

TeamSafeSmartHome_SafeSmartHome_Deliverable_1

Team Safe Smart Home

Safe Smart Home

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Team Contract

CENG-322 TEAM PROJECT

Team Name: Team Safe Smart Home

Project Name: Safe Smart Home

Please negotiate, sign, scan and include as the first section in your Deliverable 1.

Please note that if cheating is discovered in a group assignment each member will be charged with a cheating offense regardless of their involvement in the offense. Each member will receive the appropriate sanction based on their individual academic honesty history.

Please ensure that you understand the importance of academic honesty. Each member of the group is responsible to ensure the academic integrity of all of the submitted work, not just their own part. Placing your name on a submission indicates that you take responsibility for its content.

Team Member Names (Please Print)	Signatures	Student ID
Project Leader: Jacob Stephens	Jacob Stephens	n01100888
Jerin Joy	Jerin Joy	N01276691
Veera Gudla	Veera Gudla	n01218714
Patrick Loboda	Patrick Loboda	n01309086

For further information read Academic Honesty Policy on
<https://humber.ca/legal-and-risk-management/policies/search-by-students.html>.

By signing this contract, we acknowledge having read the Humber Academic Honesty Policy as per the link below.

<https://academic-regulations.humber.ca/2018-2019/17.0-ACADEMIC-MISCONDUCT>

Responsibilities of the Project Leader include:

- Assigning tasks to other team members, including self, in a fair and equitable manner.
- Ensuring work is completed with accuracy, completeness and timeliness.
- Planning for task completion to ensure timelines are met
- Any other duties as deemed necessary for project completion

What we will do if . . .

Scenario	Accepted initials	We agree to do the following
Team member does not deliver component on time due to severe illness or extreme personal problem	JS JJ VG PL	a) Team absorbs workload temporarily __ b) Team seeks advice from professor _X_ c) Team shifts target date if possible __ d) Other:
Team member cannot deliver component on time due to lack of ability	JS JJ VG PL	a) Team reassigns component __ b) Team helps member _X_ c) Team member must ask professor for reference material __ d) Other:
Team member does not deliver component on time due to lack of effort	JS JJ VG PL	a) Team absorbs workload _X_ b) Team "fires" team member by not permitting his/her name on submission __ c) Other:

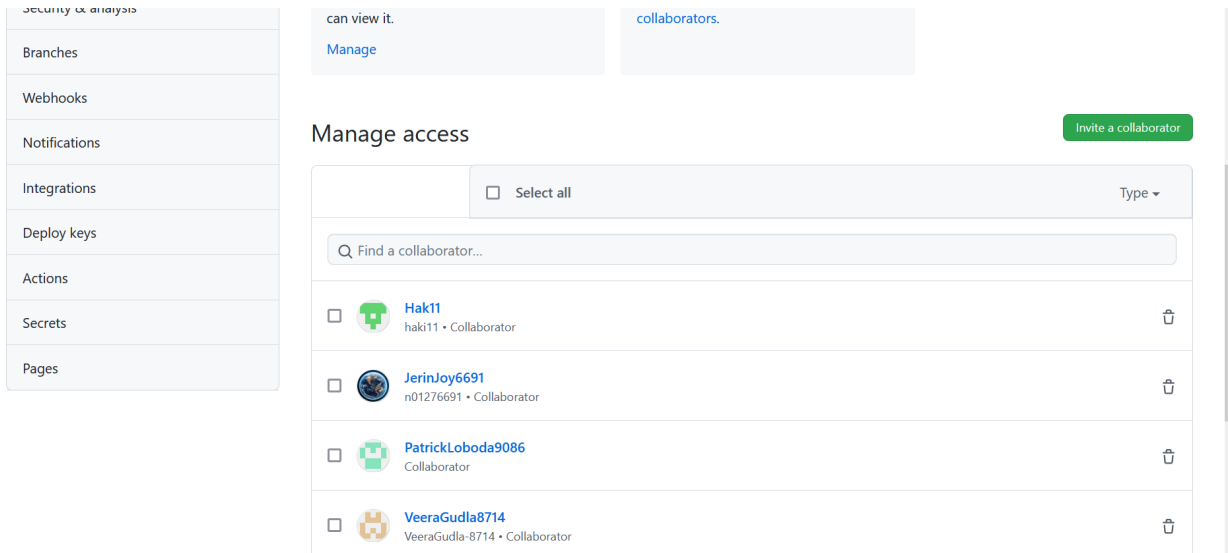
Team member does not attend team meeting	JS JJ VG PL	<p>a) Team proceeds without him/her and will assign work to the absent member __</p> <p>b) Team doesn't proceed and records team member's absence <u>X</u></p> <p>c) Team proceeds for that meeting but "fires" member after __ occurrences __</p>
An unforeseen constraint occurs after the deliverable has been allocated and scheduled (a surprise test or assignment)	JS JJ VG PL	<p>a) Team meets and reschedules deliverable <u>X</u></p> <p>b) Team will cope with constraint __</p> <p>c) Other:</p>
Team cannot achieve consensus leaving one member feeling "railroaded", "ignored", or "frustrated" with a decision which affects all parties	JS JJ VG PL	<p>a) Team agrees to abide by majority vote <u>X</u></p> <p>b) Team flips coin __</p> <p>c) Other:</p>
Team members do not share expectations for grade desired	JS JJ VG PL	<p>a) Team will elect one person as "standards-bearer" who has the right to ask that work be redone <u>X</u></p> <p>b) Team votes on each submission's quality __</p> <p>c) Team will ask for individual marking and will identify sections by author __</p> <p>d) Other:</p>

<p>Team member behaves in an unprofessional manner by being rude or uncooperative</p>	<p>JS JJ VG PL</p>	<p>a) Team attempts to resolve the issue by airing the problem at team meeting __</p> <p>b) Team requests meeting with professor to problem-solve <u>X</u></p> <p>c) Team ignores behaviour __</p> <p>d) Team agrees to avoid use of all vocabulary inappropriate to the business setting __</p>
<p>Team member assumes or requests that his/her name be signed to a submission but has not participated in production of the deliverable</p>	<p>JS JJ VG PL</p>	<p>a) Team agrees that this is cheating and is unethical __</p> <p>b) Friends are friends and should help each other <u>X</u></p> <p>c) Team will submit with signature but will advise professor who will take action __</p>
<p>There is a dominant team member who is content to make all decisions on the team's behalf leaving some team members feeling like subordinates rather than equal members</p>	<p>JS JJ VG PL</p>	<p>a) Team will actively solicit consensus on all decisions which affect project direction by asking for each member's decision and vote <u>X</u></p> <p>b) Team will express subordination feelings and attempt to resolve issue __</p> <p>c) Other:</p>

<p>Team has a member who refuses to participate in decision making but complains to others that s/he wasn't consulted</p>	<p>JS JJ VG PL</p>	<p>a) Team forces decision sharing by routinely voting on all issues __</p> <p>b) Team routinely checks with each other about perceived roles __</p> <p>c) Team discusses the matter at team meeting _X_</p>
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GitHub Repository Link

<https://github.com/jacobStephens0088/SAFESMARTHOME>



Project Background and Description

- 1. Project goals and final vision:** The final vision of the project is to make life easier and safer in the home. The project also aims to make life easier for those with disabilities, seniors, children and others. For this project, we will be building an app and hardware that is easy to use by everyone, and will allow many people to safely cohabitate; using smart home technologies such as automation, sensors and other means to prevent injuries and keep the home safe. The whole point of this smart home project is to allow users to cohabitate together easier while minimizing the chances of injuries, home break-ins, and fires.
- 2. Software aspect and hardware:** For the software aspect, we will build an android Safe Smart Home app, that will be used to help people cohabitate and be safe to prevent any form of threats in a household. For the hardware aspect, we will be using a CO2, temperature sensor, motion sensor, smoke sensor, and fire detection sensor. There will also be an LED display, alarm, a motor, LED lights, and fan, used in this project. When the temperature is too high the air fan will automatically turn on, when motion is detected to break

into the house near the main door - all doors and windows will automatically hard close, and when smoke is detected - the alarm will turn on. When CO2 is detected, the exhaust fan will automatically turn on. The LED display will show the user CO2, temperature information. The whole point of this smart home project is to allow users to cohabitate together while minimizing the number of risks that they may encounter, and keep all residents safe.

- 3. Screen flows:** When the user clicks on the app, they are taken to the first page, that is the login page with the user ID as SmartHome and password as Home123 or the user can enter the SIN card number to login.

When the user enters their user ID and password, they get an Address page to enter their home address. Then, after entering the home address and clicking on the report button, they go to the Home Status page. If the user enters the SIN CARD NUMBER, they will get the next page, which would be the Home Status page where they will see different features, such as CO2, temperature, smoke, fire, and if someone intrudes into the house.

The next page would be the Home Controls page, where the user can set the temperature to turn on the air conditioner, CO2 Level to turn on the exhaust fan, smoke detection to turn on exhaust fan, fire to auto dial 9-1-1, and for an intruder breaking into the house - press the button to close all the doors and windows of the house.

On the Home Status page and on the Home Controls page, the user's home address or SIN Number will be displayed depending upon how the user logged into the app on the login page, using the user ID/password or SIN Number.

A general overview page allows users to get all relevant information about their home, at a quick glance.

- 4. Incorporation of project interview feedback:** We changed the project from COVID Smart Home to Safe Smart Home.

- 5. read/write from the DB which is hosted on the cloud:** When the user enters the home address or the SIN Number on the login page, it will be written to the Firebase DB. On the Home Status and Home Controls pages, the address or SIN Number will be displayed by reading from the Firebase DB.

Project Scope

The scope of our project will involve using a raspberry pi and the I2C interface along with the firebase cloud database. The sensors that will be used to collect data are - CO2 humidity & temperature sensor, motion sensor, fire detection sensor, and smoke sensor. There will also be an LED display, an alarm, a motor, LED lights, and a fan used in this project. When the temperature is too high the fan will automatically turn on, when motion is detected near a door - the door will automatically open and lights automatically turn on, when enabled in app; and when smoke or fire is detected - the alarm and lights will turn on. The LED display will show the user CO2, humidity & temperature information - regarding how safe the temperature or humidity or CO2 levels are. When an intruder is detected, both the lights and alarm will be turned on. The time estimation for this project is 3 months. I am confident in my ability to complete the project on time. If there is a problem, I plan on consulting with the professor as soon as possible to get back on track as quickly as possible.

Theme: Ensure home safety to users using the app

Epic1: Better way of providing login to the app for users.

Story1: Provide user ID as SmartHome and password as Home123 in greyed out context on user ID and password spaces.

Story2: When the user logs in to the app using the user ID: SmartHome, and password: Home123 - then, the user gets a page to enter their home address.

Story3: Users can login to the app using the SIN Card number or using user ID SmartHome and password as Home123.

Epic2: Ensure safety to homeowners

Story1: Using sensors to alert the user of CO2 and smoke.

Story2: A motion sensor to detect any suspicious motion outside and/or inside the house.

Story3: The fire alarm will be activated when a fire happens inside the house, and 9-1-1 will be dialed automatically from the app.