EEE3097S 2023 ASSIGNMENT 2: FIRST PROGRESS REPORT

Due	14th Sept 2022 11:55 PM
Number of resubmissions allowed	3
Accept Resubmission Until	19th Sept 2022 11:55 PM
Grade Scale:	Points (max 50.00)

Assignment Instructions

Submission Requirements

Please submit your Second Progress Report for your report. In it, you should specify the following:

- **Admin Documents:**
  - A table showing the contribution of each of the team members
  - Snapshot of your project management tool (Trello or such)
  - Link to GitHub page
  - Comment from your tutor, stating that you have shown the simulation system to them. The tutor needs to check the following in the demonstration.
    - You are able to simulate an emulation of the grid
    - You are able to display the position of the acoustic source at different random positions on the grid
    - You are able to triangulate and display the estimated position of the acoustic source
  - Timeline and if your progress is on time

- **Simulation Setup:**
  - Describe the simulation environment and tools used.
  - Explain the rationale behind your chosen simulation approach.
  - Discuss any simplifications or assumptions made during the simulation.

- **System Design and Implementation:**
  - Provide clear and separate sections for the subsystems to be simulated and the system as a whole, clearly describing the simulations and/or experiments run on the subsystems and the system as a whole. Extensively select the subsystems that will be simulated and these should be inclusive but not limited to the following:
    - Time delay estimation
    - Triangulation
  - Present the overall system architecture, including the raspberry pi zeros and microphones.
  - Describe how the distributed sensor network is structured, making sure to incorporate this structure in your simulation model.
  - Explain the algorithms or techniques used for time difference of arrival (TDOA) calculation.

- **Simulation Results and Analysis:**
    - Share the outcomes of your simulation experiments for the simulated subsystems and the system as a whole, clearly separating these results into their own individual sections.
    - Present the accuracy and precision achieved in locating the acoustic signal within the grid.
    - Discuss any challenges or limitations encountered during the simulation and how you addressed them.

- **Evaluation(ATPs):**
    - Recreate the ATPs from your previous document
    - In a table provide an evaluation of the simulation results in terms of meeting the project ATPs
    - If an ATP has not been met discuss why and provide potential improvements or modifications to meet the ATP. Additionally discuss any potential improvements or modifications to enhance the accuracy or efficiency of the system.
    - Outline the next steps in the project, considering the transition from simulation to physical implementation.

- **Conclusion:**
    - Summarize the key findings from the simulation stage.
    - Reflect on the lessons learned and insights gained during this stage.

Don’t forget to reference!

Rubric

	Marks	**Weight**
Admin Documents	Final mark scaled by 1/0	
Simulation Setup	7	14%
System Design and Implementation	15	30%
Simulation Results and Analysis	15	30%
Evaluation(ATPs)	10	20%
Conclusion	3	6%
Total	50	100%

Warning: If you don’t get a score of 1 for the Admin Documents subsection, your final mark will be scaled to zero!

Extras

- Name your submission as follows (or lose **5%**): EEE3097S_2023_PR_1_GROUP_#_STDNUM001_STDNUM002_STDNUM003.pdf
- You will have 3 resubmissions.

- Late penalty will be 5% per day, until 5 days after the due date, when you will no longer be able to submit your document.