CARNEGIE MELLON UNIVERSITY AFRICA

Minutes of the CSSR4Africa Team Meeting

Date and Time: 23rd June 2025, at 12:00 pm
Venue: Zoom.
Status: Draft.

Participants

Adedayo Akinade
Birhanu Shimelis Girma
Clifford Onyonka
David Vernon, Chairman
Ibrahim Jimoh
Muhammed Danso
Muhirwa Richard
Tsegazeab Tefferi
Yohannes Haile

Apologies

Eyerusalem Birhan

1. Approval of the minutes of the last meeting

The participants reviewed the minutes of the previous meeting held on 16th June 2025 and approved them as a true and accurate record of the meeting.

2. Matters arising from the minutes

Action item 1: Send the failure handling report to the team
This is outstanding and yet to be done by T. Tefferi.

Action item 2: Add to the enhancements the need for more natural language interaction
This has been completed by Prof. D. Vernon.

3. Matters arising Progress reports

Following comments raised in Muhammad and Birhanu's progress report, Prof. Vernon provided detailed clarification on several technical aspects of the robot navigation. He explained the specifics of path planning algorithms, locomotion algorithms, and waypoint computation procedures, with particular emphasis on the locomotion processes required for moving from waypoint to waypoint. Prof. Vernon discussed additional technical details regarding these algorithms in greater depth in the demonstration videos section of the meeting.

Prof. Vernon also questioned Ibrahim's decision to discontinue work on the three-landmark localization approach in favor of a two landmark system. Both Ibrahim and Yohannes provided explanations for this change and outlined their reasoning for the revised approach. However, Prof. Vernon expressed concern about the current system's 30 cm error margin, stating that this level of inaccuracy renders the system unreliable for practical implementation. He recommended that Ibrahim review and verify the underlying mathematical formulas and continue development work on this issue following the June 30th deadline.

4. Status of tasks, deliverables, and software

Prof. Vernon congratulated Tsegazeab and Adedayo for their successful work on deliverable D5.4.3 Robot Mission Interpreter, acknowledging both the acceptance of the submission and the considerable effort they invested in completing this milestone. However, he also raised an important concern regarding project continuity, noting that with Adedayo's contract scheduled to conclude on June 30th, the team will need to identify and assign someone to assume responsibility for the ongoing system integration tasks. Prof. Vernon emphasized the importance of ensuring a smooth transition of these critical responsibilities to maintain project momentum and avoid any disruption to the integration process.

5. Status of milestones

Prof. David Vernon presented Version 6 of the project milestone document. All team members with assigned responsibilities reviewed and unanimously approved the milestone schedule. An action item for prof. Vernon is to update the milestones document.

6. Demonstration videos

Prof. Vernon provided several observations and suggestions following the demonstration videos. He noted that there was a redundant message in the Pepper robot's greeting sequence that should be addressed.

Additionally, he recommended placing masking tape or similar markers on the floor to visually indicate the spacing created by the dilation radius in the configuration space. This visual aid would help visitors understand why the robot avoids obstacles rather than taking a direct path to its goal, making the robot's navigation logic more transparent and educational for observers.

From the two demonstration videos showcasing BFS and A* path planning with divide and conquer locomotion, Prof. Vernon identified three critical areas requiring improvement: path planning efficiency, waypoint selection methodology, and locomotion execution between waypoints. He emphasized that the robot should maintain smooth movement when approaching waypoints rather than stopping to calculate heading angles, which would create more natural and efficient navigation. Prof. Vernon also suggested experimenting with rectangular dilation around obstacles instead of the current circular approach. Moving forward, he recommended adopting the A* path planning algorithm combined with divide and conquer locomotion while focusing optimization efforts on improving the locomotion processes between waypoints. Birhanu agreed to make those changes to the navigation software.

7. Future progress reports

Prof. Vernon outlined changes to the progress reporting structure moving forward. He indicated that he would discuss these modifications with Prof. Assane to ensure alignment on the new approach. Beginning after June 30th, team members will be required to submit individual personal reports that clearly detail the specific tasks and subtasks they are actively working on. However, for the immediate future, Prof. Vernon specified that the team should continue with the current format and submit task-based progress reports for the upcoming week before transitioning to the new personal reporting system.

8. Live demonstrations for selected staff

Prof. Vernon acknowledged that he had previously committed to providing a demonstration to selected staff members before his departure, but noted that he left before the final demonstration could take place. To fulfill this commitment, he identified specific staff members who should receive a live demonstration of the working system: Irene, Vicky, Giselle, Esther, Nancy, and Mika. Prof. Vernon emphasized that these individuals have provided valuable assistance to the team in various capacities throughout the project and deserve to see a functional demonstration of the system they helped support. He recommended that the team prioritize scheduling and conducting these demonstrations to honor the commitments made to these supportive staff members.

9. Any Other Business

Prof. Vernon addressed the important matter of project management transition following his departure from the project manager role after June 30th. He proposed implementing an agile project management approach where team members would rotate the project management responsibilities among themselves on a regular basis, suggesting rotation intervals of every two to three months. This collaborative management structure would ensure continuity of project oversight while distributing leadership experience and responsibilities across the team, allowing each member to develop project management skills and maintain shared ownership of the project's progress and direction.

10. Date and Time of Next Meeting

The next meeting will be held on Monday, June 30, 2025, on Zoom at noon.

End of the Meeting

There being no other business, the Chairman thanked the participants for their contributions and closed the meeting at 12:45 pm.

Action items following the meeting of the CSSR4Africa project

Action	Action description	Responsible	Completion date
1	Send the failure handling report to the team	T.Teferi	27 June 2025
2	Update the project milestone document	D. Vernon	27 June 2025

Table 1: Action Items