SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION SYSTEMS

SUPERVISION MEETING RECORD

Date: 25 May 2023 (Meeting 1)

Time: 5:30 – 6:00

Student: Adam Lo Jen Khai

Supervisor: Dr Steven Eu Kok Seng

Items discussed this meeting:

Guide on how to do chapter 1 and chapter 2 report writing. Advise us need to start coding for part 1, there is not enough time for part 2 of the final year project 2. Need to check with my mentor first before coming to Dr steven for enquiry students need to approach mentors for clarifications. Chapter 1 needs to talk about background story, talk about the background of topic specific to the project. Students need to write in the correct language cannot use first person language. Need to talk about the main issue faces in the problem scenario. Students would list out the challenges means how they overcome the problem statement, the more challenge and elaborate thoroughly. For chapter 2 literature review, students cannot write it like textbook and no need to talk about formula when doing comparison with all the literature. Approach centric method is used where it is grouped into different functions and features. Students can create a comparison table comparing all the literature reviews shown to improve marks. They can elaborate on the research gap for each algorithm and do a comparison of each algorithm at the conclusion of chapter 2.

Work for the coming meeting:

The starting research on relevant topic regarding human following robot.

Supervisor's Signature

Steven Eu

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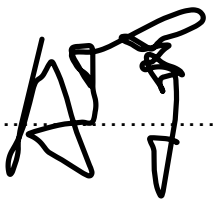
Student's Signature



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SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION SYSTEMS

SUPERVISION MEETING RECORD

Date: 29 May 2023 (Meeting 2)

Time: 4:30 – 5:00

Student: Adam Lo Jen Khai

Supervisor: Dr Steven Eu Kok Seng

Updated form the previous meeting:

Determined the objectives and challenges of my project. Understand what is the concept of an overall human following robot knowledge.

Items discussed this meeting:

After the first meeting the students still don't quite understand the scope of the project and most importantly where to start. The student has determined that layout for chapter 1 and 2 but needs to seek guidance on what is the project scope. The project scope mainly talks about human detection, but more clarification is needed if it involves relocating the target. The student also asks for clarification from mentor if hand gestures are needed to communicate with the robot, mentor tells the student the robot only needs to target and track the person as there is no need to register the target each time the human detection is activated. After the student finishes his enquiry, mentor briefs him on important matter of the project including what type of components he will be using and what is the functionality the robot needs to provide. The mentor also briefs the student regarding how to do the literature review in a more detailed manner as the student ask what sub section topics of human following robot that he needs to pay attention. The mentor explains to the student what platform the students needs to use in order to communicate with the robot. The version of ubuntu which is 16.04 is told by mentor. Mentor explain how ROS works where there is a publish and subscribe function to communicate between robots and he also explains which version that student needs to use to complete the project.

Work for the coming meeting:

Continue working on chapter 1 and chapter 2. I started watching videos about human following robot and understanding each component.

Supervisor's Signature

Steven Eu

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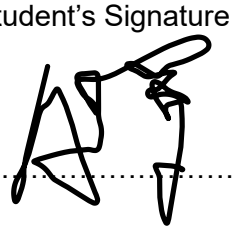
Student's Signature



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SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION SYSTEMS

SUPERVISION MEETING RECORD

Date: 16 June 2023 (Meeting 3)

Time: 4:30 – 5:00

Student: Adam Lo Jen Khai

Supervisor: Dr Steven Eu Kok Seng

Updated form the previous meeting:

Completed chapter 1 and chapter 2 literature review but need clarification.

Items discussed this meeting:

The student has many questions regarding literature review, upon completing it he realizes that he made a big mistake where he focuses too much on the subtopics for example under human tracking section, he separate it into human detection algorithm and target tracking algorithm. The mentor clarifies which subtopic that he needs to focus on and shrink it into one main section. The mentor summarizes the subtopics into three sections which is human detection, navigation and recovery target and under each section there will be a sensor and algorithm used. The student also ask questions regarding to SLAM, he sub section the entire SLAM section into local and global navigation which is not needed. Mentor explains to student usages of local and global localization so that the he can fully understand the concept. Mentor instructs him to streamline the SLAM under one topic called navigation where all the algorithms strength and weaknesses are recorded.

Work for the coming meeting:

Students must redo the whole chapter 2 literature review and streamline it into three sub sections, human tracking, navigation, and recovery target.

Supervisor's Signature

Steven Eu
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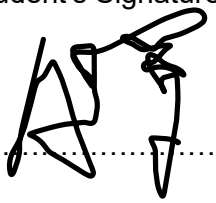
Student's Signature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SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION SYSTEMS

SUPERVISION MEETING RECORD

Date: 11 July 2023 (Meeting 4)

Time: 21:00 – 21:30

Student: Adam Lo Jen Khai

Supervisor: Dr Steven Eu Kok Seng

Updated form the previous meeting:

Fully completed chapter 1 and chapter 2.

Items discussed this meeting:

The lecturer has sent a video regarding chapters 3,4 and 5. Dr Steven has stated that students must justify the functionality, flow and components used. Students need to tell system model if relevant. The chapter 3 can Split into two main category, software development group and research group. Dr has provided two different categories of samples which are shown on teams. For research groups, students need to state the hardware they are using and what software they are using and the reason of choosing it. They also need to explain what software, SDK and API library they choose. The second part of the technical plan is the proposed method. Continuality of chapter 2 conclusion. Then develop a hypothesis framework. Chapter 4 talks about Gantt chart, it needs to be as detailed as possible. It has a high weightage point. Students need to explain in detail all the steps of the Gantt chart. Chapter 4 needs project risk as there are limited time constraints and other technical problems. Chapter 5 is a conclusion where it summarizes all the pages.

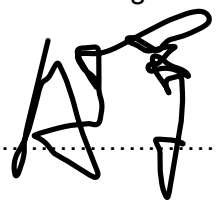
Work for the coming meeting:

Need to start working on chapter 3,4 and 5. Conclude which method is going to use for the robot.

Supervisor's Signature

Steven Eu ……

Student's Signature



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SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION SYSTEMS

SUPERVISION MEETING RECORD

Date: 19 July 2023 (Meeting 5)

Time: 3:00 – 4:30

Student: Adam Lo Jen Khai

Supervisor: Dr Steven Eu Kok Seng

Updated form the previous meeting:

Completed chapter 1, 2 and completed chapter 3.

Items discussed this meeting:

As the student finishes the literature review, he does not understand how to combine all the parts together. There are also some doubts on whether the parts used for each component and algorithm are correct. Mentor clarifies that the parts suggested are correct, but mentor suggest me to use Reeman Big Dog Chassis robot as it uses less time to build and has integrated APIs for simpler use. Student shown example of methodology created and the drawn graph. Mentor guides student on what packages to use on which parts connection using the new Reeman robot suggested, the naming does each package can be found on the ROS website and API can be found on Reeman website. The package is important as it is the tools that are used to run and connect all the components for it to work. The processor type is also suggested to the student which is Jetstream processor which will be able to run higher processing power. Student also asked what is the lidar used and SLAM used in the Reeman robot, mentor states that there is no need to buy another set of lidar as there is already an in build lidar to track the human, the algorithm also uses the in-build API so that code don't have to be built from scratch.

Work for the coming meeting:

Change the methodology to suit Reeman Big Dog Chassis. Update and update the whole chapter 3to suit the newly added information. Understand what Reeman Big Dog Chassis is and discover its API uses. Do research on Intel RealSense and how to implement it on Reeman robot.

Supervisor's Signature

Steven Eu

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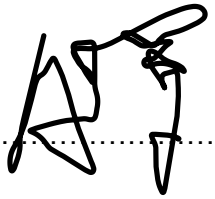
Student's Signature



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SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION SYSTEMS

SUPERVISION MEETING RECORD

Date: 31 July 2023 (Meeting 6)

Time: 4:30 – 5:00

Student: Adam Lo Jen Khai

Supervisor: Dr Steven Eu Kok Seng

Updated form the previous meeting:

Completed whole CP1 but need clarification.

Items discussed this meeting:

The literature review conclusion accurately. The mentor tells the student to use research gaps which talk about what the literature cannot resolve and need to explain what the research is lacking. Student clarifies the chapter 3 methodology if the description and picture of draw diagram is correct after student redo the previous version. The mentor states that methodology does not need to talk about setting up stage and diagram must be redrawn. Students ask if the hypothesis is written correctly, clarify the comparison method, the functionality and flow of information if it's accurate. The mentor told me to clarify initial project plan and gave me an example of how an initial project plan should look like.

Work for the coming meeting:

Final touch ups on the assignment for completion. Change the methodology part and literature review conclusion needs to change.

Supervisor's Signature

Steven Eu

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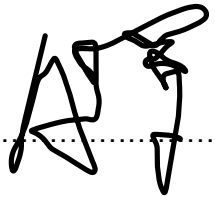
Student's Signature



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