

AMICA: AI Persona Chatbot Interface

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Abstract

This project focuses on developing a website for interactive communication with 3D characters, comprising four primary components and six supplementary sub-components. The core objectives include:

1) a semi-automatic system that enables 3D characters to initiate interactions autonomously, (2) a function-calling feature that detects user keywords and retrieves relevant information via external APIs, (3) enhanced remote accessibility through mobile device connectivity, and (4) a plug-in system for future feature expansion.

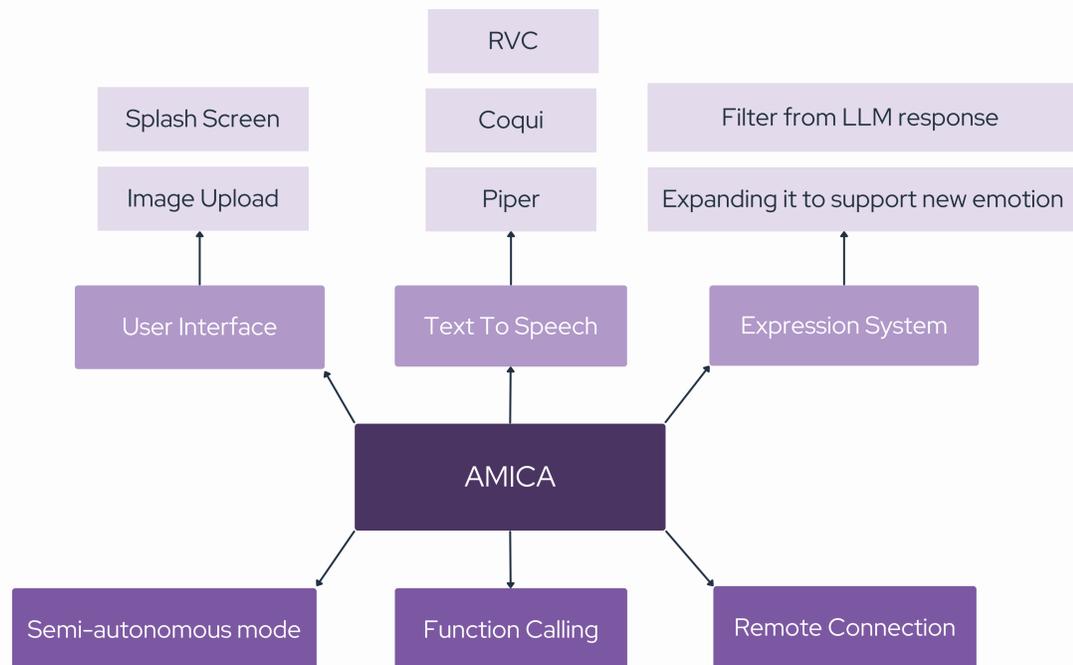
The sub-components further improve system functionality and user experience by: (1) integrating additional text-to-speech engines (Piper, Coqui, RVC), (2) enhancing the user interface with a splash screen, image upload feature, and a consistent exit button, (3) resolving issues related to the large language model (LLM), (4) enabling conversation import/export, (5) implementing emotional word filtering for refined interactions, and (6) expanding 3D characters' facial expressions.

By integrating these elements, the project aims to create an immersive and dynamic digital communication platform, enhancing user engagement with 3D characters.

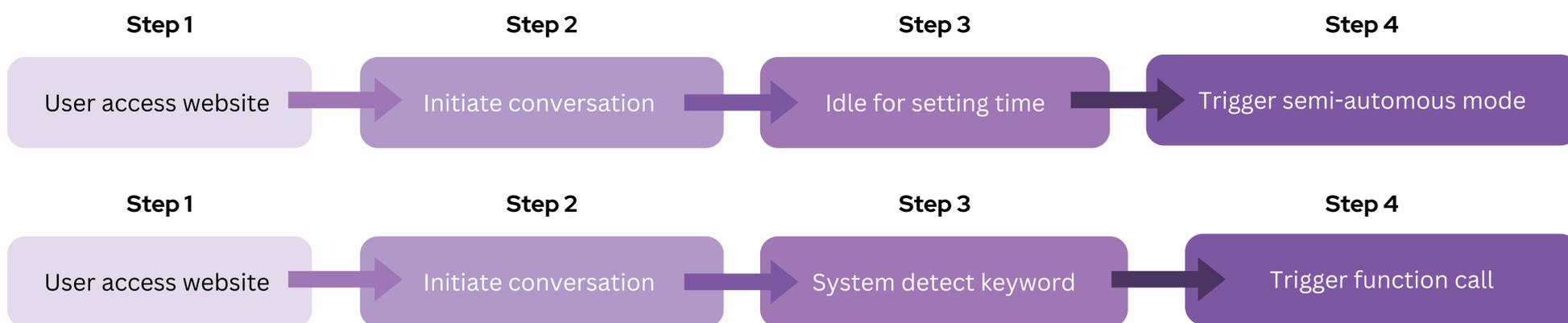
Introduction

The development of a website for interactive communication with 3D characters is a significant advancement in the field of digital interaction. This project, conducted as part of the cooperative education program at Arbius.ai, aims to enhance user experience by integrating speech synthesis and speech recognition technologies. The primary objective is to create a platform where users can engage with 3D characters in a natural and intuitive manner. This initiative not only improves the accessibility and functionality of digital communication but also sets a new standard for interactive web applications. The project involves the implementation of various features such as a semi-automatic communication system, function calling, remote connectivity, and an enhanced user interface, all designed to provide a seamless and engaging user experience.

Methodology



Work Flow



Conclusion

Enhancing the functionality, user experience, and overall capabilities of the Amica project. From developing user-friendly installers for both Windows and macOS to integrating advanced TTS systems and expanding the emotional range of 3D avatars, each task has been meticulously planned to address specific needs and challenges. The improvements in UX/UI, including consistent exit button design, a refined splash screen, and filtering of role-player outputs, are aimed at creating a seamless and intuitive user interface. System features like remote connect, chat mode, and load/save chat conversations enhance the usability and accessibility of Amica across various devices and platforms. Additionally, the integration of stop tokens within language models ensures more controlled and relevant interactions, while the expanded TTS options cater to a broader range of user preferences. Together, these efforts will not only refine the current functionalities but also pave the way for future developments, ensuring that Amica remains a cutting-edge, user-centric application.