Team 11

Daniel Krolopp, Evan Paglieri, Gus Vroustouris, Martin Tuskevicius

Project JARVIS

Problem Statement:
In the modern world, there is no way for a user to interact with their mobile data in a way that feels similar to the way they would with a human.

Existing personal artificial intelligence systems like Apple's Siri or Microsoft's Cortana are rarely used since they require complex navigation systems or structured, unnatural voice control. JARVIS, on the other hand is immediately accessible to users via a normal set of earbuds and integrates with their daily lives to achieve human-like interaction with their mobile data.

- Create a natural interface (i.e., voice) for users to interact with their data.

Project Objectives:
The software we are designing will provide a verbal interface, making access to one's information extremely easy. In this way, user can fluidly integrate the abilities of a personal artificially-intelligent assistant into their everyday lives. Humans are accustomed to interacting with their environment in ways that feel seamless and natural. Our project serves to increase both the user's ease of access to the advice and guidance of our digital assistant through voice-operated control without the hassle of fiddling with a handheld device. Spoken language will allow for an easier, faster and more connected user experience without the need to fumble for a handheld device. Our project integrates applications and user experience to create a more realistic and natural experience than other assistants such as Apple's Siri provide. We hope to achieve this using the microphone included in most earbuds along with predictive behavioral A.I. to anticipate the user's needs and concerns before he mentions it.

- Transmit information to users through audio.
- Receive and understand verbal commands from users, and use them as queries.
- Use predictive behavioral A.I. to anticipate the user's needs and concerns.

Stakeholders:
JARVIS' end users will most likely be tech-savvy and performance-minded individuals since Jarvis aims to facilitate day-to-day life and improve planning, navigation and information retrieval. Among these paying customers will be young people (especially college students) and professionals with an interest in achieving efficiency in everyday circumstances. Developers also have an interest in maximizing the use of natural language processing (NLP) libraries and voice recognition to make the user experience as fluid and natural as if one were speaking to a friend. Developers also seek to maximize modularity in the design of the implementation to allow for new applications and uses of the product. Development managers also look for a simple, user-friendly portal through which issues and recommendations will be communicated. This will allow for convenience in forwarding user needs to the developers who will implement needed changes.

Project Deliverables:
Verbal command of a readily-available will allow users to seamlessly incorporate their mobile data into their everyday lives. This will be achieved through a set of normal microphone-containing earbuds connected to a Raspberry Pi that the user will wear to converse with the system. Predictive artificial intelligence will allow JARVIS to satisfy user's explicitly defined needs as well as those anticipated based on prior behavior. This

allows JARVIS to remind the user about future habitual events (like going to class, when to set an alarm, etc.) as well as recognizing user needs before the user himself. JARVIS will also include GPS integration to aid in a user's real-world navigation and planning for meetings and appointments. This will allow the system to remind users if they are running late or that they need to be at a certain place at a certain time.

Our A.I. will be based off of the Mycroft-core engine and voice assistant. Our custom code will be capable of GPS tracking and can produce active alerts through the mimic TTS engine to remind the user of any appointments they are in danger of missing as well as other integrated updates. Since this project can have almost infinite upgrades we have decided that it is a tangible goal to have GPS mapping and the ability to predict user behavior before it occurs.