Discovering Knowledge

FYP LOGBOOK

FarmStead

Group Members

Enrollment #	Name
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Supervised by
Engr. Muhammad Adnan ur Rehman

Department of Software Engineering

LOG # 01

Semester:	☐Spring ☑Fall
Date:	30th September 2022
Meeting#:	☑01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

In the first meeting, two different ideas were represented and explained. One idea was of building a code-generating tool that can convert the images of the website into "React code" and the other was of building a user-friendly website for farmers that can help them in their agriculture-related activities.

The strategies for the implementation of these ideas were discussed, and our skill set, previous experiences, and command over the technologies were analyzed in this meeting.

Moreover, the team building for working on the FYP was carried out and the team was finalized in this meeting. As well as the selection of "The FYP Supervisor" was also done, and "Engr. Adnan ur Rehman" selected our group to be worked under his supervision.

Supervisor: (Suggestions/Comments)

The supervisor suggested working on the idea of the website for the farmers as he considered it a unique and useful one. While for another idea, he pointed out other same existing applications that provide the same functionalities. So the factor of uniqueness or updating of the existing applications in this idea can't be adopted.

Next Meeting Plan:

Supervisor asked us to come up in the next meeting with the in-depth related to the finalized idea, do the literature review, go through the existing same applications, and list out the main functionalities that will be targeted by this idea.

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Supervisor Signatures

LOG # 02

Semester:	☐Spring ☑Fall
Date:	2nd October 2022
Meeting#:	☐01 ☑02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

The second meeting was held in which the main functionalities of the idea formulated in the previous meeting, were explained to the supervisor.

The definition of our ideas was finalized as "the development of a software application that can help the farmers in their daily activities like selection of best profitable seed to grow on their farm, identification of crop diseases and pest attacks and make usage of particular pesticide to get rid of them, watering iterations, fertilizer usage, etc."

Moreover, the discussion was made over the information gained from different research papers and some existing likely apps to understand the approach that we can use to make the implementation of the project successful. In the end, consulted about applying the FYP idea to the "10 Pearls FYP Accelerator Program" and related details to it.

Supervisor: (Suggestions/Comments)

Suggested to make the research on the datasets that are necessary for the implementation of this project, and refine the idea by more digging into the problem and make it clear which agriculture-related activities will be (must) targeted by this system and how this will be get done.

Next Meeting Plan:

Come up with the data and datasets that will be used for the project to check the availability of the required datasets for the implementation of that project. And also go through more literature work to better understand the flow and technology required for this project. And also identify the features.

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Supervisor Signatures

LOG # 03

Semester:	☐Spring ☑Fall
Date:	7th October 2022
Meeting#:	☐01 ☐02 ☑03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

The third meeting was held in which data and datasets as well as the literature work that proposed the implementation of farming systems were discussed thoroughly.

Besides this, the identified features of the project were explained to the supervisor that includes:

1. **Pest Attack Identification**
2. **Crop Disease Identification**
3. **Pesticide Suggestion**
4. **Fertilizer Recommendation**
5. **Watering Calendar**
6. **Crop Profit/Loss Analyzer**
7. **Crop Recommendation**

Along with features, the roles and responsibilities of group members throughout the project were decided and finalized in this meeting. Lastly, the raised conflict of the project with another FYP Group was discussed (in terms of the same and different features and modules) which ended up in the retention of our idea as we succeeded in the defense of our idea.

Supervisor: (Suggestions/Comments)

The supervisor acknowledged the project's features and asked us to make them the final scope of the project that will be delivered at the end of FYP. Moreover, he agreed with the usage of data and datasets presented to him that will be used in our FYP, and also confirmed the tasks assigned to the team.

Next Meeting Plan:

Work on the "Proposal Defense" related documents i.e. Proposal Performa and Proposal Defense Presentation, and complete them by the next meeting.

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Supervisor Signatures

LOG # 04

Semester:	☐Spring ☑Fall
Date:	10th October 2022
Meeting#:	☐01 ☐02 ☐03 ☑04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

Showed the completed work of documents (Defense Performa & Defense Presentation) to the supervisor and discussed them. The modules, objectives, scope, plan, and tentative technologies for project implementation (as mentioned in the documents) were explained to the supervisor.

Some problems and confusions related to these documents like WBS/Gantt chart formation, methodology, and flow diagrams for the project, were discussed with the supervisor, and the solutions for them were sought out.

Lastly, the name of our FYP Project was also finalized as "FarmStead Web Application".

Supervisor: (Suggestions/Comments)

Supervisor acknowledged the work that has been completed in the documents yet. Also, he suggested making use of "phase-based" WBS and guided us in the designing of flow diagrams. He also instructed us about the FYP Idea Defense and made us think about each aspect of the idea that can be asked during the panel.

Next Meeting Plan:

In the next meeting, the agenda is to discuss and resolve problems, lags, weaknesses, or conflicts that might be highlighted by the panel in the upcoming defense.

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Supervisor Signatures

LOG # 05

Semester:	☐Spring ☑Fall
Date:	28th October 2022
Meeting#:	☐01 ☐02 ☐03 ☐04 ☑05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

Done with the defense proposal, and panel highlighted some issues and suggested using the concise scope w.r.t the land (region) that will be targeted by our project, according to the availability of the datasets.

Moreover, the language translator (from English to Urdu) is also suggested to incorporate into the project to make the project usage easy throughout Pakistan.

So, in this meeting, the discussion was made over the highlighted issues and suggestions and a plan was made for visiting the people related to the farming sector to interview them to understand their needs and problems related to agricultural activities.

Supervisor: (Suggestions/Comments)

The supervisor suggested using the available datasets of India to build the application for Pakistan as Pakistan and India's climate, environment, land, and soil are almost the same, and similar crops are cultivated and harvested in both countries.

Next Meeting Plan:

After interviewing people related to the agricultural sector of Pakistan, come up with the details and reviews. Also, make changes in the documents (of Proposal Defense) to accommodate the suggestions made by the panel.

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Supervisor Signatures

LOG # 06

Semester:	☐Spring ☑Fall
Date:	11th November 2022
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☑06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

Done with the submission of "Proposal Defense Documents" and signing them with our supervisor. Now, the sixth meeting was held with the intent to discuss the documents that have to be prepared for our "Initial Defense".

The headings that have to be included in the "first chapter" of the FYP Report i.e. "INTRODUCTION" chapter are analyzed, that required rework. These headings include Literature Review/Background and Proposed Solution (Technologies to be used).

Firstly, the Literature Review/Background Heading needs to include a review of all the research papers related to our project along with the 'references' of existing similar applications.

Secondly, during the defense proposal decide to work on the MERN stack along with the python engine, but after some research work it was analyzed that the Django framework will be a more efficient way for deploying the ML models on the front end. So rework is required in the "Technologies to be used heading".

Supervisor: (Suggestions/Comments)

As mentioned in the above section, the supervisor suggested us to rework on the discussed headings of the INTRODUCTION chapter (i.e. Literature Review/Background & Proposed Solution - Technologies to be used) and finaliz this section.

Next Meeting Plan:

The plan for the next meeting is to rework on the "Introduction" section of the report and incorporate the changes discussed in the meeting and complete this section by the next meeting.

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Supervisor Signatures

LOG # 07

Semester:	☐Spring ☑Fall
Date:	18th November 2022
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☑07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

As per instruction, completed the introduction chapter of the report and get it checked by the supervisor and discuss the difficulties faced in the completion of it like confusion in the literature review and background heading. Besides this, the headings of the next chapter or report i.e. SPMP (Software project management plan), are discussed and confusion related to these headings is cleared during the meeting.

The SDLC (Software development Life cycle) model was decided which will be followed throughout the FYP development which is the "Modified Waterfall Model". The significance and consequences of using this model are considered and analyzed.

The most confusing heading of SPMP which is the management plan is analyzed in detail and figured out the main tasks that have to be carried out by our FYP team for the successful completion of the project. The resources, constraints, dependencies, and risks are also founded.

Supervisor: (Suggestions/Comments)

The supervisor listened to the confusion created in the heading of literature review and background and after understanding the real problem we are facing, give us the solution. He suggested using the table to represent the features present in existing applications and using the research papers' names along with the brief description under the heading of the literature review.

Next Meeting Plan:

The agenda for the next meeting with the supervisor is to come up with the completion of discussed headings of the SPMP section (from 2.1 to 2.5) along with the modification and completion of the headings remaining in the previous section of the Introduction.

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Supervisor Signatures

LOG # 08

Semester:	☐Spring ☑Fall
Date:	25th November 2022
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☑08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

According to the plan of the last meeting, the decided headings of the SPMP section were completed along with the required modifications in the first chapter i.e. Introduction. The supervisor checked the work done and marked it as correct.

Then, the remaining headings of the SPMP which include assignment and timetable, are discussed with the supervisor. As the completion of these remaining headings required the usage of any software tool to make the Gantt chart, the decision on the selection of this tool was made during the meeting.

For the assignment heading, a detailed discussion was held over the fact that which group member will do which task according to his skills and experience, so that on basis of it the assignment table can be made to fulfill the requirement of this heading.

Supervisor: (Suggestions/Comments)

The supervisor marked the work done on previous sections as correct and told us that no rework or any kind of modifications are required on it. While for the next headings, he suggested us to make use of the MS project for the creation of the Gantt chart.

Next Meeting Plan:

The plan for the next meeting is to complete the remaining headings i.e. assignment and timetable, of SPMP using implementing the Gantt chart on the MS Project.

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Supervisor Signatures

LOG # 09

Semester:	☐Spring ☑Fall
Date:	16th December 2022
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☑09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

According to the plan set in the previous meeting, the remaining headings of the SPMP were completed, and the supervisor approved them.

Then, the next section of the report i.e. SRS was discussed with the supervisor and the confusion we have in the headings of this section is cleared by the supervisor. Mainly, the headings from 3.1 to 3.4 are discussed in detail as these headings are the most significant part of the SRS i.e. functional and non-functional requirements of the application.

For identifying the functional and non-functional requirements of the application, the deep analysis made on the existing applications, the information gathered from meetings/interviews conducted by us, and the literary work which proposed similar systems.

Supervisor: (Suggestions/Comments)

The supervisor marked the work done on the remaining headings of the previous section as correct. While for the work to be done future, he suggested consulting the software engineers working in the organization so that we have a clearer picture of the requirements that have to be finalized for our application.

Next Meeting Plan:

The plan for the next meeting is to consult some software engineers in an organization to better understand the requirements, and also complete the decided headings of the SRS till the next meeting.

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Supervisor Signatures

LOG # 10

Semester:	☐Spring ☑Fall
Date:	23rd December 2022
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☑10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

As decided in the last meeting, the headings of the SRS (software requirement document) from 3.1 to 3.4 are completed and requirements (both functional and non-functional ones) were written in a concise, precise, and unambiguous way. The work done on these headings was checked by the supervisor who has given comments on it.

Then the remaining headings of the SRS from 3.5 to 3.8 were gone through and the discussion was made over it.

For the headings of "alternative solution", the solutions other than the proposed one were discussed and described with the aid of research work made to solve similar problems that are targeted by our application. For the external interface requirements headings, the proposed application was analyzed deeply, and the required external requirements were finalized.

Supervisor: (Suggestions/Comments)

On checking the work done on the headings assigned in the last meeting, the supervisor said that the overall work is correct but for functional and non-functional requirements assign the identifiers to each requirement.

Next Meeting Plan:

The plan for the next meeting is to come for a meeting after completing the remaining headings of the SRS section so that work can progress toward the next section of the report.

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Supervisor Signatures

LOG # 11

Semester:	☐Spring ☑Fall
Date:	6th January 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☑11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

As per instructions given by the supervisor in the last meeting, the remaining headings of the SRS (software requirement specification) section were completed and this work was got checked by the supervisor, fortunately, no rework or any kind of modifications were required.

Then, the next section i.e. SDD (software design document)'s headings were discussed in the meeting. As this section comprises on the designing of diagrams that can represent the proposed application conceptually, so the components and elements required for all UML or other diagrams were discussed deeply in a detailed manner.

Lastly, the approach that we will use to design the WBS (work breakdown structure) is decided as "deliverable-based". And the detailed architecture that we will use for our application as well as the alternative one was discussed.

Supervisor: (Suggestions/Comments)

The work completed over the headings of the previous section was checked by the supervisor and marked as all correct. While for the WBS the supervisor suggested us to use a deliverable-based approach to follow, and for architecture design, he advised us to do some research on it and finalize the best one as per our application's requirements.

Next Meeting Plan:

The next meeting plan is to work on all the headings of the SDD section and finish it before the next meet-up.

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Supervisor Signatures

LOG # 12

Semester:	☐Spring ☑Fall
Date:	10th January 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☑12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

As per the advice of the supervisor, all the headings of the SDD (Software Design Description) section were completed and checked by the supervisor on which he gave comments on some diagrams that needed to be modified.

Further, the presentation that needs to be made for the initial defense is discussed with the supervisor and all the significant content or headings that are required to be included in it are finalized.

Lastly, all sections of the whole document i.e. FYP report were checked by the supervisor and asked to format and organize it in the best manner.

Supervisor: (Suggestions/Comments)

After checking all the work done on different headings in the SDD section and seeing the diagrams designed, the supervisor marked them as correct. Except for a few diagrams (like sequence diagrams and use case diagrams), he asked to make a few modifications to remove ambiguity and confusion.

Next Meeting Plan:

Work on the suggestions made by the supervisor in the modification of highlighted diagrams, and get prepared for the initial defense.

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Supervisor Signatures

LOG # 13

Semester:	☑Spring ☐Fall
Date:	24th January 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☑13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

Done with our first defense for our project i.e. "initial defense". The prepared chapters of the project report have been completed and presented to the panel.

During the presentation, the panel identified some issues in a diagram and the mentioned non-functional requirements and made suggestions to improve the project. So after the defense, all the highlighted problems were resolved by our team and approved by our supervisor.

This meeting helped to discuss the plan for working on the project so that the modules can be completed at least 33% and can be represented in the "mid-defense". According to the developed Gantt Chart, the first task for the project is to work on the training of the AI models that will be the main part of our project. So we discussed them with the supervisor.

Supervisor: (Suggestions/Comments)

The supervisor suggested using the AI techniques mentioned as the most suitable ones in the research papers we've collected and studied for our project implementation.

Next Meeting Plan:

The next meeting plan is to come with the completion of training of AI models as per the suggestions and discussions made in the meeting.

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Supervisor Signatures

LOG # 14

Semester:	☑Spring ☐Fall
Date:	31st January 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☑14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

Completed the AI model training of the following modules:

1. **Pest Attack Identification**
2. **Crop Disease Identification**
3. **Fertilizer Recommendation**
4. **Crop Recommendation**

Presented the completed work to the supervisor, and discussed the accuracy issues and datasets used for the mentioned models' training.

Also discussed the techniques that can be used for these modules. As per different research papers, the CNN model is the best suitable for the identification of pests or crop diseases, while on the other hand, Random Forest gave the higher accuracy for the crop and fertilizer recommendations (as compared to other techniques like decision tree, K-Nearest Neighbor and Naive Bayes).

The supervisor checked the work and marked it correct and asked to move on to the next step of our project implementation i.e. website development.

Supervisor: (Suggestions/Comments)

The supervisor checked the models and approved the work done, while suggested us to restrict the species of crop pests and crop diseases to obtain more accuracy for the models.

Next Meeting Plan:

The agenda decided for the next meeting is to try to obtain more accuracy for the models and come up with the plan for the implementation and basic structure for the website development of the project.

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Supervisor Signatures

LOG # 15

Semester:	☑Spring ☐Fall
Date:	7th February 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☑15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

Improved the efficiency of the trained models and counter-checked them with the supervisor. Also implemented the mockup page of our website of project that includes the home section, services section, SDGs section, blog section, and about us section. Get this mockup page check by the supervisor and he highlighted some issues in it and give suggestions to improve them.

Moreover, discussed the next task which is the implementation of the forms for the services section, through which the identifications of pests or crop diseases and recommendation of fertilizers and crops can be obtained.

Shortly, this meeting covered the approval of the previous work done i.e. models' training and mockup page implementation, and discussion of the new work to be completed i.e. forms for the services.

Supervisor: (Suggestions/Comments)

The supervisor suggested us to include the copyrights for the icons of SDGs mentioned in the SDGs section of the mockup page. Additionally, asked us to replace the main screen image with one that should match the Pakistani farms and people instead of foreigners.

Next Meeting Plan:

The agenda for the next meeting is to implement the forms for the identification and recommendations, as discussed during the meeting.

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Supervisor Signatures

LOG # 16

Semester:	☑Spring ☐Fall
Date:	14th February 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☑16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

Implemented all the forms as per the requirements of our project for the recommendation and identification of crops and farm-related things and to get them checked by the supervisor.

After this, disused the services that will be free for all users of our website and those which are only for the authenticated registered users. So it was decided that for the registered users, all the tests performed by him will be saved in form of the reports as well as he'll be able to calculate the profit or loss he'd made on his crop cultivation. Shortly a separate section will be implemented for the authenticated users who will have all the facilities mentioned earlier.

So the next task for implementation is the authentication part that will include all the forms related to it i.e. login, sign up, forget password and change password.

Supervisor: (Suggestions/Comments)

All the previously implemented work i.e. forms were approved by the supervisor as all good, while for the paid and free services, the strategy was suggested of giving the reports and profit/loss analyzer to the paid users only.

Next Meeting Plan:

The plan for the upcoming meeting is to carry out the implementation of the authentication part along with the validations on all the forms which will include in it.

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Supervisor Signatures

LOG # 17

Semester:	☑Spring ☐Fall
Date:	28th February 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☑17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

Completed the authentication part with all the required validations on the forms and get them checked by the supervisor.

Then discussed the next part that we've to implement that are the paid services for the authenticated user which includes the profit/loss analyzer and saved results for all the tests performed by the user after registration in form of the reports. Discussed all the options that'll be included in this part (paid services). Moreover, also discussed the profit/loss sheet that will be used for the implementation of the module "profit/loss analyzer".

In brief, the meeting centered on the approval of completed tasks i.e. authentication part, and discussion of the new assignment that needs to be carried out, which is the development of "paid services" of the project.

Supervisor: (Suggestions/Comments)

The supervisor approved the work completed of the authentication part as decided in the previous meeting. And suggested the changed names for the navbar that will be used for the upcoming task of paid services.

Next Meeting Plan:

Till the upcoming meeting, the team will concentrate on the implementation of paid services part of the project and complete all the functionalities included in it.

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Supervisor Signatures

LOG # 18

Semester:	☑Spring ☐Fall
Date:	7th March 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☑18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

Completed the task discussed in the previous meeting i.e. implementation of all the paid services section for the authenticated user. The supervisor has reviewed the completed work and has deemed it to be accurate. Next, we discussed the next task which is the integration of the models with the frontend forms which we already have implemented. Node.js and Django frameworks are two technologies considered for the integration of models with frontend. After analyzing both technologies and their pros and cons, we have chosen the Django framework for our project as it seems easier for us to implement at that time.

In summary, the meeting focused on two main topics: firstly, the approval of the previously completed work, specifically the implementation of the paid services section; and secondly, a discussion of upcoming work, which is the integration of the models with the frontend forms.

Supervisor: (Suggestions/Comments)

The supervisor has granted their approval for two critical aspects: firstly, endorsed the completed work on the implementation of paid services; secondly sanctioned the utilization of the Django framework for the impending task of integrating models with the frontend.

Next Meeting Plan:

During the time leading up to the next meeting, the team will place their attention on two main tasks: firstly, the integration of models with the frontend will be their primary focus; and secondly, they will also be dedicating effort towards the preparation of the 'mid defense' presentation.

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Supervisor Signatures

LOG # 19

Semester:	☑Spring ☐Fall
Date:	14th March 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☑19 ☐20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

During this team meeting, the group completed the integration of the models with the frontend using the widely acclaimed Django framework, which had been previously agreed upon. The team then submitted their integrated work to the supervisor for a meticulous review and thorough inspection. Subsequently, the team then delved into the finer details of the presentation for the upcoming "mid-defense" and proceeded to showcase their work to the supervisor. During the presentation review, the supervisor imparted their expert knowledge and insights, deftly highlighting potential issues and areas for improvement. The supervisor also provided the team with a range of helpful suggestions, including recommendations for adding or excluding specific headings, and proposed innovative strategies for displaying the percentage (%) of the work already accomplished up to that point.

Overall, the supervisor's feedback proved to be immensely valuable to the team's progress, and the team is eager to incorporate the suggested revisions and refine their presentation in preparation for the mid-defense.

Supervisor: (Suggestions/Comments)

For the integration work, the supervisor marked it as okay, while for the presentation he asked us to make use of the colors (green – completed, orange – partially completed, and red – not completed) for highlighting the work done on our project modules for our mid-defense evaluation.

Next Meeting Plan:

For the next meeting, the task is to complete the presentation and include the own code of the project completed yet in the implementation chapter of the report, and get ready for the evaluation of the mid-defense.

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Supervisor Signatures

LOG # 20

Semester:	☑Spring ☐Fall
Date:	20th April 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☑20 ☐21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

Done with the "mid-defense" evaluation of our project and now the motive was to complete the remaining work of the project which is database integration, implementation of pesticide suggestion, and watering calendar module.

During the meeting, we discussed the remaining tasks of the project, which included integrating the database and implementing the pesticide suggestion and watering calendar modules. To ensure optimal crop growth, we decided to use a watering cycle chart for the watering calendar module, which will provide farmers with customized watering schedules based on several factors such as crop type, soil category, land type, and climatic conditions. To provide farmers with accurate and effective pesticide suggestions, we agreed to offer a variety of pesticides including fungicides, herbicides, insecticides, and miticides based on the identification of pests or crop diseases. And these details of pesticide usage will be given as suggestions for the usage according to the pest attack or cop disease, whenever the farmers will enter the images of crops or pests for their identification.

Supervisor: (Suggestions/Comments)

The supervisor agreed with the strategy given by us, for the implementation of the remaining modules and suggested using the most suitable and affordable server and database for the project.

Next Meeting Plan:

Our agenda for the upcoming meeting is to wrap up the implementation of the remaining project and come up with the 40% completed project.

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Supervisor Signatures

LOG # 21

Semester:	☑Spring ☐Fall
Date:	9th May 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☑21 ☐22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

Completed the implementation of our project and the supervisor had a final check over it and approved it. Now the next task was to complete the documentation which includes the report for the project.

We've already done with the starting chapters of it till the design document as well put the code of our project completed till mid-defense. So now next we have to finish the implementation chapter as well as the remaining headings including the test document, appendix, and conclusion.

In this 21st meeting of ours, we discussed the code which we have to put in the implementation part and aimed to complete this chapter by the next meeting so that we can focus on the testing of our project.

Supervisor: (Suggestions/Comments)

For the implementation chapter, we were very confused about the part of code that we have to include in our chapter, so the supervisor gave us suggestions that helped us a lot in deciding which code will be included in our report.

Next Meeting Plan:

The plan for the next meeting is to come up with the completed chapter of the report i.e. implementation and then make discussions in the next meeting about the next chapter of it i.e. "Software Test Document".

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Supervisor Signatures

LOG # 22

Semester:	☑Spring ☐Fall
Date:	23rd May 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☑22 ☐23 ☐24

Student: (Meeting minutes/Achievements/Activities)

During our discussion with the supervisor regarding the testing techniques for our application, we covered both manual and automated testing approaches. We also had the opportunity to have the supervisor review and approve all the headings included in the "Software Test Document." This ensured that the document aligned with their expectations and met the necessary requirements.

Furthermore, we sought clarification on some aspects related to the testing of interfaces, as well as the creation of test IDs and test cases. These areas were causing confusion, and discussing them with the supervisor helped to clear up any uncertainties.

Supervisor feedback ensured suitable testing techniques and streamlined the process, clarifying confusions for interface testing, test IDs, and cases

Supervisor: (Suggestions/Comments)

For the testing chapter, we encountered confusion regarding which techniques will be suitable for the testing of the code. Fortunately, our supervisor provided us with helpful suggestions that greatly aided us in determining the testing techniques for our application.

Next Meeting Plan:

During the upcoming meeting, our goal is to finalize the testing chapter and ensure its completion. Additionally, we plan to conduct thorough testing of the application to verify its functionality and reliability.

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Supervisor Signatures

LOG # 23

Semester:	☑Spring ☐Fall
Date:	6th June 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☑23 ☐24

Student: (Meeting minutes/Achievements/Activities)

During our discussion with the supervisor regarding the chapter on future work, we explored potential areas for further research and development. We discussed innovative ideas and strategies that could enhance our application in the future. The supervisor provided valuable insights and suggestions, which we incorporated into the chapter. In the conclusion chapter, we summarized the key findings and outcomes of our project. We highlighted the significance of our work and its contributions to the field. The supervisor reviewed the conclusion and provided feedback, ensuring its coherence and alignment with the project's objectives.

For the references section, we compiled a comprehensive list of sources that were consulted throughout the project. The supervisor reviewed the references and ensured their accuracy and adherence to the required citation style.

Supervisor: (Suggestions/Comments)

The supervisor provided suggestions for potential avenues of future work, encouraging us to explore additional functionalities and improvements for our application. They emphasized the importance of considering scalability and adaptability in future development efforts.

Next Meeting Plan:

In the next meeting, we plan to finalize the chapter on future work, incorporating the supervisor's suggestions. Additionally, we will review and make any necessary revisions to the conclusion and references sections.

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Supervisor Signatures

LOG # 24

Semester:	☑Spring ☐Fall
Date:	20th June 2023
Meeting#:	☐01 ☐02 ☐03 ☐04 ☐05 ☐06 ☐07 ☐08 ☐09 ☐10 ☐11 ☐12 ☐13 ☐14 ☐15 ☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☑24

Student: (Meeting minutes/Achievements/Activities)

During our meeting, we discussed the preparations for the final presentation of our project. We outlined the key points to cover, ensuring a clear and concise delivery of the project's objectives, methodology, findings, and conclusions In addition to the presentation, we planned a final project demo to showcase the application's functionalities and features, and discussed potential challenges and solutions that may arise during the demo.

During the meeting, we also reviewed all aspects of the project, including the documentation, codebase, and overall project timeline. We conducted a thorough review to identify any remaining tasks or areas that require further attention or refinement before the final submission.

Supervisor: (Suggestions/Comments)

Supervisor provided feedback on presentation structure, emphasizing project contributions and practical applications. Effective audience engagement and addressing potential questions were advised.

Next Meeting Plan:

With the final meeting concluded, our next steps involve finalizing the project documentation, ensuring that all sections are complete and meet the required standards. We will perform a final review of the project, double-checking for any last-minute adjustments or improvements. Finally, we will submit the project, marking the successful completion of our work.

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Supervisor Signatures