Voice Assistant Software
Stage 2

Group 44

CS 3307

Seif Elmolla, Pouya Langary, Lionel Foxcroft, Tyler Roberts, Haolun Li

October 13, 2019

User Stories

The story point estimation represents the expected degree of effort. For example, 1 point will represent minimal-effort task.

User Story (4 points)

As a user, I want to be able to make the device start listening when I say the wake word so that I can ask a question.

Acceptance Test
- The device starts listening when the wake word is spoken (pass)
- The device starts listening when the wake word was not spoken (fail)
- The device does not start listening when the wake word is spoken (fail)
- The device does not start listening when the wake word was not spoken (pass)

User Story (2 points)

As a user, I want to see a visible indicator that the device is listening so that I can be sure that it heard the wake word and started listening.

Acceptance Test
- The device shows a visible indicator when the wake word is spoken (pass)
- The device shows a visible indicator when the wake word was not spoken (fail)
- The device does not show a visible indicator when the wake word is spoken (fail)
- The device does not show a visible indicator when the wake word was not spoken (pass)

User Story (6 points)

As a user, I want to hear a response when I have finished talking so that I can be sure that it heard my request correctly.

Acceptance Test
- The device starts talking when the user has stopped talking (pass)
- The device interrupts the user (fail)
- The device does not say anything when the user has finished (fail)

As a user, I want to be able to ask the voice assistant what time it is, or to evaluate a mathematical expression so that I can know what time it is, or what the aforementioned mathematical expression evaluates to.

- The voice assistant gives the correct answer when asked what time it is (pass)
- The voice assistant gives the correct answer when asked to evaluate a mathematical expression (pass)
- The voice assistant gives the wrong answer when asked questions as described above (fail)

As a user, I want to be able to ask what the current weather is so that I can plan my day accordingly.

- The voice assistant tells you what the current weather is at your current location (pass)
- The voice assistant tells you the weather at some other location (fail)
- The voice assistant does not tell you the weather (fail)

As a user, I want to be able to add, remove, and ask for details about events on my calendar so that I can manage my time better.

- The voice assistant can add events to a calendar (pass)
- The voice assistant can remove events from a calendar (pass)
- The voice assistant can tell the user what their next event is (pass)

As a user, I want to be able to use the voice assistant to manage my to-do list so that I don't need to remember everything on there.

- The voice assistant can add events to a to-do list (pass)
- The voice assistant can remove events from a to-do list (pass)
- The voice assistant can list items on a to-do list (pass)

User Story (3 points)

As a user, I want to be able to set a timer and alarms so that I can get up on time and cook my lunch for the day without burning it.

Acceptance Test

- User can set a timer (pass)
- Assistant makes a sound when the time has elapsed (pass)
- User can set an alarm (pass)
- Assistant makes a sound when the alarm time has been reached (pass)

User Story (8 points)

As a user, I want to be able to use alexa skills so that I can use the assistant for a broader range of tasks

Acceptance Test

- The assistant is able to pass requests on to Alexa, and give the appropriate responses (pass)
- The assistant is not able to pass requests on to Alexa, or does not give the appropriate responses (fail)

User Story (7 points)

As a user, I want to be able to play music so I can enjoy my workout.

Acceptance Test

- Assistant will start playing music when asked (pass)
- Assistant will stop playing music when asked (pass)
- Assistant will pause/unpause music when asked (pass)

User Story (10 points)

As a user, I want to be able to communicate with IoT devices so that I can do more things without getting out of bed.

Acceptance Test

- User can control smart devices via voice commands (pass)
- User cannot control any smart devices (fail)

UML Class Diagram

Listener

+ listen(): string
- wake_word(): void
- listen_to_sentence(): string

<<use>>

Orchestration

+ main(): int
- execute_command(string): void

<<use>>

Output

- light: boolean

+ set_lights(boolean): void
+ speak(string): void

<<use>>

Math

+ process_command(string): string
- evaluate_expression(string): string

«interface»
CommandProcessor

+ process_command(string): string

Weather

+ process_command(string): string
- get_weather(time): string

Time

- alarms: Alarm[]

+ process_command(string): string
- set_alarm(time): string

Calendar

- events: Event[]

+ process_command(string): string
- add_event(event): string
- remove_event(event): string
- get_events(time): string
- get_next_event(time): string

TodoList

- items: string[]

+ process_command(string): string
- get_items(): string
- add_item(string): string
- remove_item(string): string