Test Plan and Report

Team Name: SmartBell

Product Name: Wave

Team Members: Ian Armada, Prakrit Goel, Shreyas Telkar, Michael Boutros, Kaaviya Saravanan

Sprint 1 Tests

Scenarios:

A. User Story 1: As an Elderly person, I want a doorbell ringing sound so that I can be notified when someone is there.
B. User Story 2: As a homeowner, I want to be able to create an account so that I can use the Wave application.
C. User Story 3: As a homeowner with security concerns, I want to be able to see who is at the door remotely so that I do not have to be near the door to find out.

Scenario 1: Detect someone is in front of doorbell and sound triggers (***Pass***)

1. Run code to print distances from the sensor.
2. When in front for multiple same readings, the doorbell sound should go off for a certain time period.
3. The app opens up a livestream.

Scenario 2: Create Account (***Pass***)

1. Start SmartBell app; select create account; type
   email: <tester@gmail.com>
   password: <tester123>
   press Get Started
2. User should be directed to the home page and should be able to login with their email

Scenario 3: Set up livestream from camera to browser on the same machine(***Pass***)

1. Ensure nginx and Flask are installed on the host machine.
2. Begin a livestream on the host machine.
3. Check if the temporary files are being created and removed from the server.

- If the temporary files are not being removed from the server, the test fails.
- If the livestream is accessible through the browser via the URL, the test passes.

Sprint 2 Tests

Scenarios:

A. User Story 3 cont…: As a homeowner with security concerns, I want to be able to see who is at the door remotely so that I do not have to be near the door to find out.
B. User Story 4: As a Homeowner, I want to be able to access the livestream from the app so that I do not have to rely on my computer.
C. User Story 4: As an Elderly Individual, I want to be able to appear in front of the doorbell and for the Homeowners to be notified when I'm at the front door so that I can have the full functionality of the doorbell and feel that it is accessible.
D. User Story 5: As a Homeowner, I want a page on the app to be able to see the livestream of my doorbell so that I can access the camera footage from my app.
E. User Story 6:As a Homeowner, I want to be able to update my personal information on the app so that I can personalize my account.

Scenario 4: Send HTTP request from client to server every second to catch updates on server. (***Pass***)

1. Run a bash script on the client machine which sleeps for one second, then wakes up, and sends a curl request to the server.
2. Begin the livestream on the host machine.
3. The script checks if the livestream file (m3u8 format) is present.

- If said file is present on the host and accessible by the client, the test passes.

Scenario 5: Mount file system from server to client (***Pass***)

1. Export file system from machine 1.
2. Mount file system to machine 2.
3. Create a file in the exported file system on machine 1.

- If the file is accessible on machine 2, the test passes.

Scenario 6: Launch Browser from App to Site Displaying Livestream (***Fail***)

1. Start SmartBell app
2. Login
   email: <tester@gmail.com>
   password: <tester123>
   press Get Started
3. Click on Wave button on homepage
4. Click on view camera footage button on homepage
5. User should be directed to web page with livestream from the doorbell

Scenario 7: Edit Profile (***Pass***)

1. Start SmartBell app; create/login account; click edit
   Name: <Johnny>
   Address: <111 Grandview St>

City: <Santa Cruz>
State: <California>
User Key: <adsjkfnasdf>
press Save Changes2

2. Users should see updated changes to name and User Key in the profile page. Product owners should be able to see saved addresses, city, and state on firebase.

Sprint 3 Tests

Scenarios:

A. User Story 7: As a Homeowner, I want to be able to get a notification when there is movement at my front door so that I can know when to check the livestream.
B. User Story 8:As a Homeowner, I want to be able to see the camera footage when there is someone at my front door from the app, so that I can just check from my phone.
C. User Story 9: As a Homeowner, I want to be able to use the app without any glitches so that I can see that my home is secure and have a positive user experience.
D. User Story 10: As a Homeowner, I want my doorbell to actually look like a doorbell so that people do not think it's junk.
E. User Story 11: As someone who is hard of hearing, I want to be able to customize the bluetooth speaker sound so that I can properly hear when someone is at the doorbell.

Scenario 8: When the sensor is activated, a notification should be received on the user's phone via Pushover. (***Pass***)

1. On the client machine (phone)
    a. The user installs the Pushover app, sets up their account, and verifies their email.
    b. The user generates their own API token via the Pushover website.
    c. The user manually provides the host machine with both their user id and their API token.
2. On the host machine (Raspberry Pi)
    a. A file is updated with the new user's information.
    b. Run the bash script on the host machine which executes the "notification script" (another bash script which sends the notification), giving it the arguments pertaining to a specific user's id and API token.

- If the user receives a notification on their phone, the test passes.

Scenario 9: Access livestream from a client on a different network than the server. (***Fail***)

1. Connect the client machine to a different network than the server.

- If the livestream is accessible from the client, the test passes.

Scenario 10: View Camera Footage from App (***Pass***)

1. Click on Wave button on homepage
2. Click on view camera footage button on homepage
3. User should be directed to web page with livestream from the doorbell

Scenario 11: Login

1. Start SmartBell app
2. Login

    email: <tester@gmail.com>
    password: <tester123>
    press Login

Scenario 12: Notifications pop up on the pushover app when there is someone at the doorbell. (***Pass***)

1. Bash script running every time code runs.
2. API calls are made and notification pops up when code is run.

Scenario 13: I want to be able to have full functionality without ever having to run code. (Fail)

1. Code runs fine when the python file rerun.
2. Complications with wifi, bash, and automated server on startup.

Scenario 14: A specified sound can be played from bluetooth to the speaker anywhere in the house. (***Pass***)

1. Play sound when the sensor triggers.
2. Customize sound and play a preset sound from the Downloads directory.