

CENG 322

Deliverable 1

Team Name: Sleep Deprived
Project Name: Evee the Pet Companion
Team Number: Group 5

Chloe Chai - N01447321
Ubay Abdulaziz - N01437353
John Aquino - N01303112
Jennifer Nguyen - N01435464

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Team Contract

CENG-322 TEAM PROJECT**Team Name: Sleep Deprived****Team Number: 5****Project Name: Evee the Pet Companion**

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: Wei Wen (Chloe) Chai		N01447321
Ubay Abdulaziz		N01437353
John Aquino		N01303112
Jennifer Nguyen		N01435464

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	WC JA UA JN	a) <u>Team absorbs workload temporarily _X_</u> d) Other:
Team member cannot deliver component on time due to lack of ability	WC JA UA JN	a) Team reassigns component ____ b) Team helps member ____ b) Team "fires" team member by not permitting his/her name on submission ____ <u>d) Other: The team will first attempt to support the member and help teach/learn together how to complete the component. If this fails, the team will reassign the component. _X_</u>
Team member does not deliver component on time due to lack of effort	WC JA UA	a) Team absorbs workload ____

Scenario	Accepted initials	We agree to do the following
	JN	b) Team "fires" team member by not permitting his/her name on submission ____ <u>c) Other: Team absorbs workload, discuss issue in team meeting and tell member that they must put in effort in next component or they will be removed from the group. _X_</u>
Team member does not attend team meeting	WC JA UA JN	a) Team proceeds without him/her and will assign work to the absent member b) Team doesn't proceed and records team member's absence ____ <u>c) Team proceeds for that meeting but "fires" member after 5 occurrences _X_</u>
An unforeseen constraint occurs after the deliverable has been allocated and scheduled (a surprise test or assignment)	WC JA UA JN	a) Team meets and reschedules deliverable ____ <u>b) Team will cope with constraint _X_</u> c) Other:
Team cannot achieve consensus leaving one member feeling "railroaded", "ignored", or "frustrated" with a decision which affects all parties	WC JA UA JN	<u>a) Team agrees to abide by majority vote _X_</u> b) Team flips coin ____ c) Other:

Scenario	Accepted initials	We agree to do the following
Team members do not share expectations for grade desired	WC JA UA JN	<p>a) Team will elect one person as "standards-bearer" who has the right to ask that work be redone __</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) <u>Other: Discuss in team meeting and decide on a grade we should aim for that we are all happy with _X_</u></p>
Team member behaves in an unprofessional manner by being rude or uncooperative	WC JA UA JN	<p>a) <u>Team attempts to resolve the issue by airing the problem at team meeting _X_</u></p> <p>b) Team ignores behaviour __</p> <p>c) Team agrees to avoid use of all vocabulary inappropriate to the business setting __</p> <p>d) Team fires the team member.</p>
Team member assumes or requests that his/her name be signed to a submission but has not participated in production of the deliverable	WC JA UA JN	<p>a) <u>Team agrees that this is cheating and is unethical _X_</u></p> <p>b) Friends are friends and should help each other __</p> <p>c) That person name will not be put on the submission. __</p>

Scenario	Accepted initials	We agree to do the following
<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>WC JA UA JN</p>	<p>a) Team will actively solicit consensus on all decisions which affect project direction by asking for each member's decision and vote —</p> <p>b) <u>Team will express subordination feelings and attempt to resolve issue</u> <u>X</u></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>WC JA UA JN</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) <u>Team discusses the matter at team meeting</u> <u>X</u></p>

Verification of Google Play Developer Account

Here is both the email and Google Play message verifying that our Google Play Developer Account is approved.

Your ID has been verified Inbox x



Google Play Console <noreply-play-console@google.com>
to me ▾

Tue, 30 May, 22:34 (19 hours ago)



Google Play Console


30 May 2023, 22:34


Your ID has been verified

Your ID verification was successful. You can now publish apps on Google Play.


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Thank you,
The Google Play Console team





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Archive

Chloe Chai

Manage developer accounts

 chloeissleeping@gmail.com [Sign out](#)

Github Repository and Invite

<https://github.com/WeiWenChai7321/EveeThePetCompanion>

WeiWenChai7321 / EveeThePetCompanion

Private

<> Code

Issues

Pull requests

Actions

Projects

Wiki

Security

Insights

Settings

General

Access

Collaborators

Code and automation

Branches

Tags

Rules

Actions

Webhooks

Environments

Codespaces

Pages

Security

Code security and analysis

Deploy keys

Secrets and variables

Integrations

GitHub Apps

Email notifications

Who has access

PRIVATE REPOSITORY

Only those with access to this repository can view it.

Manage

DIRECT ACCESS

4 have access to this repository, 0 collaborators, 4 invitations.

Manage access

Add people

Select all

Type

Find a collaborator...

Hak11

Awaiting haki11's response

Pending Invite

Remove

JenniferNguyen5464

Awaiting JenniferNguyen5464's response

Pending Invite

Remove

JohnAquino3112

Awaiting JohnAquino3112's response

Pending Invite

Remove

UbayAbdulaziz7353

Awaiting UbayAbdulaziz7353's response

Pending Invite

Remove

Project Background and Description

1. Describe the project goals and final vision.

We aim to develop an advanced pet monitoring device with remote control and interaction, named Eevee the Pet Companion. We want to build an Android mobile app to allow users to monitor their pets with ease and control the device to move freely in homes.

In our vision, Eevee will feature a high-quality camera for live streaming, obstacle avoidance to keep pets safe, and a touch sensor-activated treat dispenser. We also plan to have the device autonomously follow designated paths in homes so the user can take often travelled routes without having to pilot the device. Ultimately, our goal is to enhance convenience, safety, and the bond between pets and their devoted owners.

2. Describe the software aspect and hardware.

The software aspect of the project involves developing a mobile application that connects to the pet monitoring device. The app will have features such as live streaming of the camera feed, a dashboard displaying the remaining treats in the dispenser, and a highlight page to view saved pictures and videos taken from the stream.

On the hardware side, the pet monitoring device consists of a car chassis with motors for movement, a camera module, a touch sensor for treat dispensing, and obstacle detection sensors.

3. Describe the screen flows.

The app will have three main screens accessible through a bottom navigation bar: Dashboard, Stream, and Highlight. The Dashboard screen will display information about the remaining treats in the dispenser. The Stream screen will provide a live stream of the camera feed, allowing users to monitor their pets in real-time. The Highlight screen will allow users to view and manage saved pictures and videos captured from the camera feed.

4. How you incorporated the feedback provided through the interview.

We were told that we had to think more about the sensors we wanted to use since we didn't have a clear idea of what we wanted yet. We also initially wanted to add an arm but was told it would be very complex. After reflecting and discussing, we ultimately decided that although the arm would be a nice idea to incorporate, it would be extremely challenging and attaching sensors on top of that could be too much work to do. We opted to not build an arm and instead focus on making the treat dispenser work as intended. This enabled us to narrow our sensors down to: an ultrasonic, grayscale, and touch sensor. Additionally we will be using a stepper motor to allow the pet dispenser to function.

5. Demonstrate how you are planning to satisfy to read / write from the DB which is hosted on the cloud.

To read and write data from the cloud database, the app will establish a connection to the cloud hosting service using appropriate authentication credentials. This will allow the app to retrieve information about the remaining treats in the dispenser and store captured pictures and videos. The app will utilize database operations such as querying and updating records to read and write data efficiently.

Project Scope

The technical scope of the project involves developing the mobile application and integrating it with the pet monitoring device. The project plan includes designing the app's user interface, implementing the required functionality, conducting thorough testing, and ensuring seamless communication between the app and the device. The project will be considered complete when the app is fully functional, allowing users to control the device, monitor their pets through live streaming, dispense treats, and access saved pictures and videos.

Project Layout

For the app's navigation, we will utilize a Bottom Navigation bar. This navigation bar will offer a convenient way for users to access the main screens of the app with just a single tap. The Dashboard screen will provide details about the available treats, the Stream screen will display the live camera feed, and the Highlight screen will allow users to view their saved media.

The decision to use a Bottom Navigation bar is well-suited for this project as it provides a straightforward and user-friendly method to navigate between the app's primary features. It ensures that users can quickly access important functionalities, including pet monitoring, media viewing, and checking the treat dispenser status.

Popular applications like Instagram and Twitter also employ Bottom Navigation for their navigation systems. Instagram's implementation allows users to effortlessly switch between the home feed, explore page, camera, notifications, and user profile. Similarly, Twitter's Bottom Navigation enables users to access the home feed, search, notifications, and direct messages. These examples showcase the effectiveness of Bottom Navigation in facilitating easy access to essential features across diverse application types.

Themes

Theme 1: Building a reliable and capable robotic device

Epic 1: Establishing Seamless Communication

- Story 1: Ensure Wi-Fi Capability for the Device
 - ◆ Task 1: Integrate Wi-Fi module into the device
 - ◆ Task 2: Develop Wi-Fi connection setup process in the mobile app
 - ◆ Task 3: Test and optimize Wi-Fi connectivity for reliable remote communication
- Story 2: Real-Time Pet Viewing
 - ◆ Task 1: Establish secure communication between the mobile app and the device
 - ◆ Task 2: Integrate a high-quality camera module into the device
 - ◆ Task 3: Develop real-time video streaming functionality in the mobile app
- Story 3: Capturing and Storing Pet Moments
 - ◆ Task 1: Implement photo and video capture functionality in the mobile app
 - ◆ Task 2: Enable remote triggering of photo and video capture on the device
 - ◆ Task 3: Implement media storage and retrieval features in the app for easy access to captured moments

Epic 2: Remote Device Control and Navigation

- Story 1: Remote Device Control and Navigation
 - ◆ Task 1: Mount motors onto the chassis and wheels for device movement
 - ◆ Task 2: Program the microcontroller to control device movements based on app inputs
 - ◆ Task 3: Design an intuitive and user-friendly control interface in the mobile app
- Story 2: Obstacle Detection and Avoidance
 - ◆ Task 1: Connect and calibrate obstacle detection sensors (e.g., ultrasonic, infrared)
 - ◆ Task 2: Develop obstacle avoidance logic to ensure safe navigation around furniture and obstacles
 - ◆ Task 3: Fine-tune obstacle detection threshold and adjust movement speed for optimal performance
- Story 3: Pre-set Paths for Pet's Favorite Spots
 - ◆ Task 1: Connect grayscale sensor to the device for line-following capabilities

- ◆ Task 2: Implement a line-following algorithm to enable predefined paths in the app
- ◆ Task 3: Enable users to initiate line following through the app for convenient navigation to pet's favorite spots

Theme 2: Enhancing Interactive Pet Engagement

Epic 1: Treat Dispensing and Rewards




- Story 1: Controlling Treat Amount
 - ◆ Task 1: Connect a stepper motor for precise control of treat dispensing
 - ◆ Task 2: Design an intuitive and user-friendly app interface to adjust treat amounts
 - ◆ Task 3: Develop code to trigger the treat dispenser based on user input and settings
- Story 2: Treat Dispenser Monitoring and Refill Reminder
 - ◆ Task 1: Implement an internal counter to track treat dispenser usage
 - ◆ Task 2: Display the fill level of the treat dispenser on the app for monitoring
 - ◆ Task 3: Create refill reminders in the app based on the remaining treats
- Story 3: Touch Sensor Activation for Treat Dispensing
 - ◆ Task 1: Set up touch sensor integration with the device's microcontroller
 - ◆ Task 2: Write code to detect touch sensor input and trigger the treat dispenser
 - ◆ Task 3: Test and refine touch sensor sensitivity and accuracy for reliable treat dispensing

Epic 2: Pet Monitoring and Well-being

- Story 1: Remote Health Tracking
 - ◆ Task 1: Develop user interface in the app to input and track pet health data (e.g., weight, diet)
 - ◆ Task 2: Implement reminders for regular health check-ups and vaccinations
 - ◆ Task 3: Integrate health data visualization in the app to monitor and track the pet's overall well-being
- Story 3: Pet Mood Tracking and Enrichment
 - ◆ Task 1: Implement a mood tracking feature in the mobile app where users can input and record their pet's mood throughout the day
 - ◆ Task 2: Develop a mood visualization interface in the app to display the pet's mood patterns over time

- ◆ Task 3: Provide personalized recommendations for activities and enrichment based on the pet's mood data to enhance their well-being
- Story 3: Daily Routine and Activity Planning
 - ◆ Task 1: Develop a scheduling feature in the mobile app to create and manage a daily routine for the pet
 - ◆ Task 2: Enable users to input feeding times, exercise sessions, and other activities in the app
 - ◆ Task 3: Implement notifications and reminders in the app to help users adhere to the planned routine

Signatures of Participants

Team Member	Signature
Wei Wen Chai	
Jennifer Nguyen	
John Aquino	
Ubay Abdulaziz	