AN OPEN-SOURCE ROBOTIC STUDY COMPANION FOR UNIVERSITY STUDENTS

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The development of the RSC followed a systematic design process, which involved identifying the problem domain, specifying requirements, and designing and prototyping the RSC using design thinking methods. The key drivers for RSC design were determined using the Design Science Research Method, enabling the generation of knowledge during the rapid prototyping phase.

The RSC features a portable, friendly hourglass shape design, standing at 11cm tall and weighing ~374g. It aims to provide academic support to students throughout their learning journey.

The RSC prototype is constructed using affordable off-the-shelf components and utilises OpenAI's conversational API, which has proven its ability to simplify complex concepts and facilitate interactive conversations, effectively engaging university students in their studies.

DESIGN & DEVELOPMENT

By synthesising the literature review and key findings, this project developed a set of functional and non-functional requirements for the Robotic Study Companion (RSC).

The RSC prototype is constructed using affordable off-the-shelf components and utilises OpenAI’s conversational API, which has proven its ability to simplify complex concepts and facilitate interactive conversations, effectively engaging university students in their studies.

To provide a comprehensive user experience, the RSC enables interaction through various modalities such as voice, gesture, and tactile inputs. It incorporates visual, auditory, and motion indicators for enhanced expressiveness. The RSC strikes a balance between cost and technical performance, ensuring affordability for educational institutions and students.

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