

DeepSee

Group 6 Deliverable 1, CSCC01

Group Member Profiles:



Name: Angel Chen

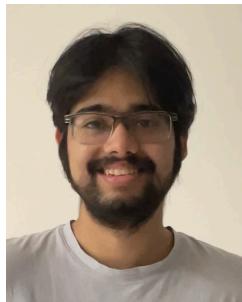
Student number: 1007637791

UTORID: chenan79

Email: angelchen396@gmail.com
angell.chen@mail.utoronto.ca

GitHub: anch13

Description: I'm a 3rd year co-op student studying Computer Science at UTSC and specializing in Software Engineering. I have proficiency in a few languages, including C, Java, Python, JavaScript, and have recently been learning to use React and Node.js, though I find that I've had more fun learning lower level languages such as Assembly, since it allows me more control over the program I'm creating. In my spare time, I enjoy playing tennis and learning new things. I am excited to work on this project to practice the skills we learned in class and create a meaningful app.

**Name: Fahim Zaman**

Student Number: 1008078580

UTORID: zamanf18

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fahim.zaman@mail.utoronto.ca

GitHub: fazam0616

Description: I'm a 3rd year student studying Computer Science, in a specialist in Software Engineering. I have experience programming in many languages, including C, Java, Python, JavaScript, and am experienced in many commonly used libraries and tools like React, Node.js, and Flake.

**Name: Alexander Motor**

Student number: 1008083413

UTORID: motorale

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GitHub: AlcxMtr

Description: I am a third-year Computer Science student at the University of Toronto. I have completed multiple projects and positions involving programming and software development practices. Skilled in various languages including C++, Java, and Python, and experienced with version control and Agile development. Notable hands-on experience in game development and mobile app creation, using technologies such as Unity, Android Studio, and React. Outside of programming, I enjoy playing soccer, badminton, video games, and skiing. I am eager to apply my academic knowledge and practical skills to solve real-world problems.



Name: Mohammed Al Hosni

Student #: 1008016745

UTORID: alhosnim

GitHub: Xpereze

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mohammed.alhosni@mail.utoronto.ca

Description:

I am in my third year of pursuing a Bachelor's degree in Computer Science at the University of Toronto and will be specializing in Software Engineering. My interests range from staying updated on world news to keeping tabs on the latest AI developments, with a specific focus on app development using technologies like React, Node.js, and JavaScript.

I bring practical experience to the table, having led and contributed to various school and private projects. These experiences have not only sharpened my technical skills but also honed my ability to lead and collaborate efficiently within a team.

What sets me apart is my passion for pushing the boundaries of the technologies I'm interested in. I thrive on hands-on exploration and enjoy collaborating with like-minded individuals to offer meaningful solutions in today's dynamic market.



Name: Muhammed Al-Jamali

Student #: 1008017263

UTORID: jamalim5

GitHub: MuhammedJam

Email: muhannad2247@gmail.com / muhannad.aljamali@mail.utoronto.ca

Description: I am a third-year Computer Science student at UTSC specializing in Software Engineering. Looking to gain more valuable experience in a professional environment. I'm interested in AI, digital automation, and computer network security, and have the ability to problem solve and complete work on time in both individual and team settings. I have experience programming in C, Python, Java, PLSQL, and SQL, as well as experience developing using Android Studio, Oracle Apex, and Figma. My hobbies include piano, football, and ice hockey. I also enjoy playing and developing video games in my free time.

**Name: Akshath Sohal**

Student #: 1008157478

UTORid: sohalaks

Github: aks-456

akshath.sohal@gmail.com

akshath.sohal@mail.utoronto.ca

Description: I am a third-year Computer Science student at the University of Toronto, with an interest in software engineering, app development, and AI. I was previously part of UTSC's startup accelerator, where I worked on a Blockchain based synthetic asset protocol. I also have experience working on projects in Java (Android Studio), C, SQL, and Python. In my free time, I enjoy playing sports and spending time with family and friends.

**Name: Daniyal Nizami**

1008493033

UTORID: nizamida

GitHub: Syntaxsec

bhayatdaniyal@gmail.com

d.nizami@mail.utoronto.ca

Currently an international Software Engineering student at UTSC, I previously worked with my family to create a social enterprise in my home country of Pakistan. There, I gained some experience in coordinating the development of online tools for social change, specifically an online job portal aimed at increasing the inclusion of women in the country's workforce. I also previously interned at the Market Development Fund, an Australian Aid agency that operated in Pakistan, where I helped apply and develop the design language used for their reporting on their projects in the country. In my free time, I enjoy consuming and writing sci-fi, and am currently working on side projects to bring some aspects of my favourite fictional universes to life, including the commbadge from Star Trek and, having grown up in a frustratingly warm environment, stillsuits from Dune.

Team Expectation Agreement

A **Team Expectation Agreement** is a document prepared by each team prior to starting work on team projects. Students should be held accountable and responsible for their own actions. Students will develop their own "rules of engagement" through development of a Team Agreement. This Agreement provides an opportunity for your team to specify preferred methods of communication, action plans, meeting schedules, goals, and consequences of actions (or inactions) of team members.

This agreement exists between the below signatories (Henceforth the "Team members" or "team") for the purposes of internally litigating the CSCC01 Winter 2024 Project titled "DeepSee" (Henceforth "the project"), as required by CSCC01 Staff and the University of Toronto. This contract is not legally binding.

TEAM NAME: DeepSee

I. CONTRACTUAL OBLIGATIONS

1. As a team, we agree to always set group meetings by (delete/update items):

- Speaking to each other respectfully and timely;
- Via Discord (CSCC01 Group Server) will be sent by **Any member of the group**;
- Communication response time should be within 24 Hours for each member.
- We will meet at least twice per week for at least 15 Minutes and our regular group meeting will be on Tuesdays 11:30 AM In person/Discord

2. Division of Work (Who does what, etc.) (delete/update items):

- Team Lead or Contact Person: Daniyal Nizami
 - Backup: Angel Chen
- Who will submit on Quercus: Daniyal Nizami
 - Backup: Angel Chen

II. CONTINGENCY PLANNING

3. If there is a change in the meeting, every person in the group will be notified:

- Via Discord(CSCC01 Group Server) will be sent by **Any valid member as needed**

4. We agree that the following is the advance notice to cancel or reset the meeting:

- 2-6 hours
5. **We agree that in order to change or cancel a meeting, we need agreement from:**
- Any member for whom circumstances prevent them from attending
6. **We agree that a team member can miss:**
- A maximum of 2 meetings.
7. **If a team member:**
- fails to attend the scheduled meeting(s);
 - fails to complete work on time;
 - fails to complete work in adequate manner and to quality standards set by the team;
 - fails to contribute meaningfully to the thought process during the team meeting(s);
 - behaves unprofessionally during meeting(s) or via written communication (i.e., does not pay attention, initiates conflict, etc.);
 - fails to contribute the same level as everyone else in terms of effort, skills, cooperation, and results;

Any of the above listed items (a-f) will constitute Breach of Agreement. Unless excused by the rest of the group, or has a valid reason (e.g., illness). It is up to the group members if they require proof for certain excuses. If any conflict arises please let the TA/Professor know. In any of the above cases, those signing this agreement have agreed to avoid legal proceedings and this contract is not considered legally binding in the province of Ontario or any other jurisdiction. Any Breach of Contract with regard to this agreement is to be settled between the team members and/or Course Staff for CSCC01/University of Toronto staff as the situation deems appropriate. Each member hereby waives their right to legal proceedings and litigation in regard to anything pertaining to this agreement, including damages.

II. CONSEQUENCES FOR BREACH OF AGREEMENT:

This section specifies procedures and penalties you wish to implement in the case of "slackers" or team member(s) who deviate from the Team Agreement.

8. Each of us agrees that if a team member is in breach of this team Agreement, we will take the following actions:

- Send a **Written Warning** (via email, etc.) to the individual outlining the complaint, providing evidence and supporting documents related to the problem, providing a time frame for the problem to be fully and completely remedied, and copy the TA & professor on the correspondence.

9. Each of us agrees that if there is failure on my part to meet my obligations to the team project, I will do the following:

- ***Respond in writing*** (via email, etc.) to the warning and provide a detailed plan and timeline on how I will remedy any and all problems related to my underperformance and/or lack of contribution to the team assignment(s). Copy the TA & professor on the correspondence.

10. Each of us understands that if the same or similar problem occurs one more time, or if the problem stated in the Written Warning is not fully rectified,

- The group must contact the professor if they intend to ‘fire’ or report a team member from the team (via email, etc.) that states the reason for firing.

In appending your signatures below, you are stating that:

- You participated in formulating the standards, roles, and procedures of this Agreement;*
- You have agreed to abide by these terms and conditions of this Agreement;*

Signed:

Printed Name	Signature	Date
Angel Chen	<i>AngellChen</i>	Feb 10, 2024
Alexander Motor	<i>Motor</i>	Feb 10, 2024
Daniyal Nizami	<i>DaNi</i>	Feb 10, 2024
Akshath Sohal	<i>AkshathS.</i>	Feb 10, 2024
Muhannad Al-Jamali	<i>MJ</i>	Feb 10, 2024
Fahim Zaman	<i>FahimZaman</i>	Feb 10, 2024
Mohammed Al Hosni	<i>MohammedAlHosni</i>	Feb 10, 2024

2. Personas and User Stories

Our product, DeepSee, is intended to take the form of a minimalistic Android Launcher with features aimed at helping users with disabilities and elderly users who may not have a great degree of familiarity with modern mobile User Interfaces. These features may include Accessibility Widgets, Magnification features and Reminders. This will allow us to modify and simplify the behaviour of the home screen of the device, and allow users to navigate between their applications more effectively and with less cognitive load.

User stories:

- As a user, I want to have a tutorial mode where I am able to hover over an app's action buttons to see a description to know what they do so that I can gain a better understanding of how to use an app.
- As a user, I want a language toggle on the front page so that it is easy to find and change the app to my native language.
- As a visually impaired user, I want to be able to increase and decrease text size so that I can read and reply to messages efficiently
- As a user who struggles with dexterity, I want my phone to ignore accidental successive clicks so that accidental touches do not register and do something I did not intend
- As a user with health issues, I would like to easily access emergency contact numbers so that in the event of an emergency I am able to quickly contact help
- As an elderly user who finds modern technology confusing, I want my phone to prioritize showing me the features that I use most, so that I am not distracted or confused by other applications.

Personas: On the next two pages.



Mrs. Anna Walton

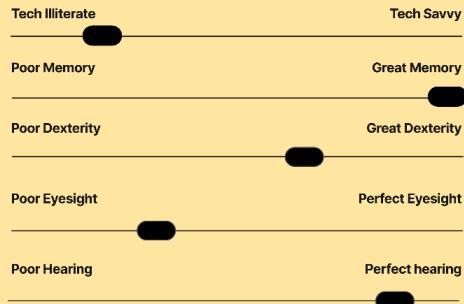
Archetype: Senior user.

- Age: 72
- Occupation: Retired Teacher
- Location: Canada
- Background: Retired teacher
- Condition: Presbyopia

Bio

Throughout her career, Anna touched the lives of countless students with her warmth and wisdom. In her retirement, she yearns to stay connected with her grandchildren, capture precious moments through photos, and potentially even stay informed with books and news on her smartphone. However, Anna finds many aspects of her phone unintuitive and daunting to learn. Her presbyopia and eye-to hand coordination makes it difficult to navigate small buttons and screens. She secretly wishes that she could throw away the smartphone her children had gifted her in favour of her previous flip phone.

Personality



GOALS:

- Use phone for calls
- Read the daily news using her phone
- Access camera and photo gallery on her phone

CHALLENGES:

- Unable to read small text on her phone
- Finds it especially difficult to click on the right characters using phone pop-up keyboards

Solutions:

- Launcher increases the size of all UI elements
- Buttons become larger and easier to see/click on



Mr. Ali Hashim

Archetype: User with Disabilities

- Age: 81
- Occupation: Retired Accountant
- Location: Canada
- Background: Desk job worker
- User with disabilities.

Bio

Ali Hashim, 81, struggles with poor eyesight. He has far farsightedness, a condition which makes it difficult for him to view nearby objects. As such, he often struggles with viewing text or icons on his cellphone, leading to frustration. Despite his visual impairment, Walter is dependent on his phone to stay connected with family and friends, especially his grandchildren, who live an hour away. Unfortunately, he has not been able to find a permanent solution to his problems.

Personality



GOALS:

- Utilize smartphone effectively to stay connected to family and friends
- Finding a solution that accommodates his visual impairment

CHALLENGES:

- Partially blind in both eyes
- Limited access to good accessibility tools

Solutions:

- Personalised experience in terms of navigation



Mrs. Gertrude Smithlene

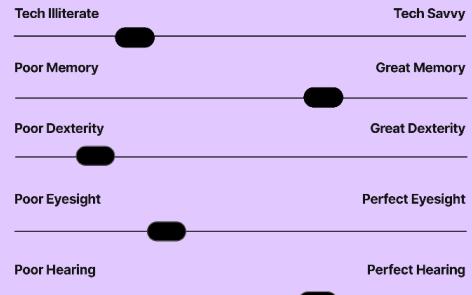
Archetype: Low-Dexterity User

- Age: 73
- Occupation: Volunteers at local kitten shelter
- Location: Canada
- Interested in Candy Crush, Texting her grand kids

Bio

Gertrude Smith is very new to the concept of touch-screen devices, as she's been using an old Nokia brickphone since the 2000's. Her grandkids have been pestering her to get something newer, and they scrounged up enough money to buy her first Android phone. And it confuses her so much it scares her. She can barely hold it without apps and widgets opening and closing with seemingly no direction, and shes afraid she'll do something wrong with it. She wants her grandkids to be impressed with their Granny Smith, and wants to text them and play that colourful candy mushing game. However she needs some help getting used to using this new interface.

Personality



GOALS:

- Learn to use touch screens and their gestures
- Text her grand kids
- Play Candy Crush

CHALLENGES:

- Low finger dexterity
- Unfamiliar with modern design cues

SOLUTIONS:

- Smart touch recognition that doesn't register for false palm touches
- High contrast simple icons to indicate where commonly used items are
- Larger icons and UI elements to ease interactions and viewing



Mr. Akshay Anderson

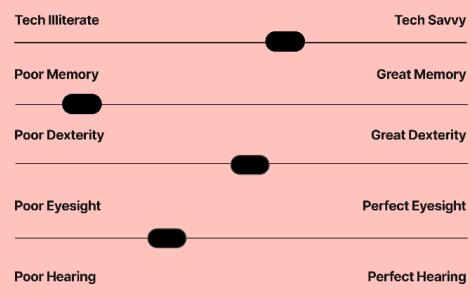
Archetype: Experienced User

- Age: 54
- Occupation: Famous Lawn Mower salesman
- Location: United States of America
- Condition: Poor Memory

Bio

Akshay Anderson, 54, is a retiree who has a good understanding of how to use technology, but has begun to experience the deterioration of his short-term memory. Despite his willingness to adapt to new technologies, he is finding it difficult to use his device effectively due to the reliance on user recollection modern minimal OS designs incorporate. Tasks that once seemed straightforward now require multiple attempts, causing frustration as he struggles to stay connected with friends and family online.

Personality



GOALS:

- Effectively navigate between apps
- Use Reminders effectively

CHALLENGES:

- Poor Memory
- Modern design puts a large load on user recollection

SOLUTIONS:

- UI Elements are labelled and categorised automatically
- Reminders widgets are front and center in design
- Strong integration with OS-provided digital assistants.

3. System Architecture

Since we intend to make an Android Launcher, we thought it would be best to use the MVC architecture as launchers tend to operate on similar principles, i.e. the User primarily interacts with the launcher's Controller which will translate user actions to the view and model. Diagram attached and linked below:

<https://www.figma.com/file/LQkxLb1s8X8XAFINhPWUQd/System-Architecture?type=whiteboard&node-id=0%3A1&t=ftHbVcZeRNFGb6Rc-1>

System Architecture Diagram

