next Meeting:

Client Signature

*X* 21 April 2022

Figure 10 Sprint 2 second meeting with team

The image below is of the third meeting with client which was scheduled on third week of the second sprint.

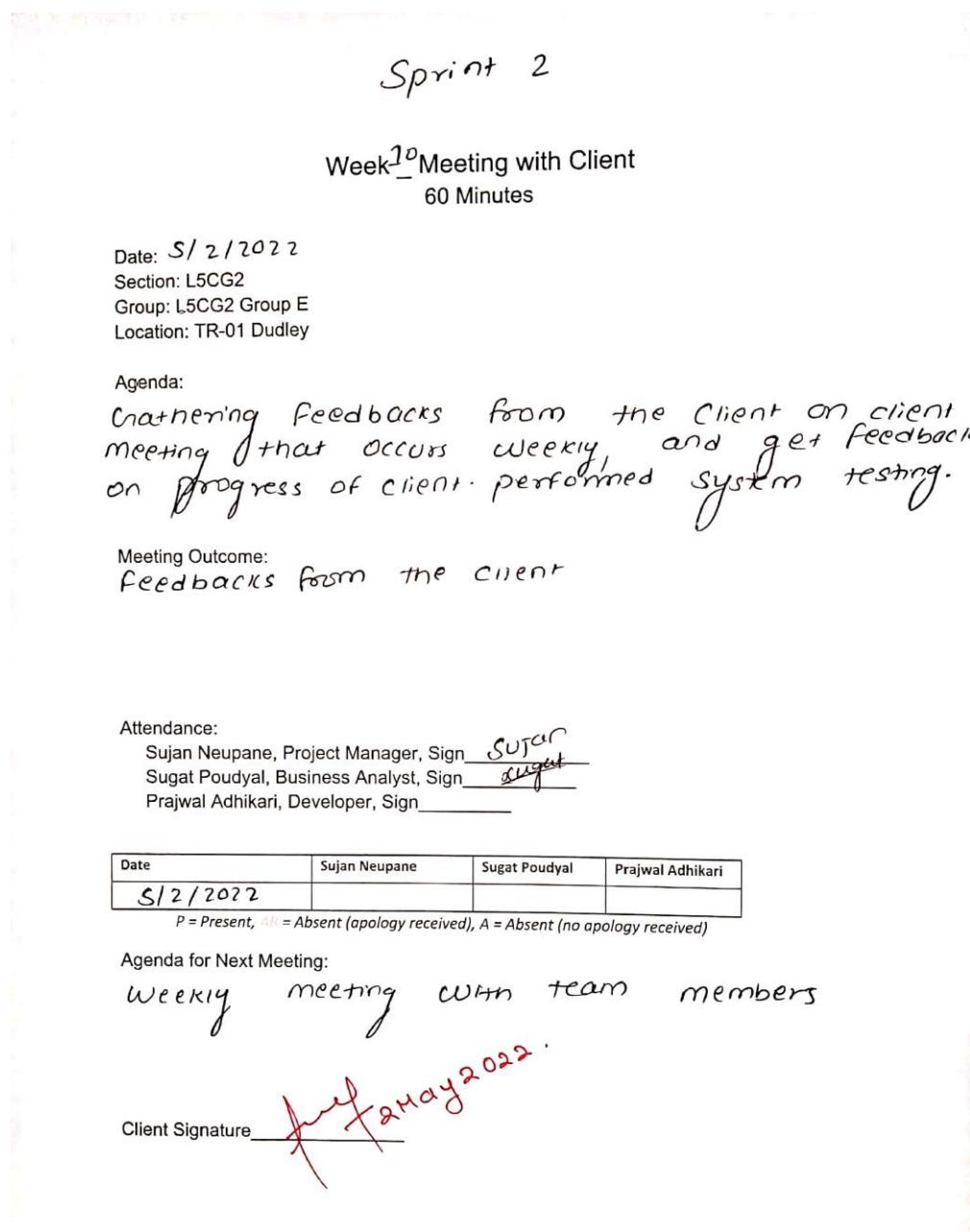


Figure 11 Sprint 2 third meeting with client

The image below is of the third meeting with team which was scheduled on third week of the second sprint.

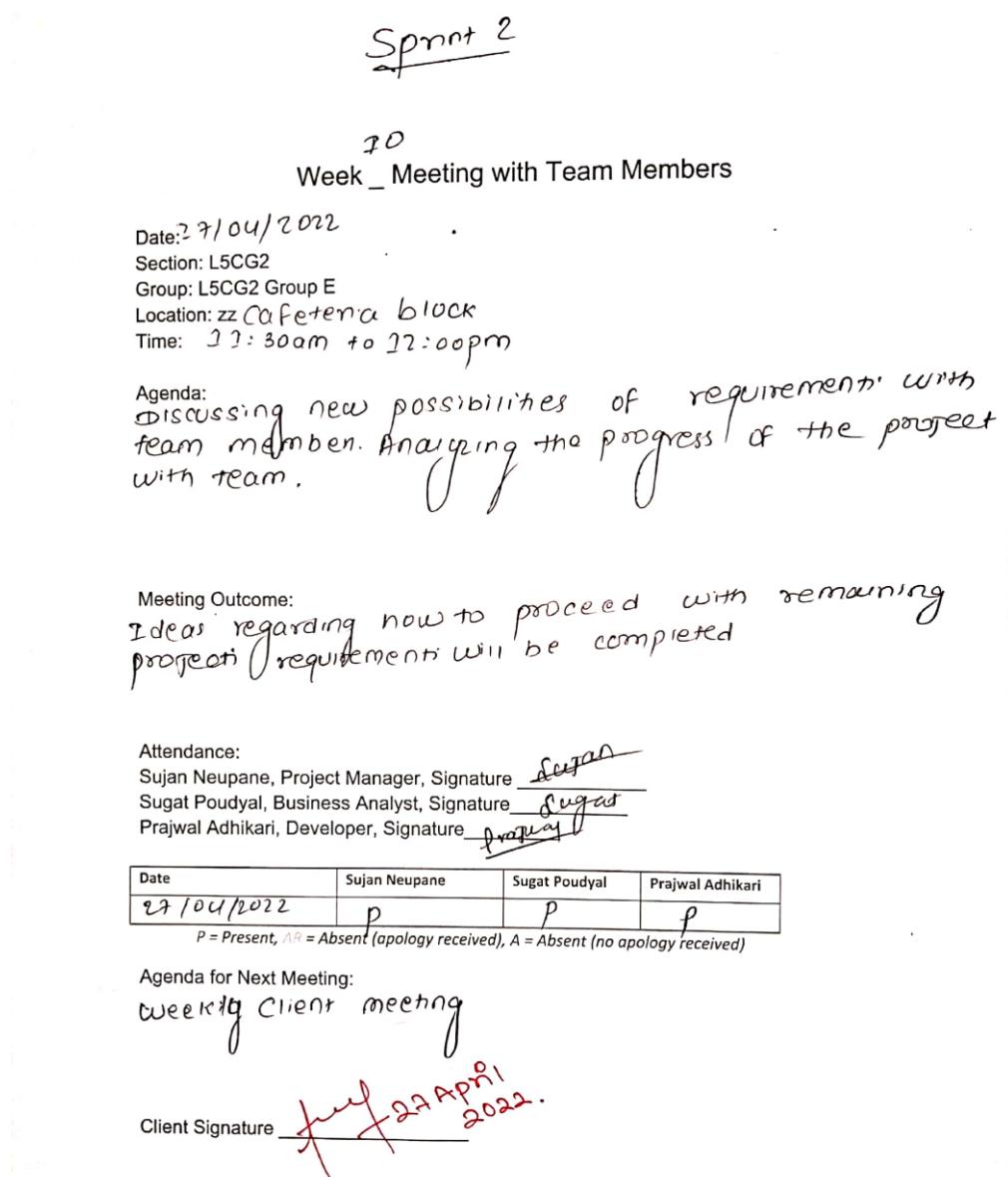


Figure 12 Sprint 2 third meeting with team

The image below is of the fourth meeting with client which was scheduled on fourth week of the second sprint.

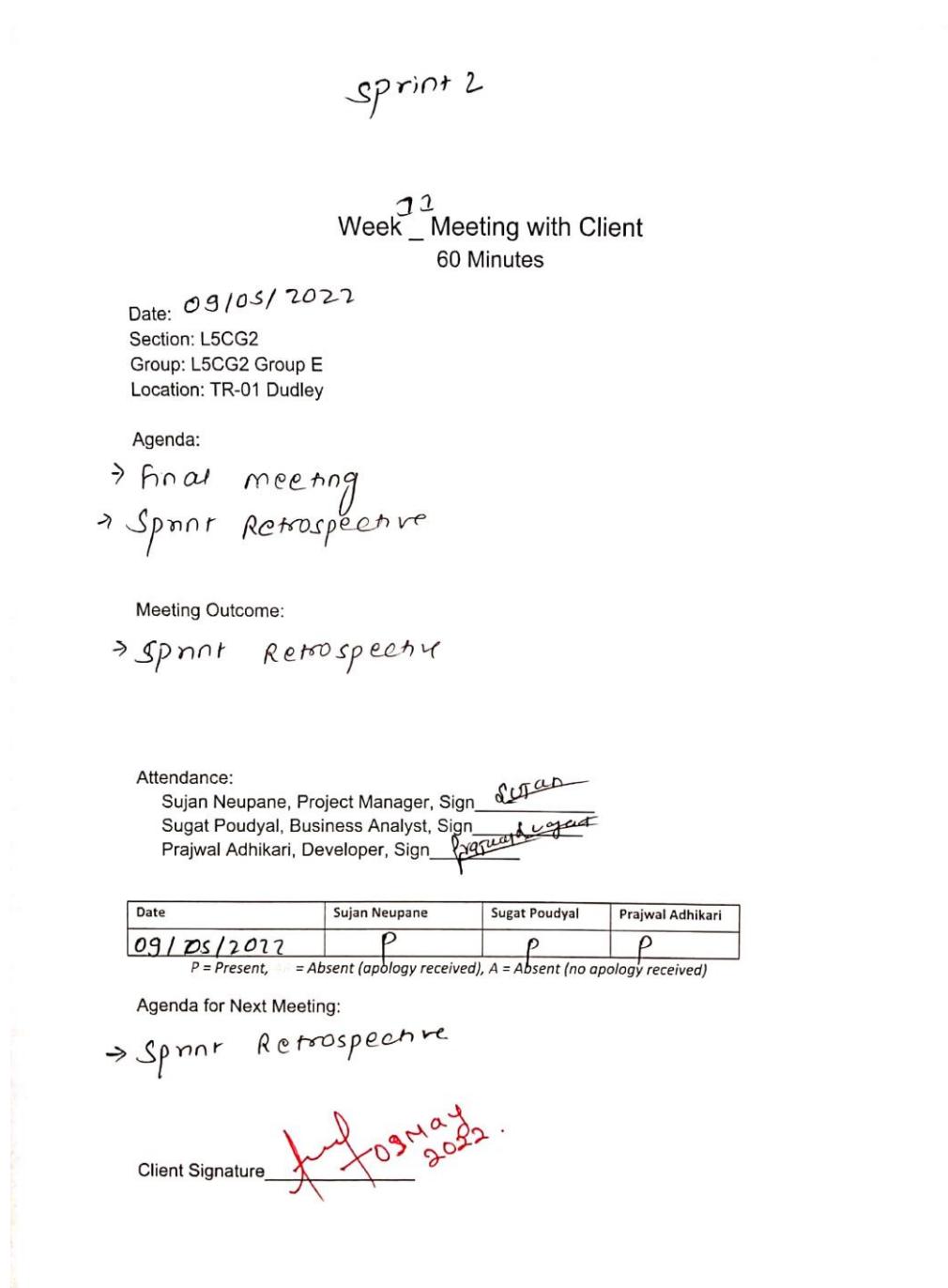


Figure 13 Sprint 2 fourth meeting with client

The image below is of the fourth meeting with team which was scheduled on fourth week of the second sprint.

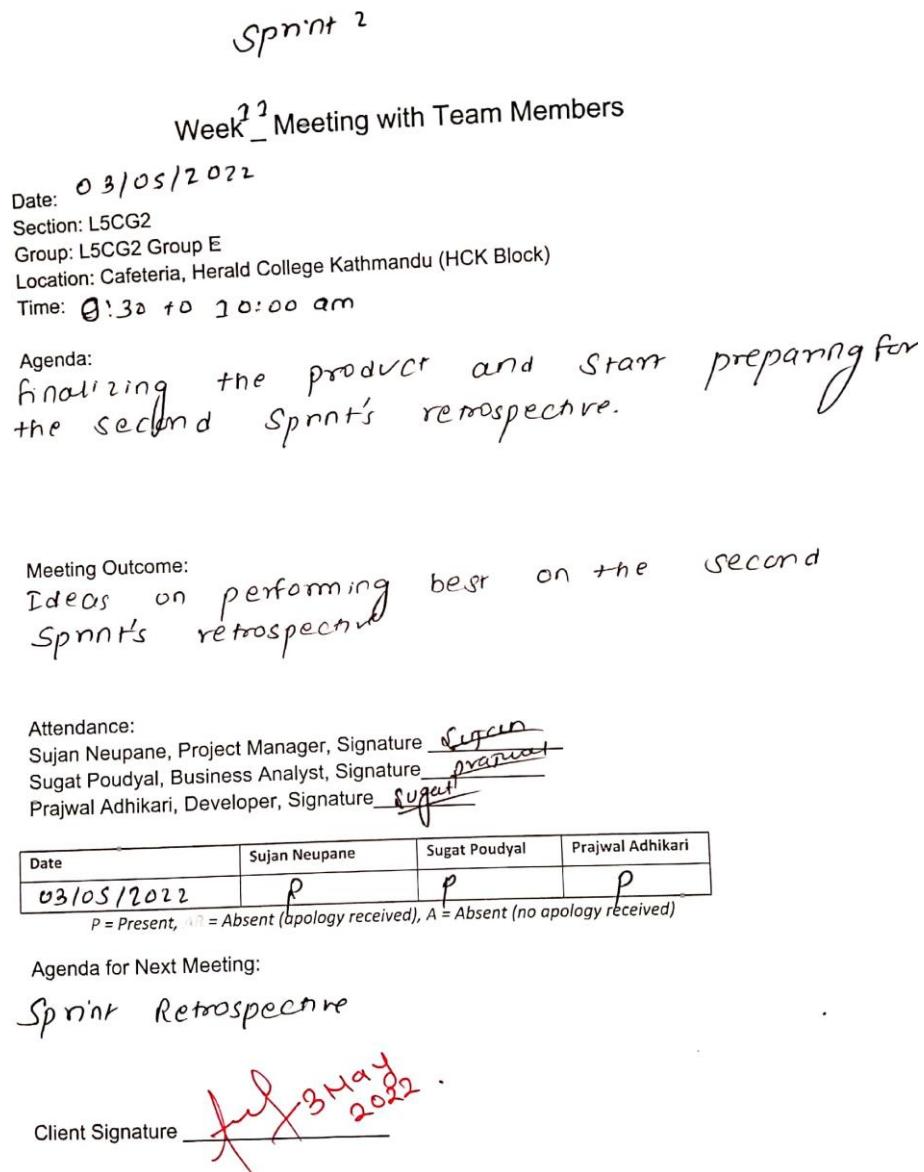


Figure 14 Sprint 2 fourth meeting with team

In this way, I held 4 different meetings with the client in workshop classes across the second sprint. Similarly, I also held 4 different meetings with team members in this sprint.

## 5. Meeting Schedule

As the project manager, I was responsible to schedule meeting on basecamp. I will add below the meetings that I scheduled on basecamp.

The image below shows the first meeting scheduled with team on basecamp.

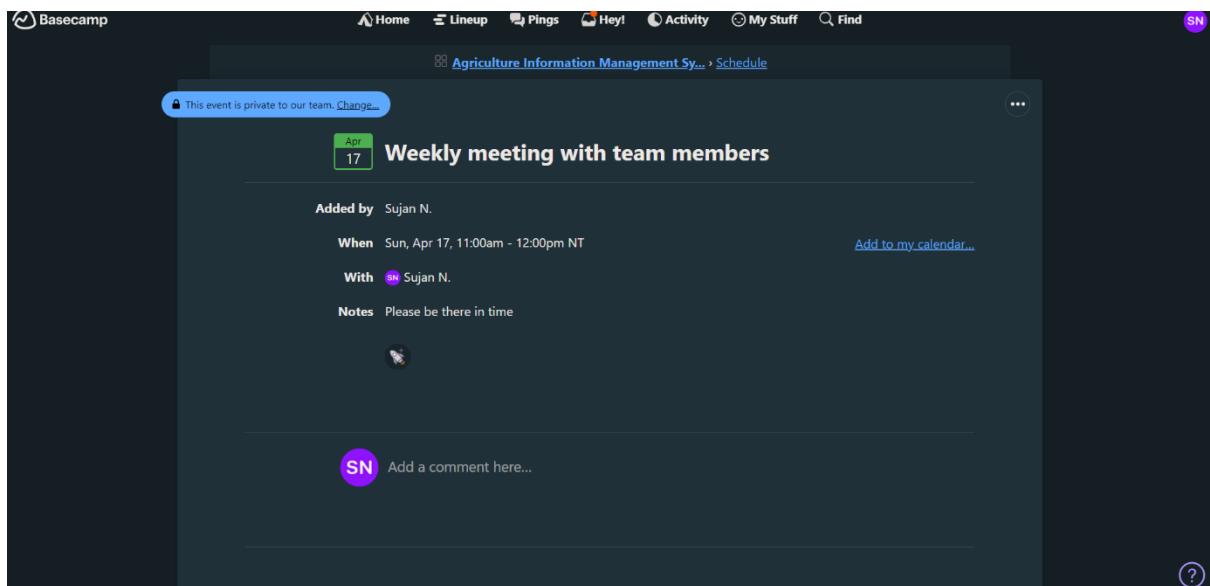


Figure 15 Scheduling first team meeting

The image below shows the second meeting scheduled with team on basecamp.

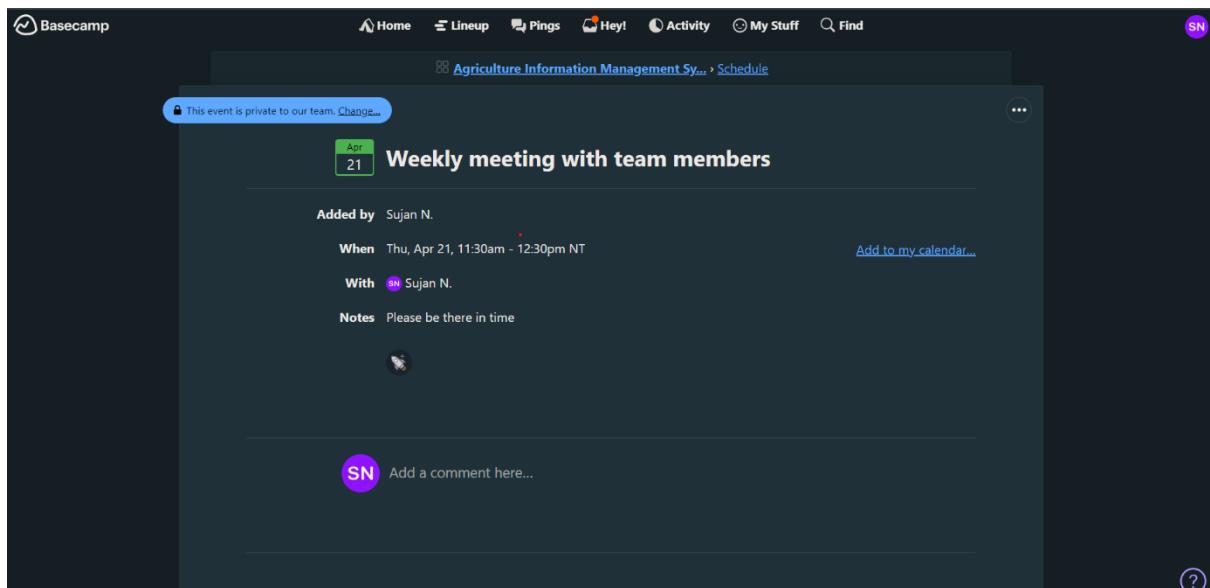


Figure 16 Scheduling second team meeting

The image below shows the third meeting scheduled with team on basecamp.

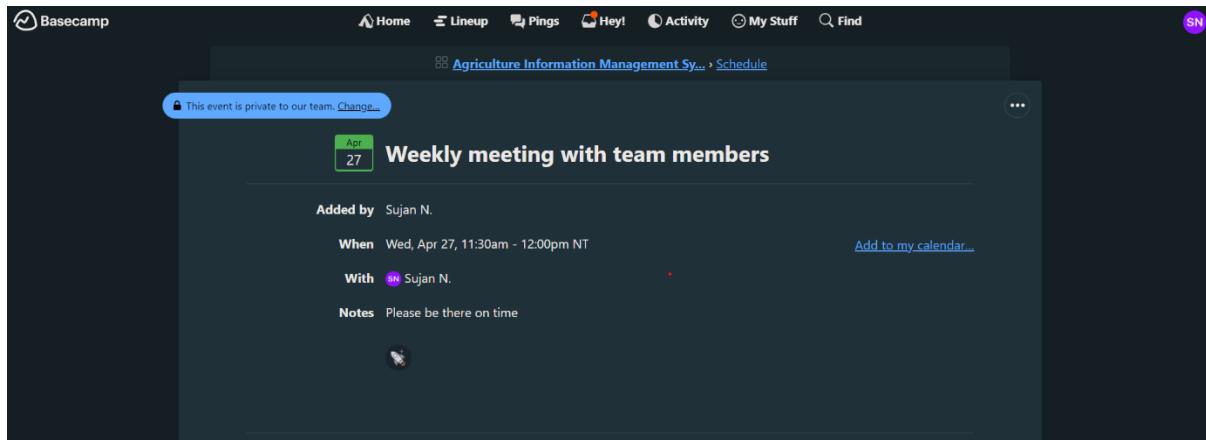


Figure 17 Scheduling third team meeting

The image below shows the fourth meeting scheduled with team on basecamp.

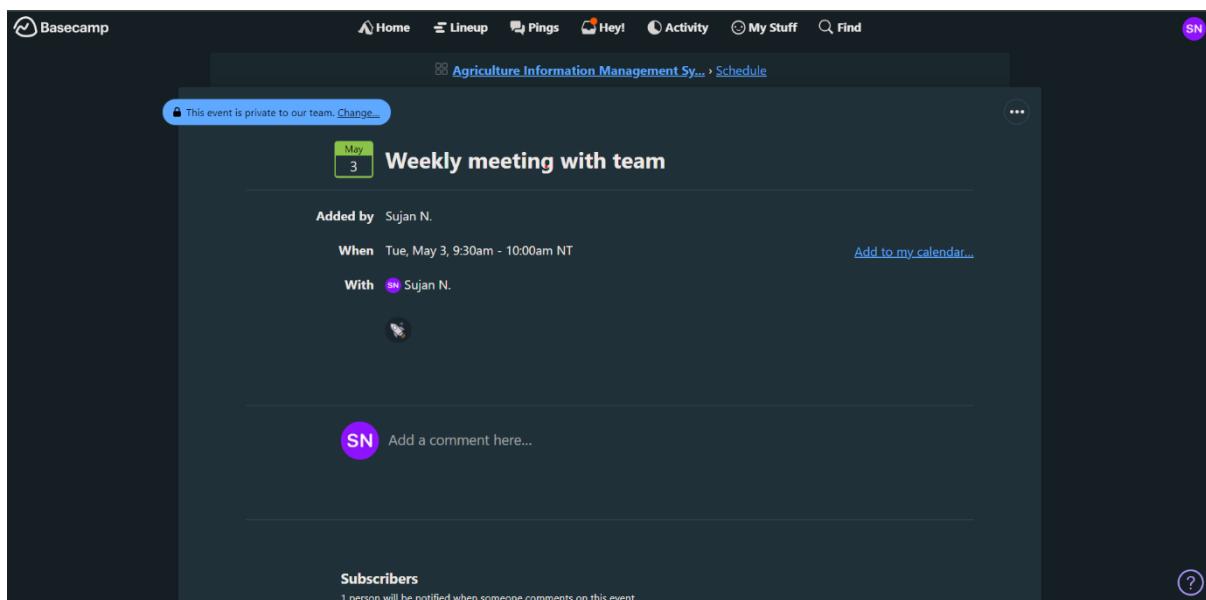


Figure 18 Scheduling fourth team meeting

In this way, using basecamp, I scheduled 4 different team meeting across 4 weeks of second sprint. Similarly, in the next pages, I will provide screenshots as evidence for the meetings scheduled with client across sprint 2.

The image below shows the first meeting scheduled with client on basecamp.

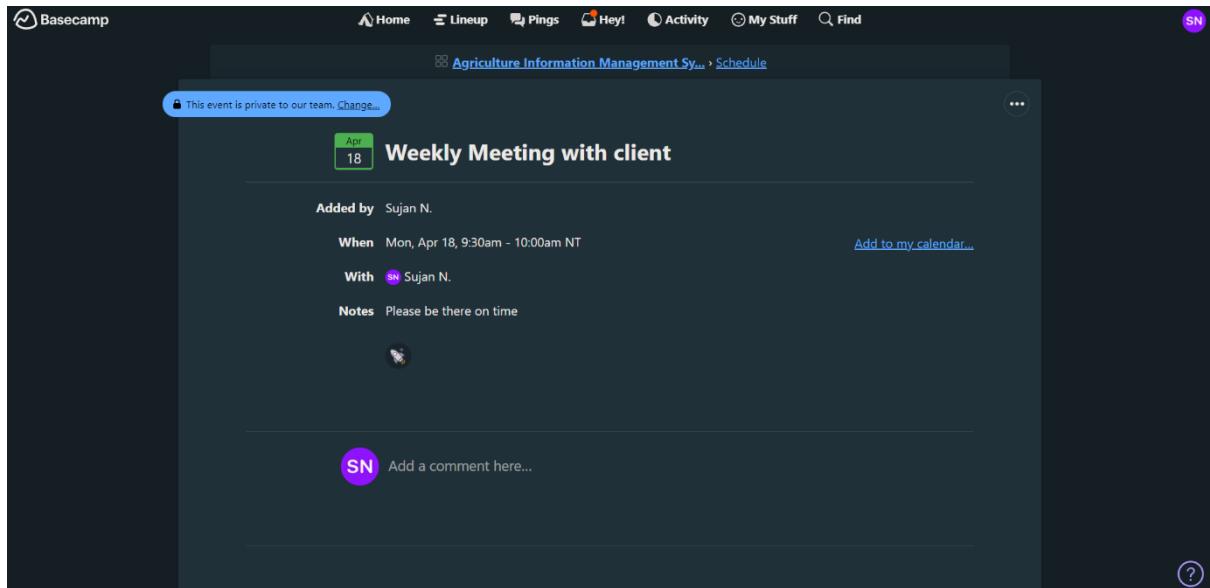


Figure 19 Scheduling first client meeting

The image below shows the second meeting scheduled with client on basecamp.

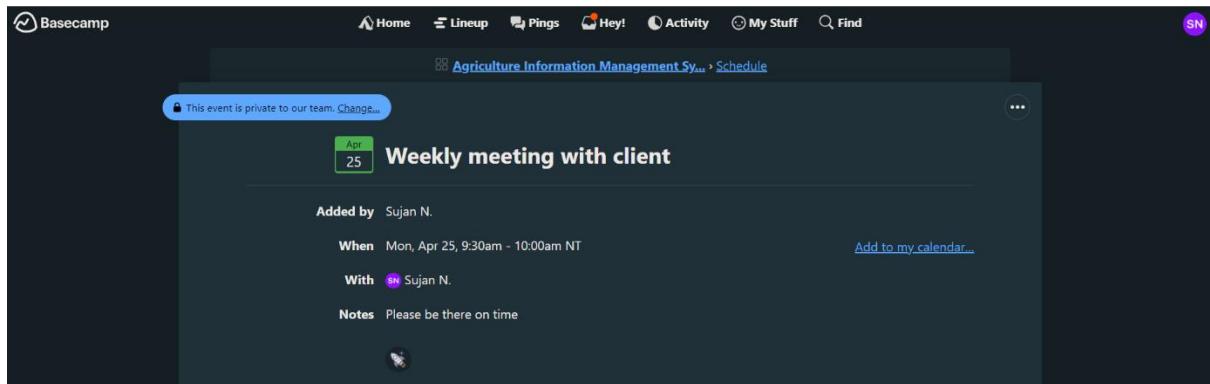


Figure 20 Scheduling second client meeting

The image below shows the third meeting scheduled with client on basecamp.

A screenshot of a Basecamp interface. At the top, there are navigation links: Home, Lineup, Pings, Hey!, Activity, My Stuff, and Find. A purple circular icon with the letters 'SN' is in the top right corner. Below the navigation, the title 'Agriculture Information Management Sy... > Schedule' is visible. A message box says 'This event is private to our team. Change...' with a lock icon. The main content area shows a meeting titled 'Weekly meeting with client. Please be there on time' for May 2. It was added by 'Sujan N.' on 'Mon, May 2, 9:30am - 10:30am NT'. There is a link to 'Add to my calendar...'. The 'With' field shows 'Sujan N.' with a small profile picture. A comment input field has 'SN' and the placeholder 'Add a comment here...'. At the bottom, a 'Subscribers' section indicates '3 people will be notified when someone comments on this event.' and a help icon with a question mark.

Figure 21 Scheduling third client meeting

The image below shows the fourth and final meeting scheduled with client on basecamp.

A screenshot of a Basecamp interface, identical to Figure 21 but for a different meeting. The title is 'Final meeting with client(Sprint retrospective)' for May 9. The details are: Added by 'Sujan N.', When 'Mon, May 9, 9:30am - 12:30pm NT', and With 'Sujan N.'. The rest of the interface, including the comment section and subscriber notification, is also identical.

Figure 22 Scheduling fourth client meeting

In this way, for managing people and process, I have made use of Gantt-Chart, WBS, and basecamp. Through basecamp, I scheduled and held meeting with client and team members, resulting in total meeting held on sprint 2 equalling to 8.

## 6. Attendance

In my team, every member was fully conscious of the importance each team meeting holds. Therefore, the attendance in our team for meetings is 100 %. I will add two tables, below showing the attendance for my team, for team and client meetings.

For client meetings

Date	April 18	April 25	May 2	May 9
Name				
Sujan Neupane	P	P	P	P
Prajwal Adhikari	P	P	P	P
Sugat Paudyal	P	P	P	P

Table 2 Client meeting attendance table

For team meetings

Date	April 17	April 21	April 27	May 3
Name				
Sujan Neupane	P	P	P	P
Prajwal Adhikari	P	P	P	P
Sugat Paudyal	P	P	P	P

Table 3 Team meeting attendance table

We can clearly see that my team has 100 % attendance.

In this way, I made effective use of Basecamp, WBS, Gantt-Chart, and meetings to manage my team as well as the project. The reason our team's project was successfully completed in time was due to my effectiveness as a project manager. I was able to be a qualified project manager due to the help of above steps.

## Appendix B

### 1. Client Presentation

I will add the screenshots of the slides and link to the official client presentation.

Some of the screenshots are provided below.

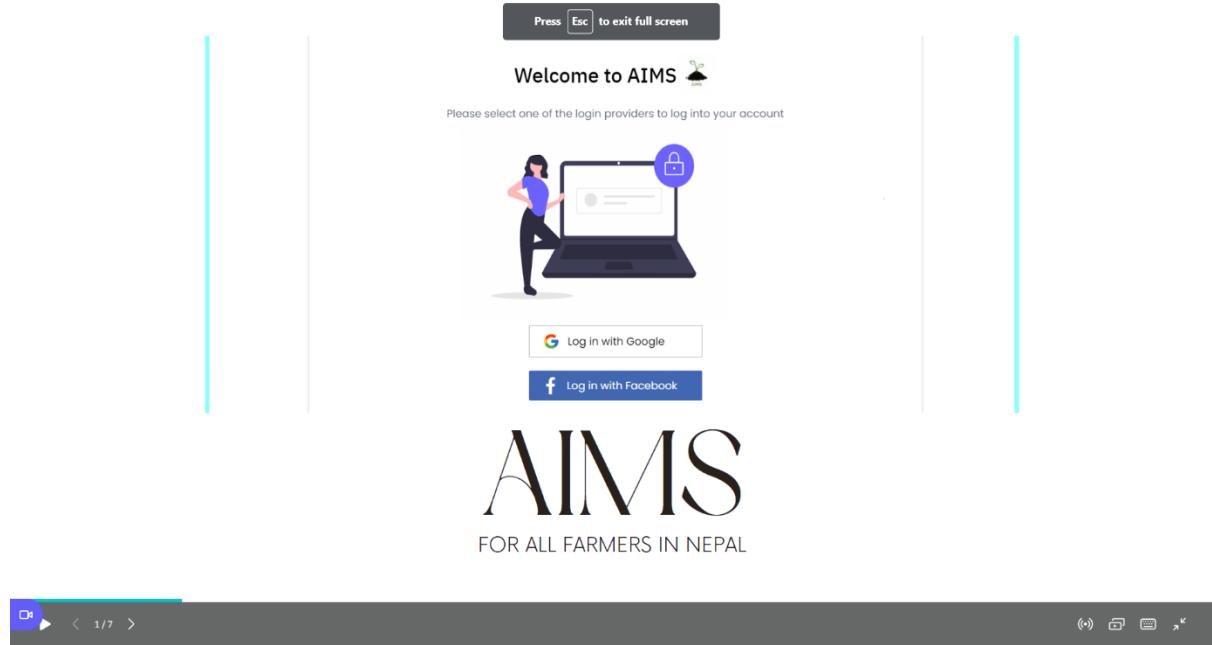


Figure 23 Client presentation 1

# Background

- Nepal is rich in biodiversity.
- Nepal's major crops are rice, wheat, maize, etc.
- Nepal has enough water supply.
- About 66 % of the population is directly involved in farming.
- So, the audience for our system is huge.



Figure 24 Client presentation 2



# Present Scenario

- Lack of proper system in place.
- High illiteracy among farmers.
- Lack of marketing facilities.
- Lack of distribution facilities.



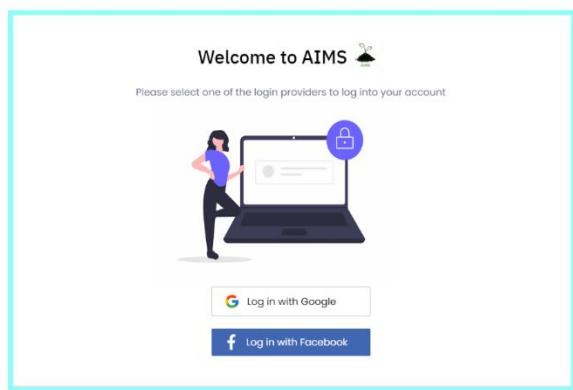
Figure 25 Client presentation 3

## Similar Products



Figure 26 Client presentation 4

## AIMS



### Services to offer

- Well established agriculture management
- Latest market price from across Nepal
- Download user statistics



Figure 27 Client presentation 5

Furthermore, I will add the link to the presentation slides. Through this [link](#), you can view our group's presentation.

## 2. Operational Manual for Agriculture Information Management System

### ➤ Opening Website

Steps:

1. User should first open a browser (Opera, Firefox, Brave etc.)
    - User can open any browser such as opera, Firefox, Brave and Edge.
  2. User should open <http://localhost:3000/> in their browser as the project is not completely deployed yet.
    - User needs to open their web browser first and open the above link to open the system into their local computer.
- 

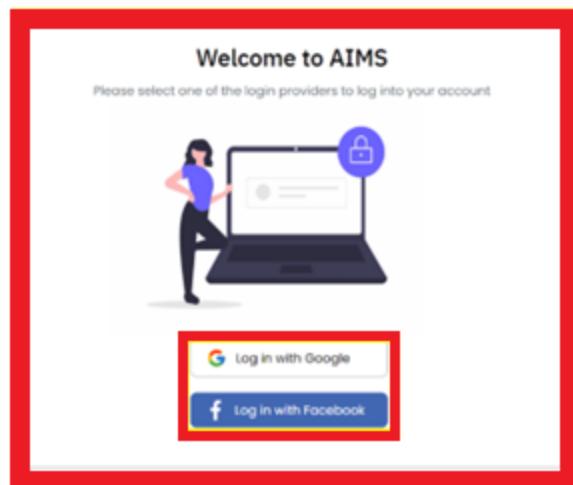


Figure 28 Starting page of AIMS

3. After opening the link provided, the user has a choice to either logging into the system using their Facebook or google account.

## ➤ Login / Sign up

**Note:** Login and sign up automatically happens in login page. Even if a user does not have an **AIMS** account, he/she is automatically signed up and logged in using their Google/Facebook account.

Steps:

1. If the user is already logged in, the application automatically redirects them to the dashboard page. If not, the application redirects to the login page.
2. Choose one of the login options (Google or Facebook).
  - The user is given freedom to choose login method of their choice.
  - The user can choose to login into their **AIMS** account using their google account.
  - The user can also choose to login into their **AIMS** account using their Facebook account.

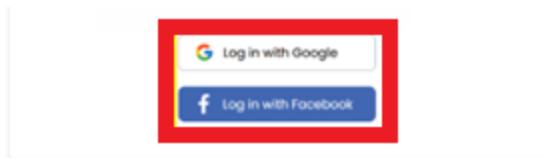


Figure 29 Choosing a login method

3. Clicking on one of these options opens their respective authentication page.

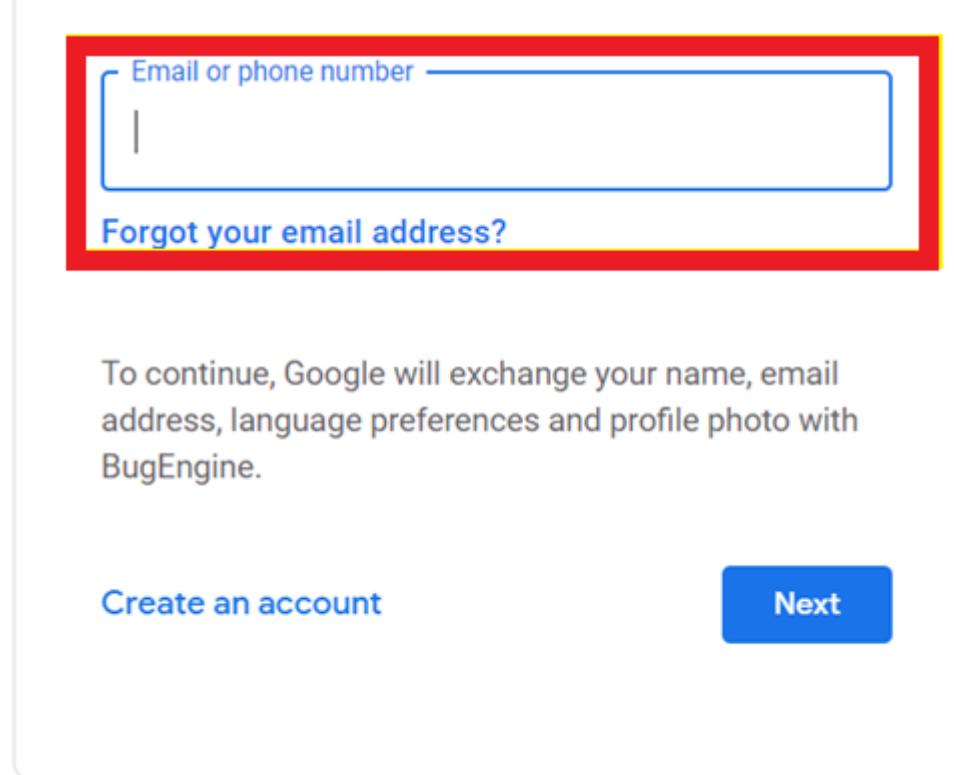


Figure 30 Using google account

- From the image above, user can choose to use their google account to enter the system. In doing so, google prompts the user to enter the credentials of their google account, and automatically sets up the **AIMS** account using the user's google account.

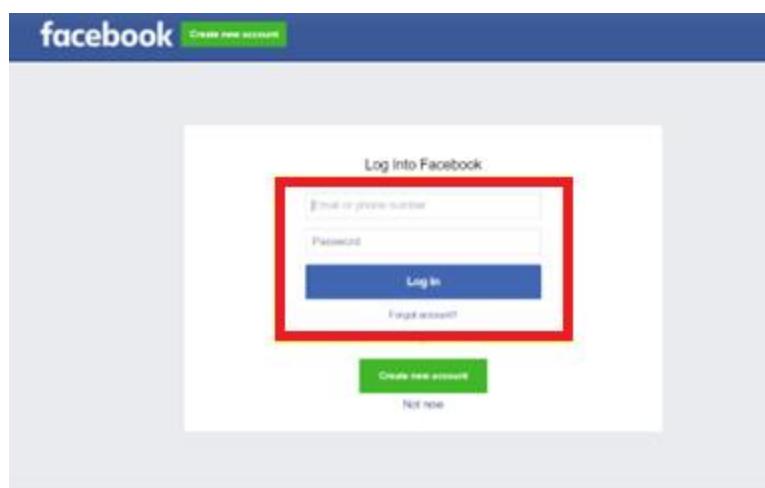


Figure 31 Using Facebook account

- From the image above, user can choose to use their Facebook account to enter the system. In doing so, Facebook prompts the user to enter the credentials of their Facebook account, and automatically sets up the **AIMS** account using the user's Facebook account.
4. If the user has logged in the application before but is currently logged out, the authentication page is skipped and is redirected to the application dashboard.
- This also means that, if a user has a valid Facebook account, the user can choose to login with Facebook account. In such case, the user is automatically signed up by their corresponding Facebook account and directed to the Farmer's dashboard.
  - This also means that, if a user has a valid google account, the user can choose to login with google account. In such case, the user is automatically signed up by their corresponding google account and directed to the Farmer's dashboard.

**Note:** There are only two users in the system: Farmer and Admin. By default, there is only one admin account assigned in the system. Farmers can sign up with their Facebook or google account respectively.

## ➤ Admin's Dashboard

Steps:

1. If a user's account (Google or Facebook) is set as admin in database, that user is directed to admin's dashboard.
  - Since there is only one admin in the entire system, there are no methods for other users to create admin account using their google or Facebook account.

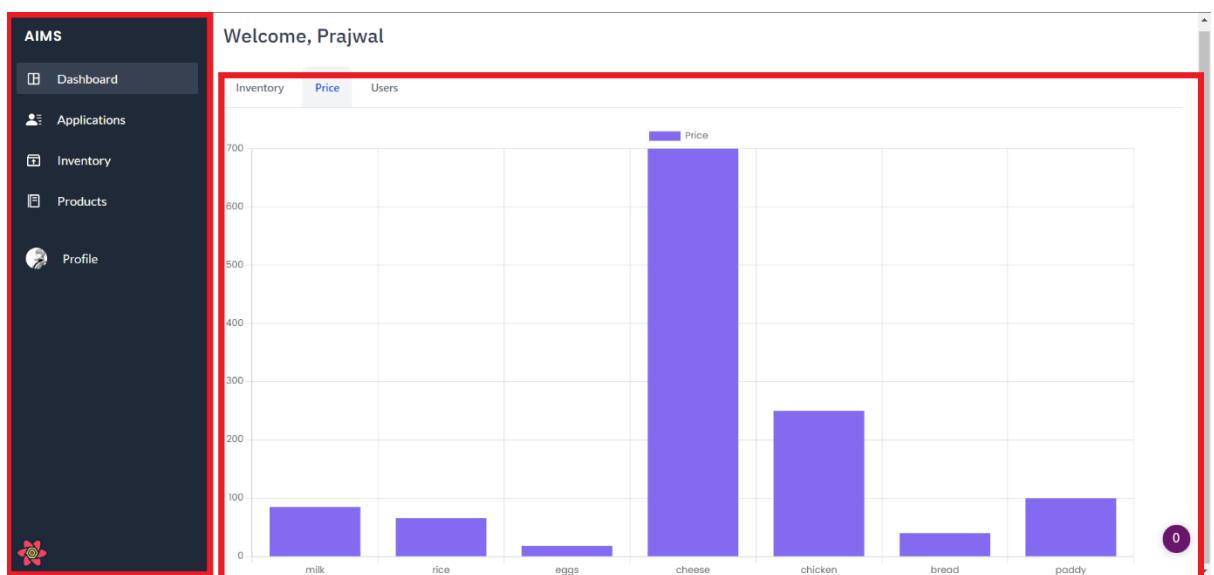


Figure 32 Admin account dashboard

2. Admin can view charts relating to price, users, and inventory in the homepage.
  - From figure 5 above, admin can see bar plots and other types of charts of crops added on the system.
  - Similarly, admin can also see charts like line graphs with respect to the number of users added in the system in a given time.
3. Admin can also select options in the left panel like applications, inventory, and products.
  - From the panel in the left, admin can select different other options like Applications, Inventory, and Products.
  - In the Applications option, admin can choose to accept or reject KYC applications submitted by other users (Farmers). Admin can check their

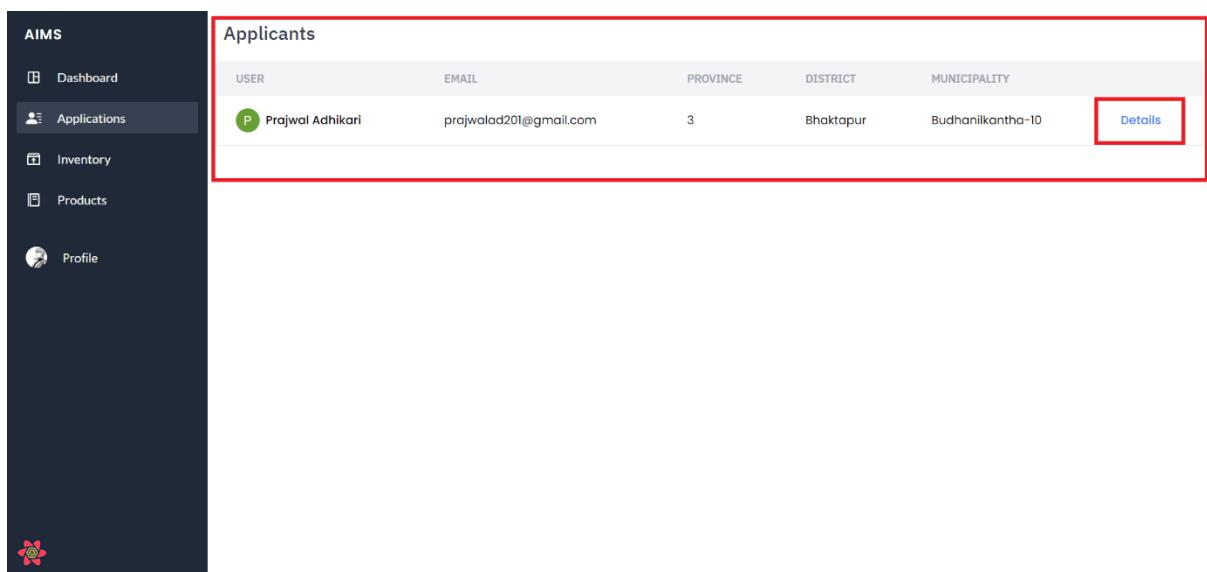
credentials and accept or reject their application based on how valid the profile of a farmer is.

- A farmer is unable to add new crops into their profile unless their KYC application is successfully accepted by the admin. So, the farmers should add legit and proper information on the KYC form to be submitted.
4. Admin can also select profile option and can log out of system if they wish to do so.
- From the final option available on the left panel of the admin's dashboard, admin can choose to log out of the system as well.
  - Admin can also check out their profile by clicking on the Profile option available on the left panel of the dashboard.

## ➤ Admin's Applications

Steps:

1. Admin can view the KYC of different applicants and select an applicant to view their application.



Applicants				
USER	EMAIL	PROVINCE	DISTRICT	MUNICIPALITY
Prajwal Adhikari	prajwalad201@gmail.com	3	Bhaktapur	Budhanilkantha-10

Figure 33 Applicants' applications

- In the Applications section available on admin's dashboard, the admin views the KYC applications submitted by farmers on **AIMS**.
- From the figure 6 above, the admin can choose to click on details to view the credentials available on KYC application submitted by farmers.
- Based on the validity of the data on the application, the admin chooses to accept or reject the farmer's KYC.

2. Click on details to see the full KYC application.

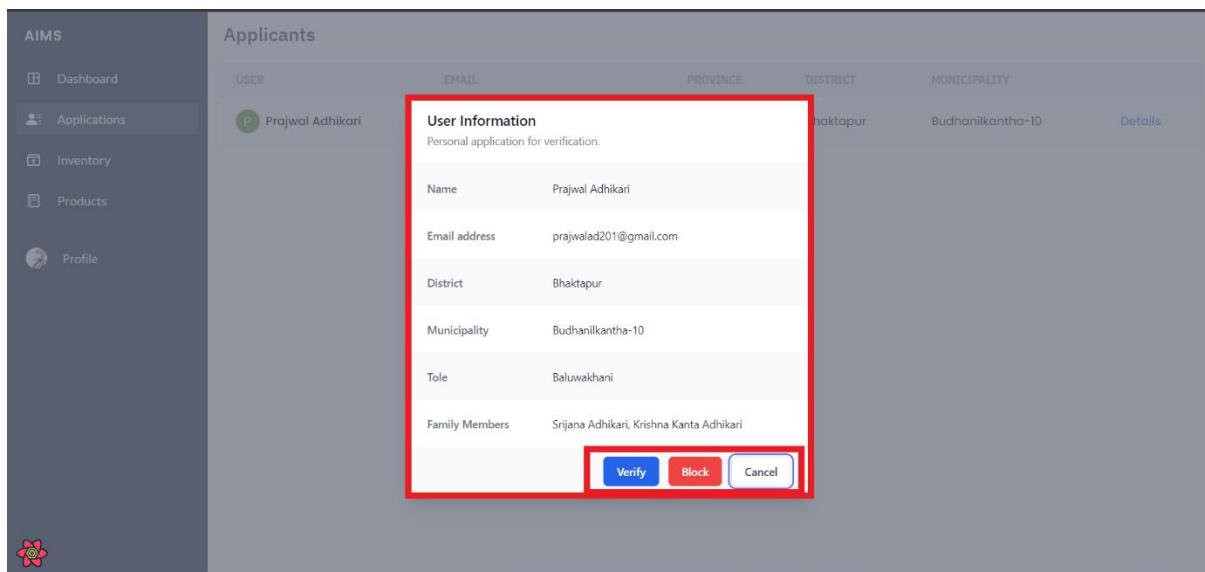


Figure 34 KYC application details

- Here, based on the validity of data entered by farmer on their KYC application, the admin can choose to verify or block the application.
- If the admin chooses to verify the application, the corresponding farmers can start adding crops into their account.
- If the admin chooses to not accept the farmer's application, or put the application on waiting list, the farmer has to wait until the admin responds to their application.
- If the admin chooses to block the farmer's application, the farmer will not be able to add crops into their account.

3. Click on verify to accept an applicant's application.

- If the admin chooses to verify the application, the corresponding farmer can take advantage of all features available on **AIMS**.

4. Click on block to reject an applicant's application.

- If the admin chooses to block the application, the corresponding farmer won't be able to take advantage of all features available on **AIMS**.

5. Click on cancel to get back to application webpage.

- If the admin chooses to cancel viewing the farmer's application, this indicated that the farmer's application will be reviewed later or has been waitlisted for current time.

## ➤ Admin's Inventory

Steps:

1. From the inventory, admin can choose to view and download the products that have been thus far created.

PRODUCT	OWNER	VOLUME	MARKET PRICE	TOTAL
Maize	Prajwal Adhikari	10 kilograms	Rs. 500 per kilogram	Rs. 5000
Milk	Prajwal Adhikari	10 litres	Rs. 85 per litre	Rs. 850
Eggs	Prajwal Adhikari	100 pieces	Rs. 18 per piece	Rs. 1800
Bread	Prajwal Adhikari	20 pieces	Rs. 40 per piece	Rs. 800
Milk	Prajwal Adhikari	10 litres	Rs. 85 per litre	Rs. 850

Figure 35 Admin inventory list

- From the Inventory available on the left panel of dashboard, the admin can view different products added by the administrator.
  - This section contains all products added by admin from the Products section. The farmers will be able to choose and add crops into their account based on the availability of crops added by the administrator.
2. Admin can select individual product and check their detail. Admin can also download each crop's details in PDF format.

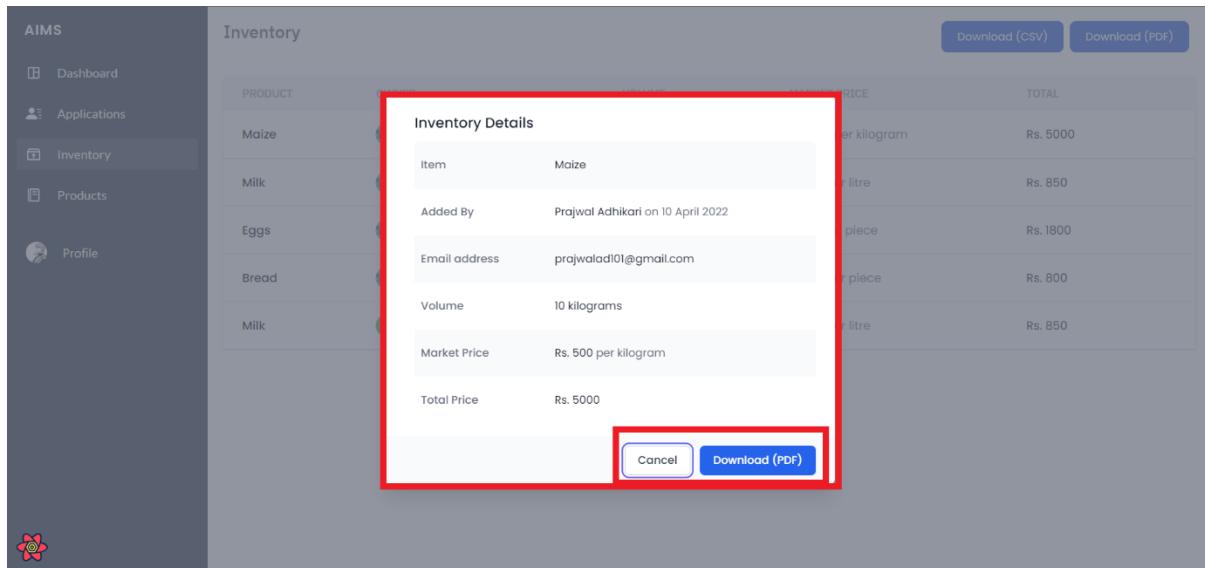


Figure 36 Checking a product detail

- The admin can select on any of the added products and view their details as well.
- The admin can also download the information of individual crops in PDF format using the download button.

3. In the inventory, admin can select Download (csv) option to directly download all products' details in csv format in one go.

The screenshot shows the AIMS application interface. On the left is a sidebar with options: Dashboard, Applications, Inventory (selected), Products, and Profile. The main area is titled 'Inventory' and displays a table of products. A red rectangle highlights the 'Download (CSV)' button at the top right of the table header. The table data is as follows:

PRODUCT	OWNER	VOLUME	MARKET PRICE	TOTAL
Maize	Prajwal Adhikari	10 kilograms	Rs. 500 per kilogram	Rs. 5000
Milk	Prajwal Adhikari	10 litres	Rs. 85 per litre	Rs. 850
Eggs	Prajwal Adhikari	100 pieces	Rs. 18 per piece	Rs. 1800
Bread	Prajwal Adhikari	20 pieces	Rs. 40 per piece	Rs. 800
Milk	Prajwal Adhikari	10 litres	Rs. 85 per litre	Rs. 850

At the bottom left is a download link 'inventory.csv' and at the bottom right are 'Show all' and 'X' buttons.

Figure 37 Downloading in CSV format

- Furthermore, the admin can choose to download data of all added products in csv format using the Download(csv) button available on top right corner of the screen. It is indicated by red rectangle on figure 10.

4. In the inventory, admin can select Download (PDF) option to download all products' details in PDF format in one go.

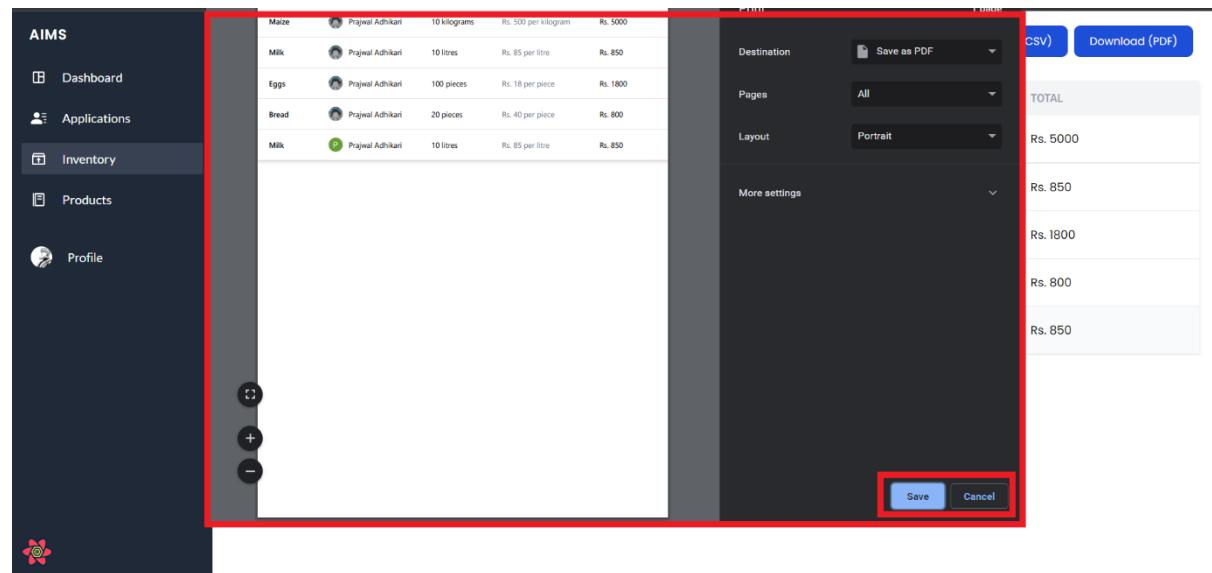


Figure 38 Downloading in PDF format

- Furthermore, the admin can choose to download data of all added products in PDF format using the Download (PDF) button available on top right corner of the screen. It is indicated by yellow rectangle on figure 10.
- When the admin clicks on Download (PDF) button, the admin is directed to a page to print the data in PDF format. It is given on figure 10.

## ➤ Admin's Products

Steps:

1. Admin can select products option on left panel to create new crops/products.

The screenshot shows the 'Available Products' section of the AIMS application. On the left, a sidebar menu has 'Products' selected. The main area displays a table with columns: PRODUCT, TYPE, and MARKET PRICE. The table lists items like Milk, Rice, Eggs, Cheese, Chicken, Bread, and Paddy. A red box highlights the 'Create Product' button in the top right corner of the table area.

PRODUCT	TYPE	MARKET PRICE
Milk	Ingredient	85 per litre
Rice	Crop	66 per kilogram
Eggs	Ingredient	18 per piece
Cheese	Ingredient	700 per kilogram
Chicken	Ingredient	250 per kilogram
Bread	Dairy	40 per piece
Paddy	Crop	100 per kilogram

Figure 39 Admin's products

- In Products section, the admin can not only view the current products, but also add, modify, or delete a crop with respect to the requirements and trends of market.
2. In this section/feature, admin can select on create product option to add new products that verified farmers can choose to add in their accounts.

The screenshot shows the 'Create Product' dialog box overlaid on the 'Available Products' table. The dialog has fields for Product Name (Eg: Wheat), Product Type (Eg: Crop), Market Price, and Unit (Kilogram). The 'Create' button is highlighted with a red box. The background table remains visible.

Figure 40 Adding new crops

- By entering the relevant information on the text fields, and clicking on the create button, the admin can add new crops into the system for farmers to choose and select from.

## ➤ Admin's Profile

Steps:

1. In the profile option on the left panel, admin can select to view their profile, and choose to log out if they wish to do so.

The screenshot shows the AIMS application interface. On the left, there is a dark sidebar with the following navigation options: Dashboard, Applications, Inventory, Products (which is highlighted), and Profile. The Profile section contains the text: 'Logged in as admin np03cs4s210029@herald...', and a 'Log out' button. A red box highlights this Profile section. To the right of the sidebar is a table titled 'Available Products' with the following data:

PRODUCT	TYPE	MARKET PRICE	⋮
Milk	Ingredient	85 per litre	⋮
Rice	Crop	66 per kilogram	⋮
Eggs	Ingredient	18 per piece	⋮
Cheese	Ingredient	700 per kilogram	⋮
Chicken	Ingredient	250 per kilogram	⋮
Bread	Dairy	40 per piece	⋮
Paddy	Crop	100 per kilogram	⋮

A blue 'Create Product' button is located at the top right of the products table.

Figure 41 Admin's profile

- From the Profile section available on the left panel of the dashboard, the admin can also view the email account through which their admin account is created.
- Similarly, the admin can also choose to exit from the system by clicking on the Log out button on this section.

## ➤ Farmer's Dashboard

Steps:

1. If a user's account (Google or Facebook) is set as farmer in database, that user is directed to farmer's dashboard.
  - This means that, while signing up using a google account, the system automatically assigns the user as farmer. When the user logs in, he/she is automatically directed to the farmer's dashboard.
  - This also means that, while signing up using a Facebook account, the system automatically assigns the user as farmer. When the user logs in, he/she is automatically directed to the farmer's dashboard.

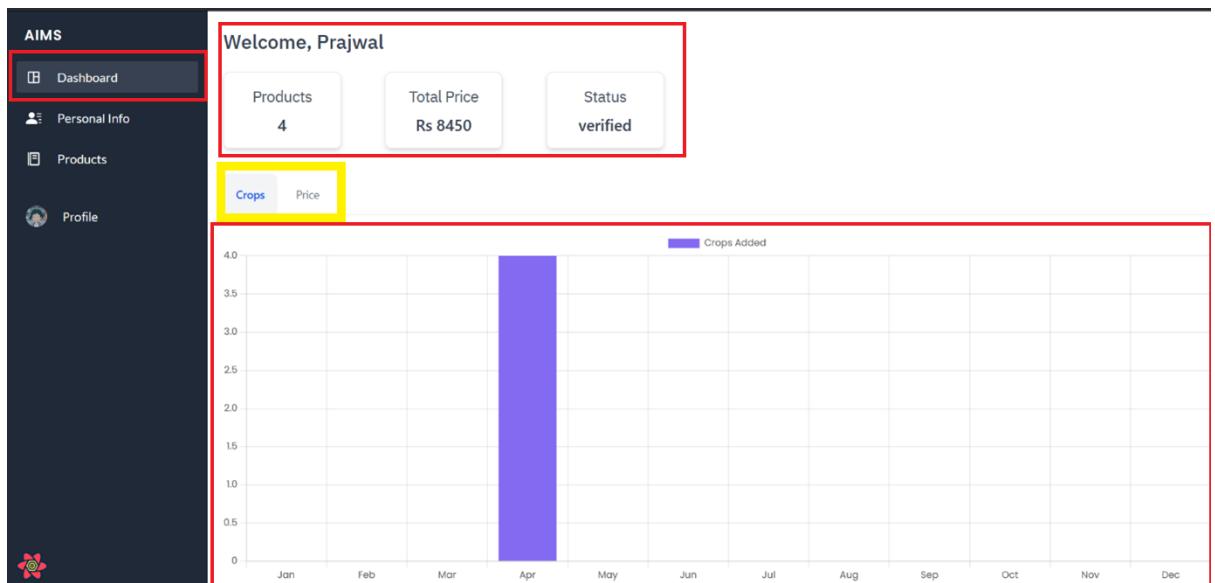


Figure 42 Farmer's dashboard

2. Farmer can choose to see charts displaying their crops information in this page.
  - From the figure 15 above, farmer's dashboard can be seen to showcase bar plots and visualizing the crops added by the farmer and the corresponding prices.
3. Farmer can also view their crops' total price and if their account is verified or not in this page.
  - In the dashboard given on figure 15, the number of products added by the farmer, the total price for the added products, and the verification status of the farmer's KYC application can be seen.

## ➤ Farmer's Personal Info

Steps:

1. If a farmer's account (KYC) is not verified by admin, the farmer will have to wait before adding any crops into their account. They will be required to fill up a KYC form and submit it for verification.

The screenshot shows the AIMS application interface. On the left, there is a dark sidebar with the following navigation options: Dashboard, Personal Info (which is currently selected and highlighted with a red box), Products, and Profile. The main content area is titled "Add personal information for verification". It contains the following fields:

- First name: [Input field]
- Last name: [Input field]
- Email address: prajwalad10@gmail.com
- District: Bhojpur [Dropdown menu]
- Family Members (Separate by comma): [Input field]
- Municipality: eg: Budhanilkantha-10 [Input field]
- Province no: 1 [Input field]
- Tole: [Input field]

A blue "Submit" button is located at the bottom left of the form. The entire form area is enclosed in a large red border.

Figure 43 KYC for farmer

- In the KYC application above, the farmer is required to enter their credentials like first name, last name, email address, district, family members, municipality, province, and tole. If this information added are valid, the admin will accept the KYC application for the farmer.
2. From the KYC form above, a farmer is required to enter their personal credentials, which is then verified by admin to allow a farmer to manage their agricultural information in this system.
  3. Once they fill up and submit the application, their profile is reviewed by the admin. Till then, their personal profile page looks like this.

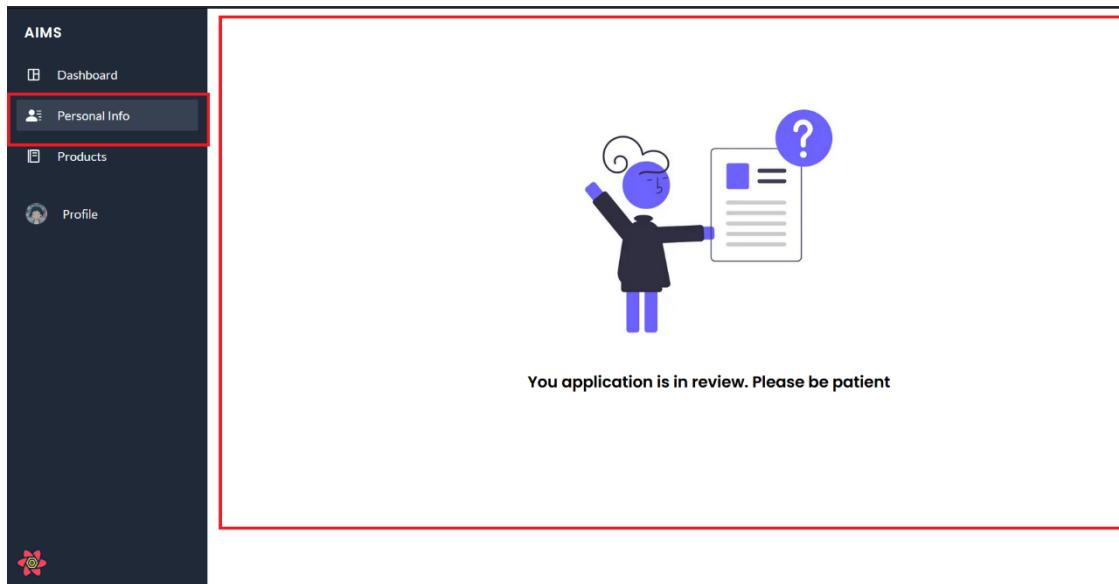


Figure 44 KYC under review

- If a farmer's Personal Info page looks like figure 17 above, this indicates that their application is not verified by the admin. The application is under review.

4. Once a farmer's KYC is verified by admin, the user can not only view their personal information, but also download them if needed.

User Profile	
	Prajwal Adhikari Verified
First Name	Prajwal
Last Name	Adhikari
Email address	prajwalad10@gmail.com
Family Members	Members
Province	1
District	Bhojpur
Municipality	Budhanilkantha-10
Tole	Baluwakhani

Figure 45 Farmer's profile

- If a farmer's Personal Info page looks like figure 18, this indicates that their KYC application has been successfully accepted and validated by the admin.

- The farmer can also choose to download their profile completely using the Download Profile button indicated by red rectangle on figure 18.

## ➤ Farmers' Products

Steps:

1. A farmer, after their KYC gets verified, can view, and add new products to their profile.

The screenshot shows the AIMS application interface. On the left, there is a dark sidebar with the following menu items: Dashboard, Personal Info, Products (which is highlighted), and Profile. Below the sidebar is a small decorative flower icon. The main content area has a header 'Available Products' and a blue button labeled 'Add Products' in the top right corner. The central part of the screen displays a table titled 'Available Products' with the following data:

PRODUCT	TYPE	NO. ITEMS	MARKET PRICE	⋮
Maize	Crop	10 kilograms	500 per kilogram	⋮
Milk	Ingredient	10 litres	85 per litre	⋮
Eggs	Ingredient	100 pieces	18 per piece	⋮
Bread	Ingredient	20 pieces	40 per piece	⋮

Figure 46 Farmer's product

- In the figure 19 above, the farmer's added crops are shown.
  - Similarly, by clicking the Add Products button indicated by red rectangle on figure 19, the farmer can choose new crops made available by admin and add into their account.
2. In the products page, farmer can click on add products button to add crops that the admin has made available.

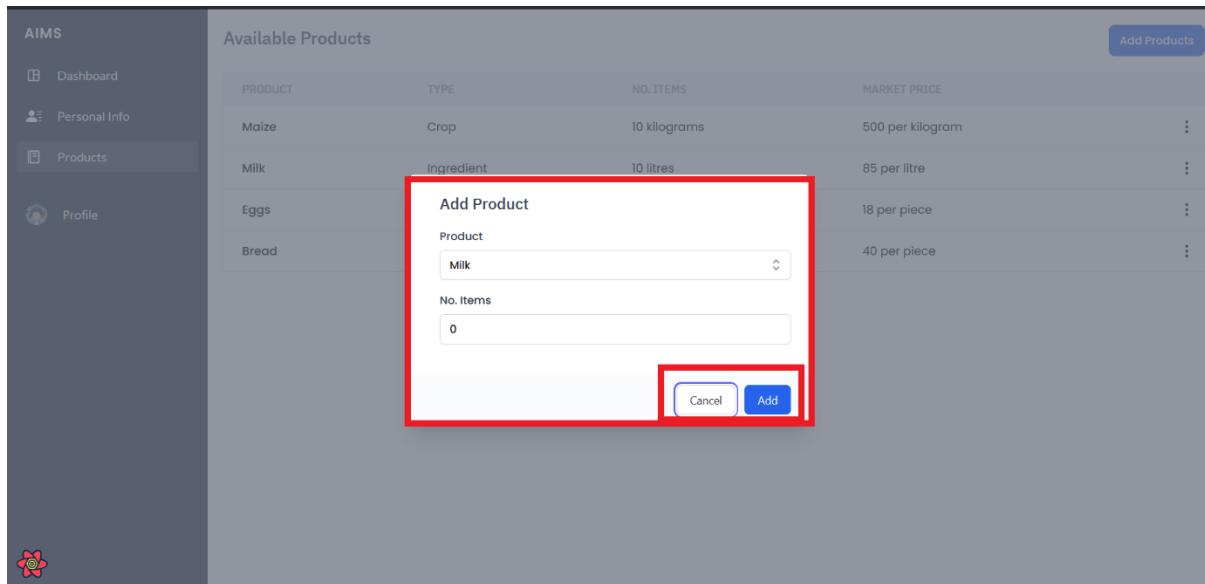


Figure 47 Adding product

- To add new product, the farmer will be prompted to choose a product first, and then add the number of items of the corresponding product.
3. Farmers can also choose to delete/remove an added product if they wish to do so.

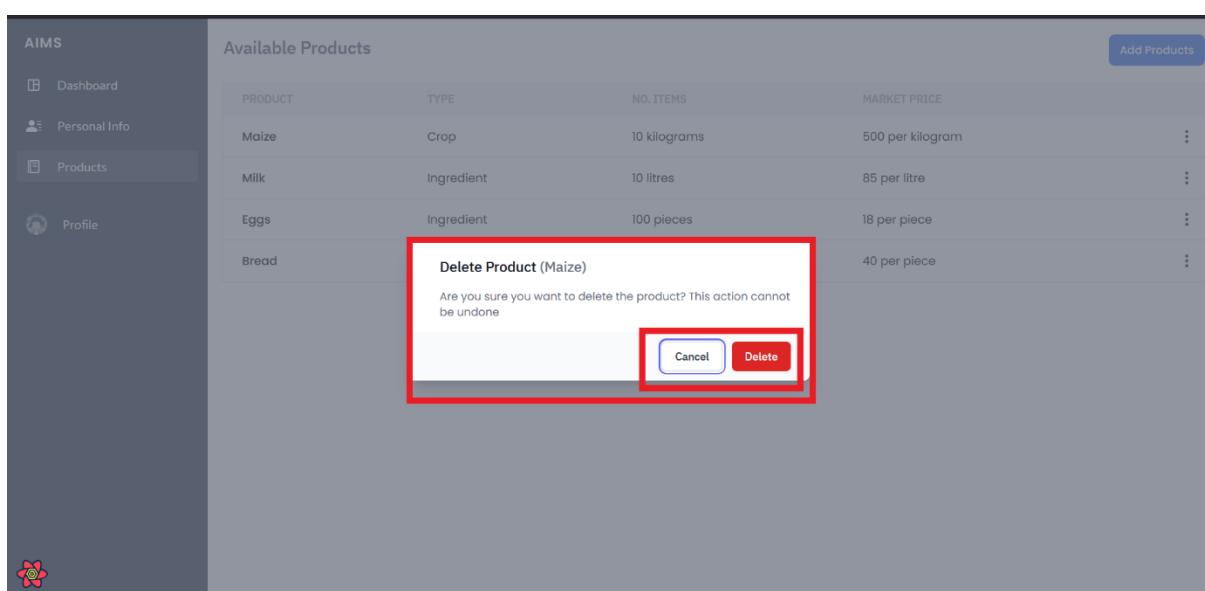


Figure 48 Deleting a product

- After choosing to delete a product from their account, the product will no longer be available on the farmer's account. However, the farmer can

choose to add the product again as per the necessity and trend of the Nepalese market.

## ➤ Farmer's Profile

Steps:

1. In the profile option on the left panel, farmers can select to view their profile, and choose to log out if they wish to do so.

The screenshot shows the AIMS application interface. On the left, there is a dark sidebar with the title 'AIMS' at the top. Below it are several menu items: 'Dashboard', 'Personal Info', 'Products' (which is currently selected and highlighted in blue), and 'Profile'. The 'Profile' item has a sub-section where it says 'Logged in as farmer' followed by an email address 'prajwaled101@gmail.com...' and a 'Log out' link. This entire 'Profile' section is highlighted with a red rectangular box. To the right of the sidebar is a main content area titled 'Available Products'. At the top of this area is a button labeled 'Add Products'. Below the button is a table with four columns: 'PRODUCT', 'TYPE', 'NO. ITEMS', and 'MARKET PRICE'. The table contains five rows of data:

PRODUCT	TYPE	NO. ITEMS	MARKET PRICE
Maize	Crop	10 kilograms	500 per kilogram
Milk	Ingredient	10 litres	85 per litre
Eggs	Ingredient	100 pieces	18 per piece
Bread	Ingredient	20 pieces	40 per piece

Figure 49 Farmer's profile

Therefore, these actions can be performed by admin and farmer in this project:  
**Agriculture Information Management System.**

## Appendix C

In this project, We, as a team member, have followed the Agile methodology of software development. I, as a project manager, have been involved in good communication with team members. I have also shared important files on basecamp to ensure that the project runs smoothly. I frequently posted messages on message board to get brief idea on project's progress as well.

I will add screenshots below showing the communication and file-sharing that I have done with my team members. As a project manager, I constantly communicated with team members about the tasks assigned that needed to be completed on designated deadline.

The screenshot below is of basecamp's campfire, where I constantly communicated formally with my team members to ensure there aren't any issues hindering the progress of the project.

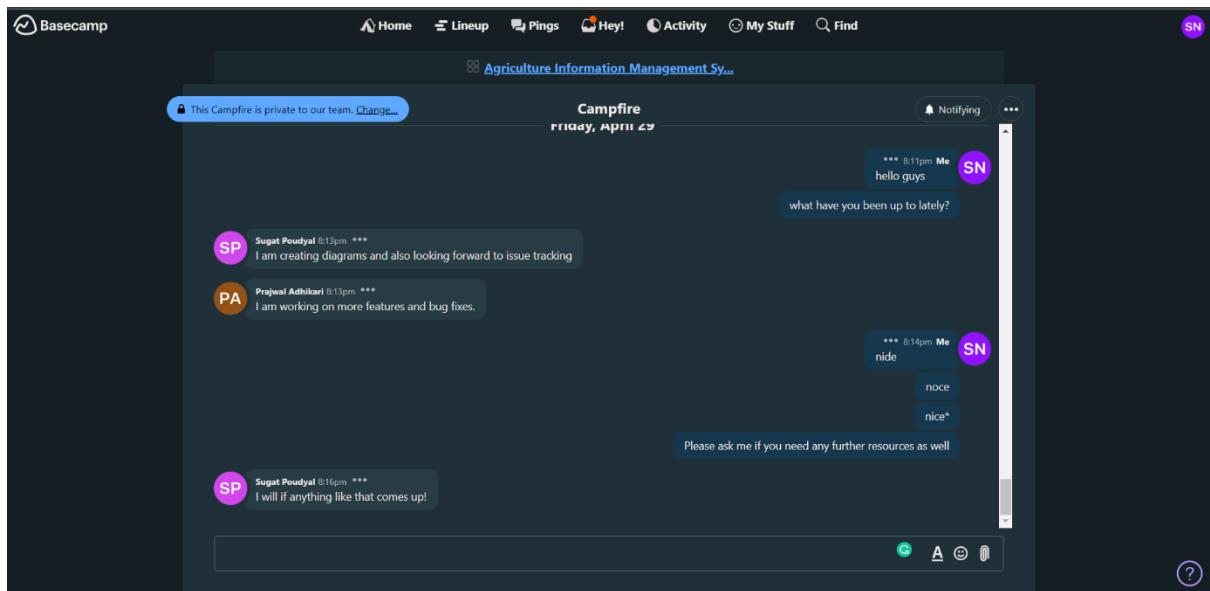


Figure 50 Sprint 2 campfire

In the basecamp's message board, I consistently posted messages to know the team member's progress in the project. From the screenshot below, we can clearly see that I posted a congratulations message indicating that our project has been successfully completed.

The screenshot shows a Basecamp message board titled "Congratulations everyone". The message was posted by Sujan Neupane on May 3, 2023, and notified two people. The message content reads: "We have successfully completed our project. Now, we need to prepare for a sprint retrospective." Below the message, there is a placeholder for a comment and a "Subscribers" section which lists three users: SN, SP, and PA, with an option to "Add/remove people...".

Figure 51 Sprint 2 message board

From the screenshot below, we can clearly see that I consistently shared the corresponding week's meeting's agenda on basecamp. This enabled the team to understand the meeting's agenda beforehand, which significantly improved their analysis and performance on those meetings.

The screenshot shows the Basecamp "Meetings" section under the "Sprint 2" project. It displays a grid of meeting agendas, each represented by a thumbnail image labeled with the file name. The agendas are categorized into two groups: "team" (team1.jpg, team2.jpg, team3.jpg, team4.jpg) and "client" (client1.jpg, client2.jpg, client3.jpg, client4.jpg). A green "+ New..." button is visible at the top left of the grid.

Figure 52 Sprint 2 meeting's agendas

From the screenshot below, we can clearly see that I have made proper documentation and hierarchy of folders to store documents and files on basecamp. In the project manager folder, there are two subfolders: Sprint 1 and Sprint 2. In the sprint 1 folder, there are corresponding files and documents of the first sprint. Similarly, in the Sprint 2 folder, there are corresponding files and documents of the second sprint. Such management and sharing of files and folder enabled efficient sharing and collaboration on basecamp. This further ensured the smooth functioning of the project.

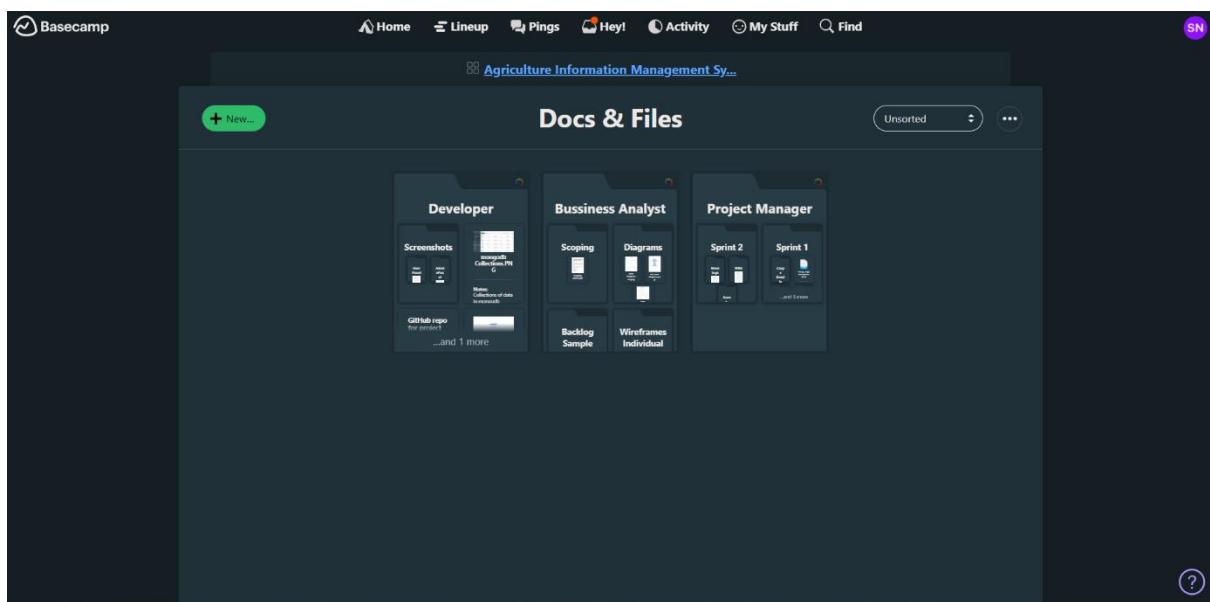


Figure 53 Sprint 2 docs and files sharing

In the screenshot below, we can clearly see that I have also made informal communication with my team members, when needed. The communication done on the screenshot below is of a private discord server that I created in the beginning of the first sprint.

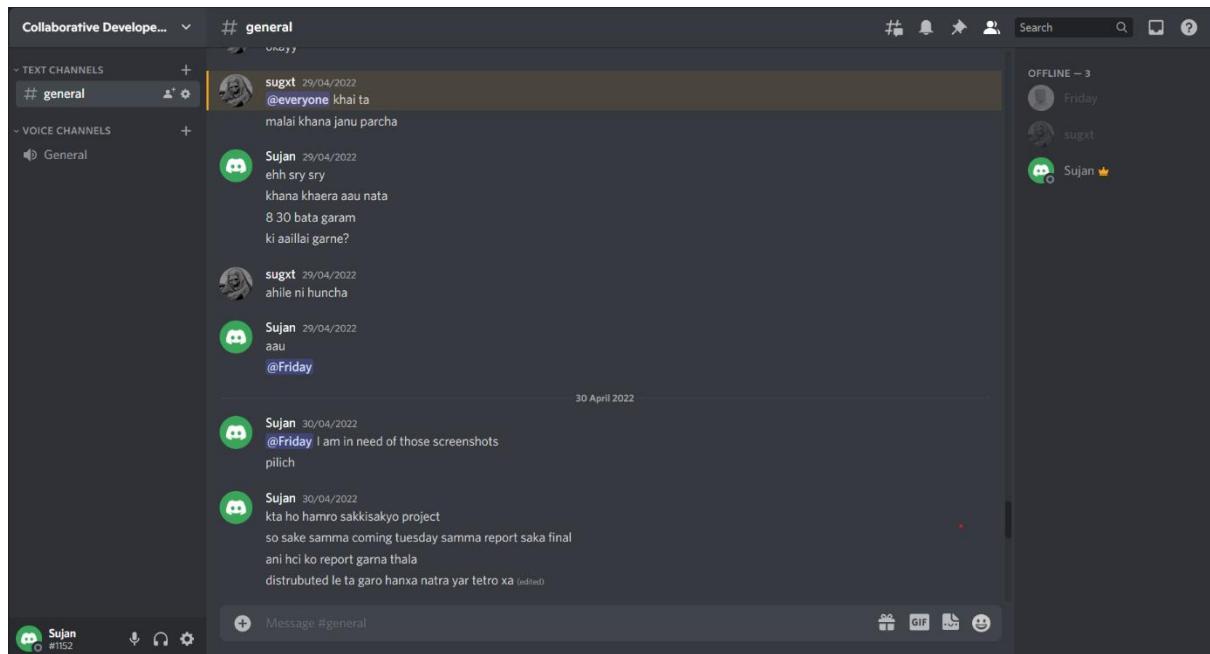


Figure 54 Informal communication on discord

## Appendix D

In order to improve my skills as a project manager, I undertook and completed a specialization on Coursera named **Project Management: Creating the WBS**. I will add the screenshot of the certificate of completion for this course.

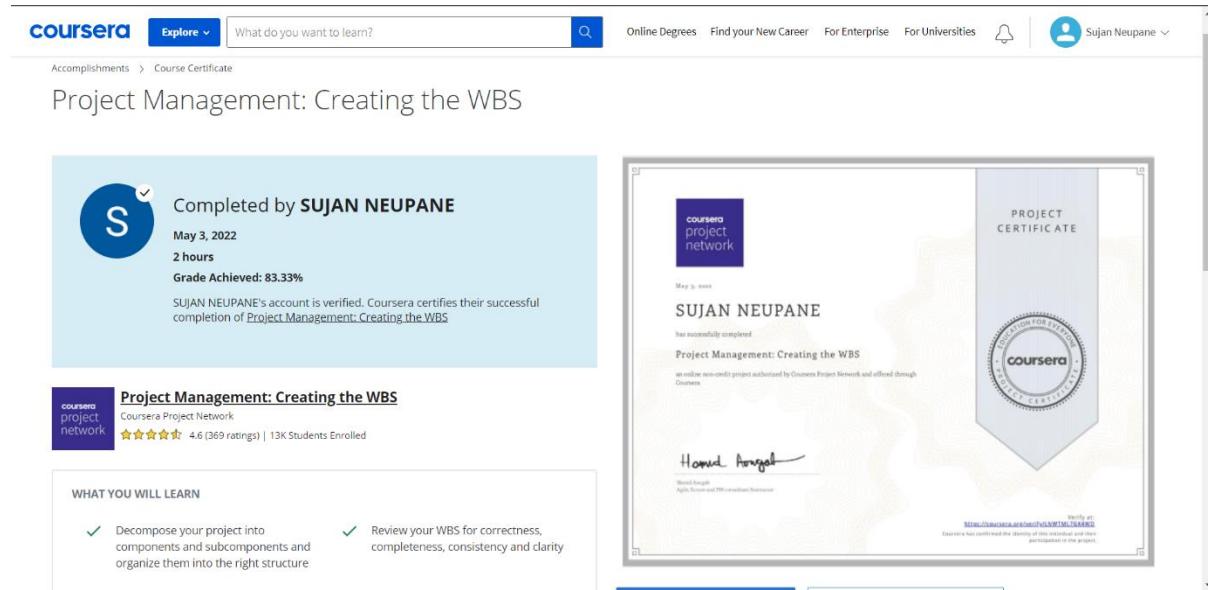


Figure 55 Certificate for sprint 2

Similarly, I will also add a link below to access this certificate for verification purpose.

[Link to the certificate - Coursera](#)

Furthermore, I studied several videos on YouTube relating to scrum framework of agile software development methodology.

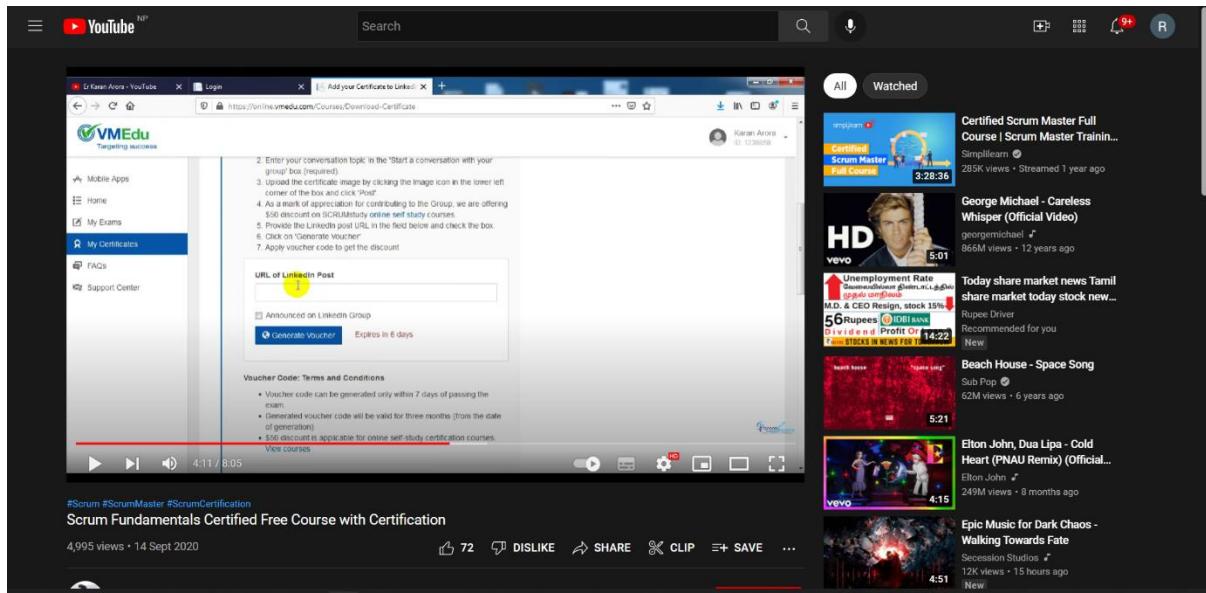


Figure 56 Scrum fundamentals by VMEDU

From the course above, I learnt about the fundamentals of scrum framework. I would like to thank VMEDU for providing this knowledge rich resource at free of cost. Similarly, I also took another course named **Scrum Master Full Course** from YouTube uploaded by Simplilearn. I will add the screenshot below.

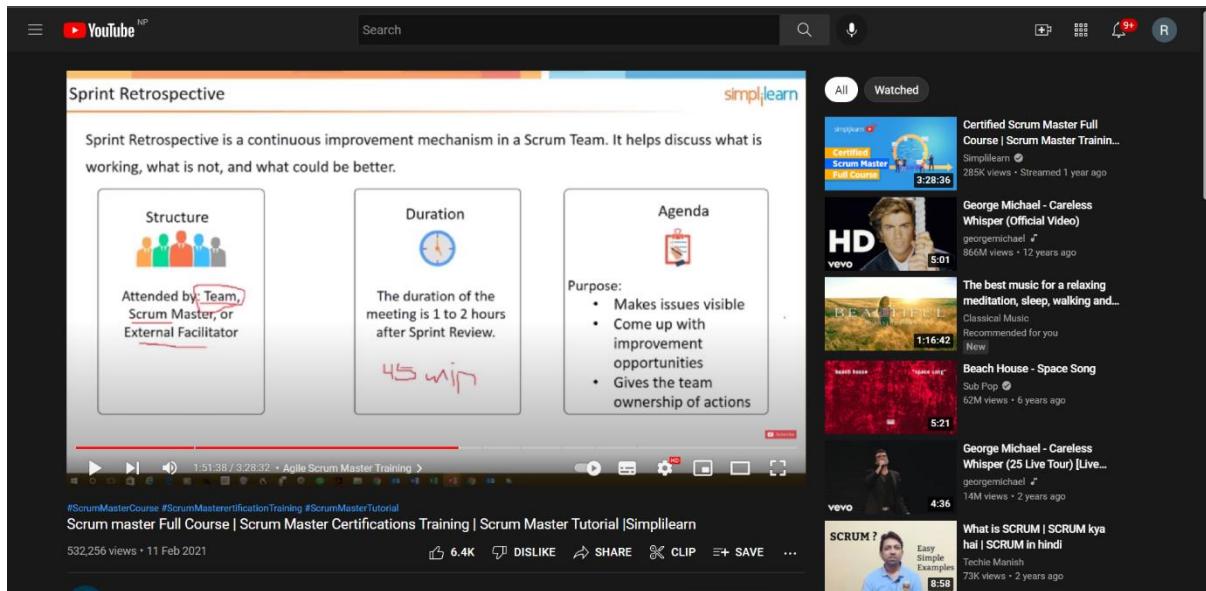


Figure 57 Scrum master full course by Simplilearn

Furthermore, I studied another YouTube tutorial video offered by Simplilearn named **Certified Scrum Master Full Course**. I will add the screenshot below.

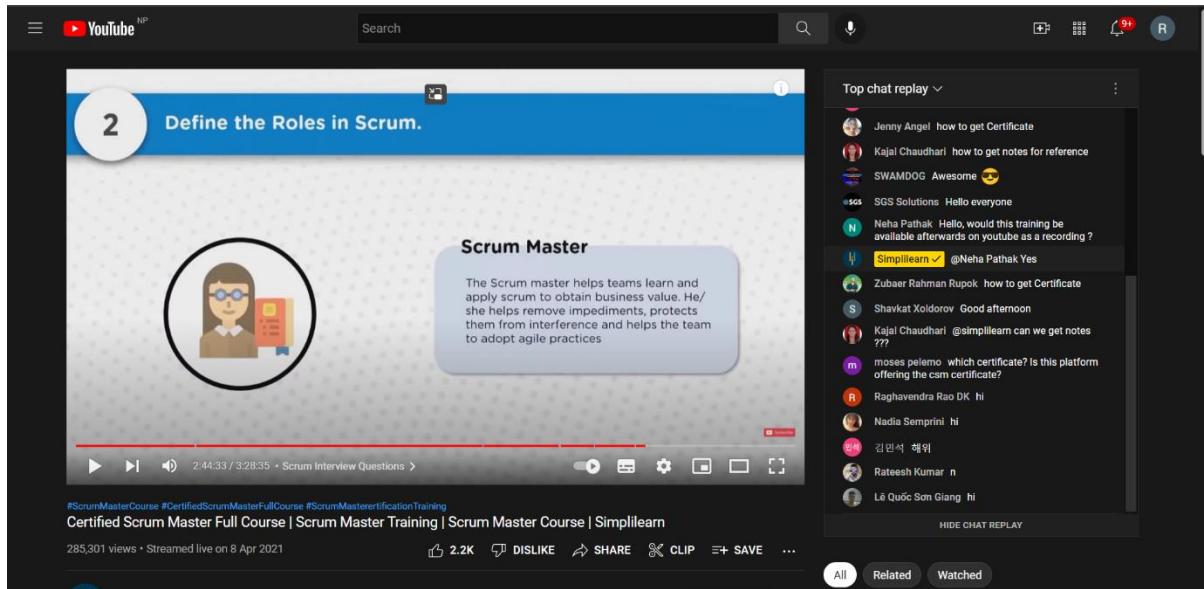


Figure 58 Certified scrum master by Simplilearn

Finally, I also read a research paper named **Scrum: An Effective Software Development Agile Tool**. I will add screenshot below.



Figure 59 Sprint 2 research paper

Through the extensive research and study, I did from the resources other than academic lectures, I believe this has significantly pushed my project management skills to the next level. The certificate course that I did from Coursera help me hone up my skills in building proper work breakdown structure (WBS), which was used to track the progress of assignments or tasks assigned to team members. I also completed many YouTube video courses, a Coursera certification course, and read a scrum framework journal to further improve my capabilities and become a qualified project manager. Through these resources, I was able to get a thorough set of skills needed to be an effective project manager. I also learned to prepare proper documentation throughout various steps in a project. From the research paper that I read, my foundations on scrum framework, implementing scrum, scrum artifacts and roles became much stronger. I was also able to be more effective in communication with team members. From the YouTube courses that I did an extensive study on, my strategic communication and problem-solving skills have significantly been honed. The YouTube courses offered by Simplilearn helped me create a strong foundation for my project management skills.

As a project manager, I was also responsible to create the user manual for the second sprint. This significantly improved by documentation skills. Finally, preparation for the final presentation and viva, and sprint retrospective also improved by presentation, communication, and research skills.

## Appendix E

A project is never free of issues. This fact was 100 % true in case of our project. I will add screenshots of different issues our project faced, and the ways we solved them. I, as a project manager, performed issue tracking for our project with collaboration with developer and business analyst.

In the screenshot below, there was an issue of line graph in admin's dashboard that was not functioning properly. I immediately raised issue on GitHub, after which the developer solved the issue. The issue was caused by incorrect format data being used to display the plot. The issue has been thus solved.

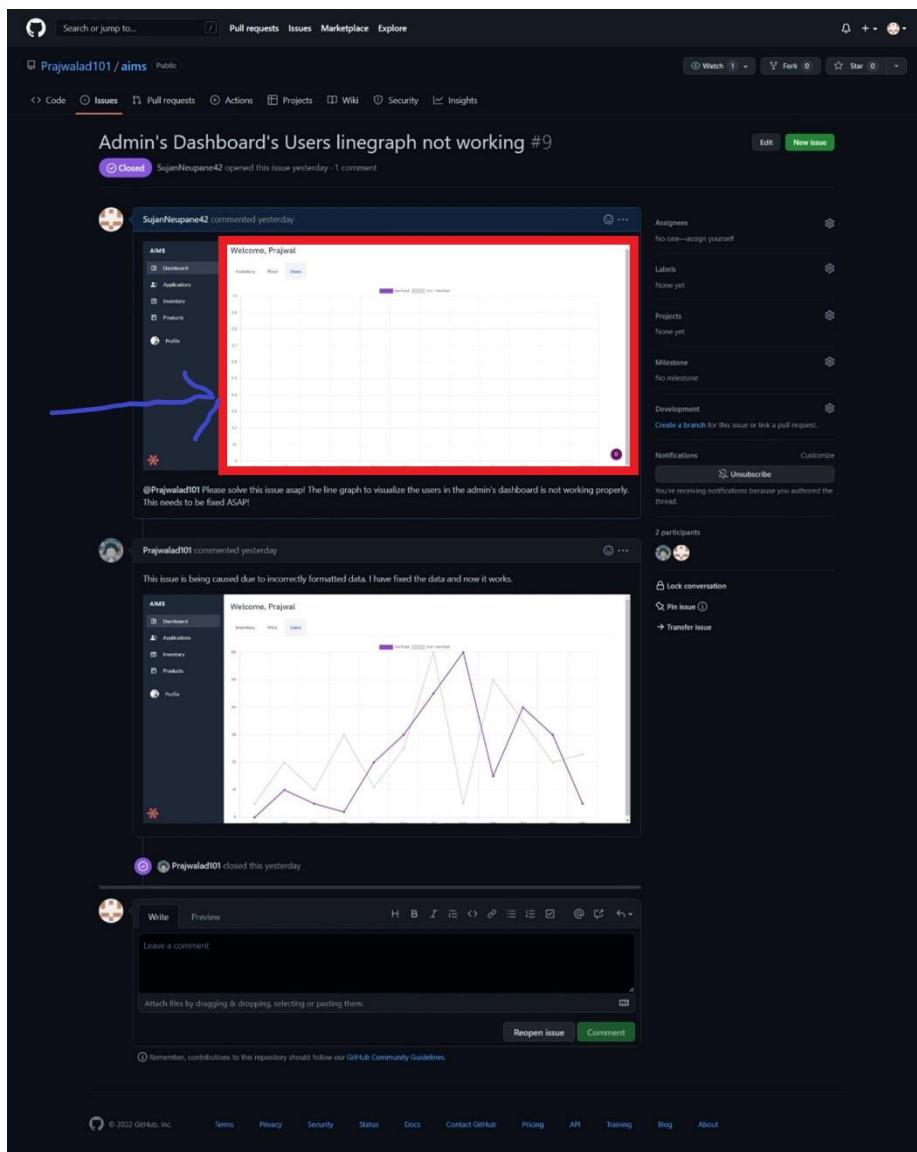


Figure 60 Admin's dashboard's line graph issue

In the screenshot below, there was an issue of bar plot in farmer's dashboard that was not functioning properly. I immediately raised issue on GitHub, after which the developer solved the issue. The issue was caused by faulty data being used to display the plot. In the variable passed to create the plot, there was Null or faulty data, which resulted in the bar plot being not working properly. The issue has been thus solved.

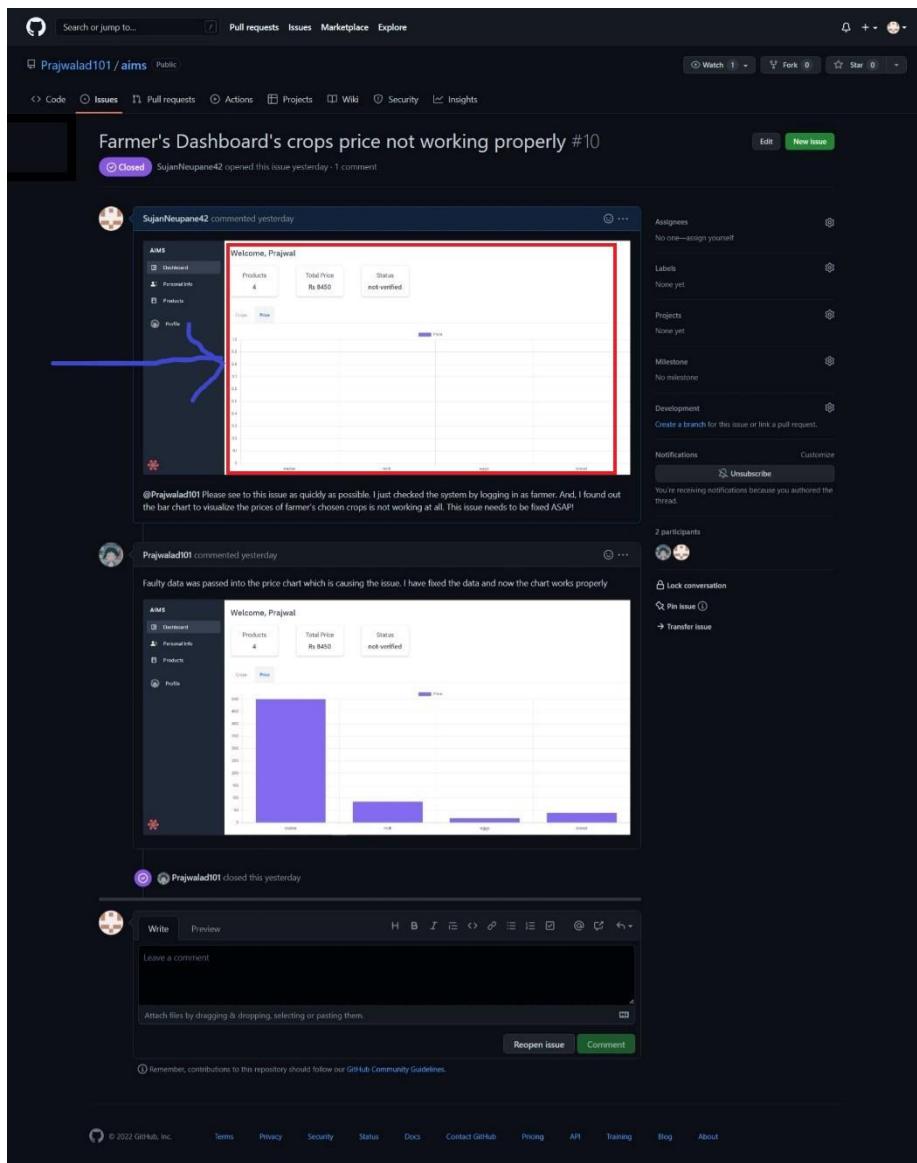


Figure 61 Farmer's dashboard bar plot issue

In the screenshot below, there was an issue of incorrect project's name appearing in the login/signup page. I immediately raised issue on GitHub, after which the developer solved the issue. The issue was caused because the application was registered as a different application. After creating a new application on google API console, the problem was solved.

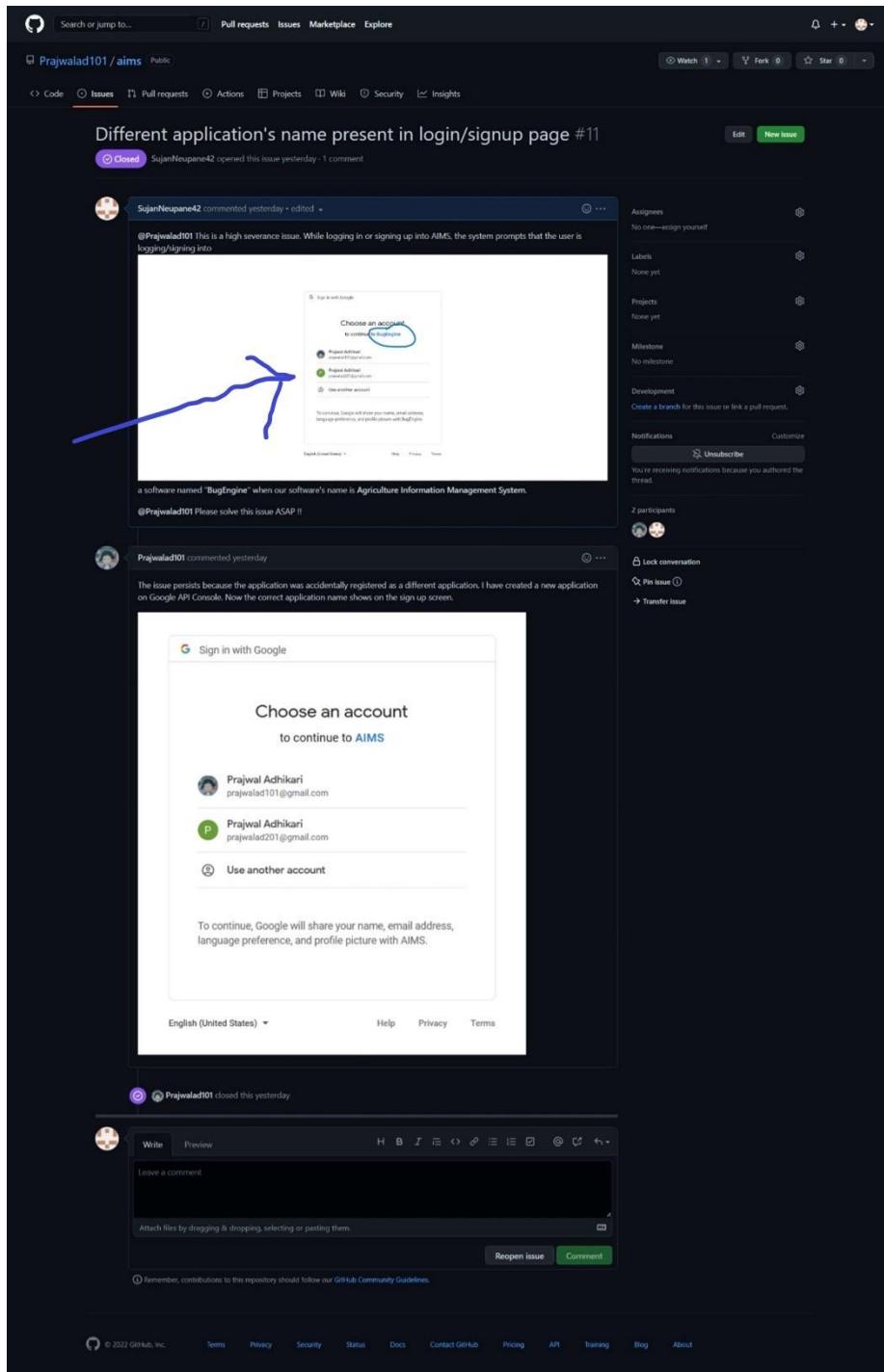


Figure 62 Application's different name issue

In the screenshot below, there was an issue of download button not working properly. I immediately raised issue on GitHub, after which the developer solved the issue. The issue was caused wrong reference being passed into the download component. The issue has been thus solved.

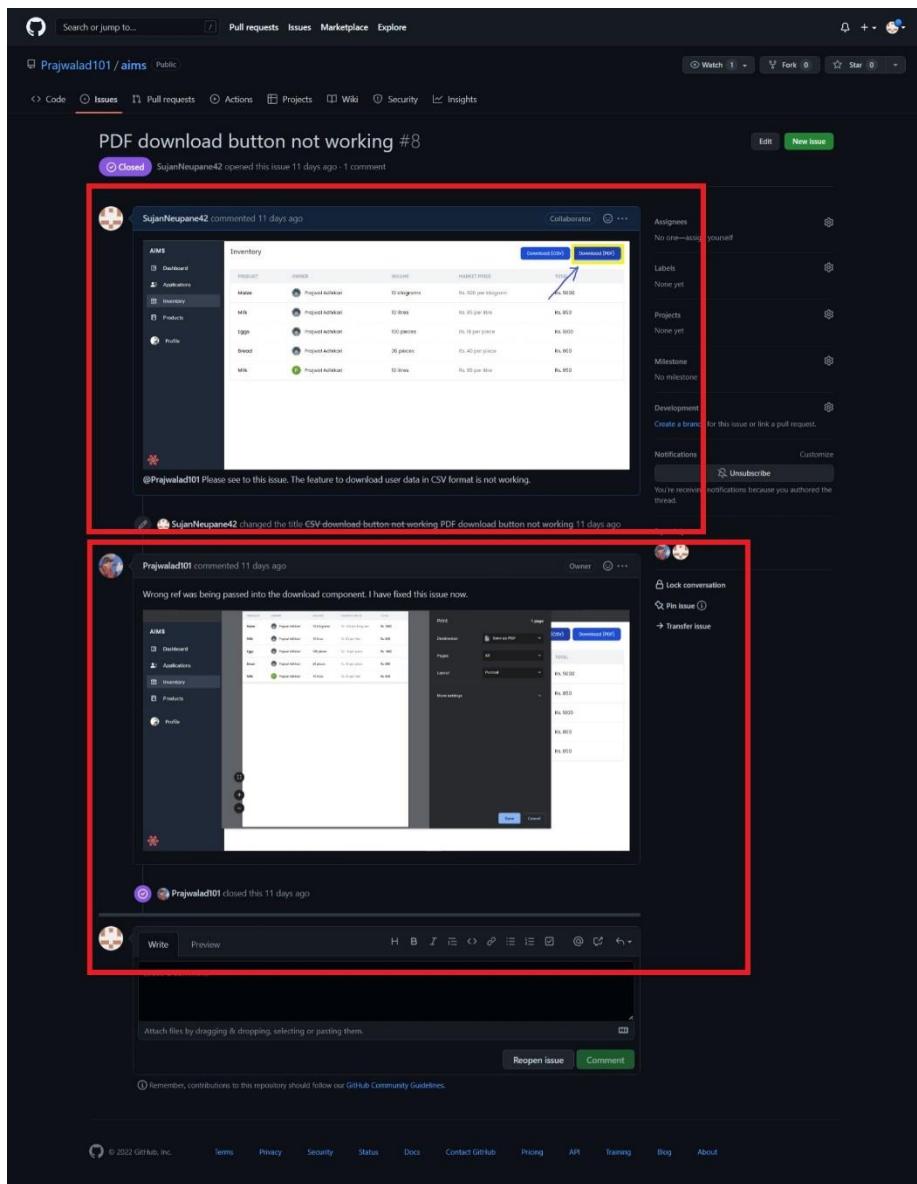


Figure 63 PDF download not working

From the screenshot below, we can clearly see that, we as a team have collaborated with each other and solved several issues on GitHub for the first sprint. Such collaboration among team members removed barriers that could have delayed the project's progress.

In the second sprint, I personally raised and helped solve 4 different issues. By collaborating with team members, we have solved 11 issues in total.

The screenshot shows a GitHub repository page for 'Prajwalad101 / aims'. The 'Issues' tab is selected. A red box highlights the list of 11 closed issues. The issues are listed in descending order of creation date, with the most recent at the top. Each issue is accompanied by a small icon, the issue number, the title, the author, and the number of comments. The interface includes standard GitHub navigation and search tools.

Issue #	Title	Author	Comments
#12	Initial verification status not working for new users	Prajwalad101	8 days ago
#11	Different application's name present in login/signup page	SujanNeupane42	11 days ago
#10	Farmer's Dashboard's crops price not working properly	SujanNeupane42	11 days ago
#9	Admin's Dashboard's Users linegraph not working	SujanNeupane42	11 days ago
#8	PDF download button not working	SujanNeupane42	11 days ago
#7	Menus overlaying with each other	SujanNeupane42	on Apr 11
#6	Sign in page	SujanNeupane42	closed on Apr 11
#5	Unexpected token / in JSON	Prajwalad101	closed on Apr 11
#4	User dashboard shows no data	Prajwalad101	closed on Apr 11
#3	Module not found	Prajwalad101	closed on Apr 11
#2	ChartJs animations does not work on user dashboard	Prajwalad101	closed on Apr 10
#1	JWE Decryption Failed	Prajwalad101	closed on Apr 8

Figure 64 11 issues solved in total

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