CSSR for

Culturally Sensitive Social Robotics for Africa

D3.5 System Integration and Quality Assurance

Due date: **30/06/2024**
Submission Date: **25/07/2024**
Revision Date: **n/a**

Start date of project: **01/07/2023** Duration: **36 months**

Lead organisation for this deliverable: **Carnegie Mellon University Africa**

Responsible Person: **D. Vernon** Revision: **1.0**

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Dissemination Level		
PU	Public	**PU**
PP	Restricted to other programme participants (including Afretec Administration)	
RE	Restricted to a group specified by the consortium (including Afretec Administration)	
CO	Confidential, only for members of the consortium (including Afretec Administration)	

Executive Summary

Deliverable D3.5 represents the outcome of Task 3.5. It comprises the functional integrated software at different stages of the system development. In addition to functional code, the deliverable includes a report on the results of the integration tests. The deliverable is issued annually over the duration of the project. The final version will present the final system test and a test report, along with a system user manual and a system reference manual.

To date, apart from D4.1 Sensor Tests and D5.1 Actuator Test, no software has been submitted for integration. The sensor tests and the actuator tests are exempt from integration because they are stand-alone software modules and are not part of the system architecture. They do not have associated unit tests and system tests. However, they do adhere to the standards on files and directories and on internal source code documentations.

At the end of the first year, eight deliverables that would have included the submission of software for integration have been delayed. These are as follows.

D4.2.1 Person Detection and Localization.

D4.2.2 Face and Eye Detection and Localization.

D4.2.3 Sound Detection and Localization.

D4.2.1 Robot Localization.

D4.2.3 Speech Event.

D5.2 Animate Behavior Subsystem.

D5.5.2.3 Kinyarwanda Text to Speech Conversion.

D5.5.3 Environment Map Generation.

The major cause of the delay is the poor quality of the data that are produced by the sensors on the Pepper robot, significantly increasing the time required to test and tune software. Ultimately, it has necessitated the purchase of new alternative sensors, e.g., a LiDAR and an RGBD camera. Another cause is the decision to upgrade to ROS Noetic, which has now been completed successfully.

Contents

1 Files and Directories

No software has yet been submitted for integration.

2 Internal Source Code Documentation

No software has yet been submitted for integration.

3 Component Unit Testing

No software has yet been submitted for integration.

4 System Testing

No software has yet been submitted for integration.

Principal Contributors

The main authors of this deliverable are as follows (in alphabetical order).

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Document History

Version 1.0

First draft.
David Vernon.
25 July 2024.