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## CSU44051 Human Factors Group 6

### Social Media App Design

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<b>1. Introduction</b>	<b>4</b>
<b>2. Analysis of Existing Apps</b>	<b>5</b>
2.1 Discord (Minjuan Luo, Yingzheng Pan)	5
2.1.1 Description of the App:	5
2.1.2 Implications for Design - Sustainability:	5
2.1.2.1 Minimal Resource Usage:	5
2.1.2.2 Integration Capabilities:	5
2.1.2.3 Rich Media Support:	5
2.1.2.4 Gamification Elements:	5
2.1.2.5 Conversation Elements:	5
2.1.2.6 Hierarchical Organization:	5
2.1.2.7 Notification Management:	5
2.2 Twitter (Liwen Liu, Zehao Yu)	6
2.2.1 Description of the App	6
2.2.2 Implications for Design	6
2.2.2.1 Interaction with Users	6
2.2.2.2 Publicity	6
2.2.2.3 Personalised Features	6
2.2.2.4 Real-time update	6
2.2.2.5 Trending topics	6
2.2.2.6 Community Building	6
<b>3. Scenarios for different user groups</b>	<b>7</b>
Introduction	7
3.1 Game fanatics – Minjuan Luo	7
3.1.1 Persona:	7
3.1.2 Scenario:	7
3.1.3 Step-by-Step Interaction with the System:	7
3.1.3.1 Step-by-Step Interaction with the System:	7
3.1.3.2 User's Cognition and Feelings:	8
3.1.4 Persona's Actions and System Responses:	9
3.2 Second hand retailer – Liwen Liu	9
3.2.1 Persona	9
3.2.2 Setup	9
3.2.3 Step-by-step Interaction	9
3.2.4 Analysis on Implications	10
3.3 Socialise – Yingzheng Pan	10
3.3.1 Persona: Sarah, 26, Environmental enthusiast	10
3.3.2 Setup:	11
3.3.3 Step-by-step Interaction:	11
3.3.4 Analysis on Implications:	12
3.4 White Collar – Zehao Yu	12

Title: Social Media application – White Collar	12
3.4.1 Persona:	12
3.4.2 Scenario:	12
3.4.3 Step-by-Step Interaction with the System:	12
3.4.3.1 Open App	12
3.4.3.2 Browse News	12
3.4.3.3 Send Message	12
3.4.3.4 Sharing Experience	12
3.4.3.5 Event	12
3.4.4 Persona's Actions and System Responses:	13
<b>4. HTA</b>	14
Introduction	14
4.1 Game fanatics – Minjuan Luo	14
4.1.1 Goal:	14
4.1.2 Subtasks for Task 0:	14
4.1.3 Plan for HTA:	16
4.1.4 Analysis for HTA:	17
4.1.4.1 Frequent Tasks:	17
4.1.4.2 Complex Tasks:	17
4.1.4.3 Error Mitigation:	17
4.1.4.4 Potential Risks:	17
4.2 Second hand retailer – Liwen Liu	18
4.2.1 HTA	18
4.2.2 Plan	19
4.2.3 Analysis	19
4.3 Socialise – Yingzheng Pan	19
4.3.1 HTA	19
4.3.2 Plan	20
4.3.3 Analysis	21
4.4 White Collar – Zehao Yu	21
4.4.1 HTA	21
4.4.2 Subtasks:	21
4.4.3 Plan	22
4.4.4 Analysis	22
<b>5. Conclusion</b>	23
<b>6. Appendix</b>	23

# 1. Introduction - Minjuan Luo

As the intersection between technology, social interaction, and environmental consciousness evolves, the potential for digital platforms to foster sustainability within local communities becomes increasingly evident. This report delves into an analysis of two widely used communication platforms Discord and Twitter first and examines their features, functionalities, then implications for promoting sustainability within local communities. We also meticulously examine a spectrum of scenarios as well as HTA design across diverse user personas, analysing the intersection of social applications with sustainability initiatives. Each scenario encapsulates a distinct user experience, portraying the transformative possibilities of integrating sustainable practices within digital platforms to encourage eco-conscious behaviour and community engagement. The four scenarios presented encompass the journeys of varied personas: Sarah, the gaming enthusiast; Mary, the second-hand retailer enthusiast; another Sarah, the environmental enthusiast; and Emily, the white-collar professional. Each scenario illustrates the nuanced ways in which social applications can align with the principles of sustainability while meeting the unique needs of different user groups. These detailed user interactions serve as crucial case studies in understanding the potential design implications for integrating sustainability within digital social platforms.

## 2. Analysis of Existing Apps

### 2.1 Discord (Minjuan Luo, Yingzheng Pan)

#### 2.1.1 Description of the App:

Discord is a communication platform primarily used for voice, video, and text communication within a community or among friends. It was originally designed for gamers but has since expanded its user base to include various interest groups, education, and workspaces. Users can create or join servers (groups or communities), where they can engage in text chat, voice calls, and video conferences. Discord offers features like direct messaging, server channels, roles, and integrations with other apps.

#### 2.1.2 Implications for Design - Sustainability:

##### 2.1.2.1 Minimal Resource Usage:

Discord is designed to be lightweight and efficient, which is good for sustainability. It doesn't consume excessive system resources, making it accessible on a wide range of devices. This design approach is relevant for sustainability in terms of energy consumption and hardware resource usage.

##### 2.1.2.2 Integration Capabilities:

Discord's integration with various third-party apps and bots can be harnessed for sustainability. For instance, we can integrate apps that track and promote eco-friendly practices, thereby engaging users in sustainable activities and spreading awareness.

##### 2.1.2.3 Rich Media Support:

Discord provides support for multimedia content like images, videos, and emojis, making conversations more engaging. Including rich media in your app's communication features can enhance user interaction.

##### 2.1.2.4 Gamification Elements:

Discord has a built-in achievement system that encourages user engagement. Implementing gamification elements in the app can make it more enjoyable and motivate users to participate actively.

##### 2.1.2.5 Conversation Elements:

Discord seamlessly integrates text, voice, and video communication within channels offering users flexibility, which allows server administrators to set roles with specific permissions, providing a structured way to manage user access and contributions. This integration caters to a wide range of user preferences and situations, including the sustainability topics.

##### 2.1.2.6 Hierarchical Organization:

Discord utilises a hierarchical structure with servers and channels, offering an effective way to categorise and manage content. This hierarchy allows users to separate different topics or themes within a server. Discord provides a role and permission system, which enables server administrators to manage user access and contributions effectively.

##### 2.1.2.7 Notification Management:

Discord provides notification settings, allowing users to customise their experience. Discord provides users control over notifications to avoid overwhelming them with unnecessary alerts.

## 2.2 Twitter (Liwen Liu, Zehao Yu)

### 2.2.1 Description of the App

Twitter is a social media application where users can post tweets with text, image or videos publicly or communicate privately with direct messages among friends. Users can comment on tweets, like, quote, bookmark and repost tweets to interact with other users, or join public Spaces for live stream videos and join Communities with other registered users around their interests and topics. Twitter allows users to stay up to date with work related information, follow their interests or start their own business.

### 2.2.2 Implications for Design

#### 2.2.2.1 Interaction with Users

The features of Twitter such as reply, comment and retweet encourage users to participate in conversations with other users, expand users' social network and share content with others. Users can forward tweets through direct messages to other users, which promotes connection among users.

#### 2.2.2.2 Publicity

Twitter allows users to post contents publicly visible to the world and join public conversations. Twitter encourages open conversations and the tweets on twitter often have a wide audience. Users can use hashtags to categorise their tweets with keywords to increase the possibility of being explored by other interested users.

#### 2.2.2.3 Personalised Features

Twitter sends users personalised notifications and allows users to explore customised tweets based on their interests, locations and past interactions. This feature makes it easier for users to find contents that match their interests and improves user experience.

#### 2.2.2.4 Real-time update

Twitter's real-time updates feature ensures users are always up to date with the latest news, messages and conversations. This makes users more willing to spend time browsing the news and engaging because they know it's happening right now.

#### 2.2.2.5 Trending topics

Trending topics on Twitter display news or messages that are of interest to most people in a visible way to all users. This function can not only help users understand current news hot spots, but also encourage users with similar interests to engage in interactive discussions on their favourite topics.

#### 2.2.2.6 Community Building

Twitter builds communities around specific topics or interests through features like trending topics and hashtags. This allows users to find like-minded friends through these communities to communicate, discuss and share experiences. At the same time, it also enhances users' sense of belonging and love for Twitter.

### 3. Scenarios for different user groups

#### Introduction - Yingzheng Pan

In the ever-evolving landscape of social media applications, the intersection of personal values and digital platforms has become increasingly significant. This section delves into four unique scenarios, each highlighting the pivotal role of social media applications in shaping the lives and experiences of individuals in various domains and the benefits and importance of these platforms in promoting sustainability. From gaming enthusiasts with a passion for sustainability to eco-conscious fashion seekers and friends reuniting through a shared love for the environment, and white-collar professionals leveraging social media applications for professional growth, these scenarios showcase the power of these platforms to connect, inspire, and facilitate personal and professional fulfilment while contributing to the promotion of sustainable practices. Whether it's through eco-friendly gaming apps, second-hand shopping platforms, virtual hangouts or professional workplaces, social media applications are creating spaces where individuals can align their values and interests, fostering meaningful connections and empowering them to make a positive impact in their respective fields, all while supporting the broader goal of sustainable development. In this digital era, social media applications serve as a bridge between personal passions and the wider world, enabling individuals to explore, engage, and thrive in alignment with their values and desires, contributing to a more sustainable future.

#### 3.1 Game fanatics – Minjuan Luo

Title: Gaming Experience - Community and Sustainability

##### 3.1.1 Persona:

Name: Sarah

Background: Sarah is a 26-year-old avid gamer who's passionate about sustainability. She enjoys playing online games and connecting with fellow gamers. She's environmentally conscious, frequently participates in eco-friendly initiatives, and is a member of several sustainability-oriented communities.

##### 3.1.2 Scenario:

Sarah recently heard about a new gaming app that not only offers a great gaming experience but also integrates sustainability and eco-conscious features.

##### 3.1.3 Step-by-Step Interaction with the System:

###### 3.1.3.1 Step-by-Step Interaction with the System:

###### Step 1: Initial Discovery

- Sarah hears about the new gaming app through a friend who is also a member of a sustainability-focused community. Intrigued, she downloads the app from the app store and sets up her profile.
- Feeling a mix of excitement and curiosity, Sarah looks forward to exploring how her gaming interests and sustainability can intertwine.

#### Step 2: Onboarding

- The app guides her through a quick onboarding process, during which she's asked about her gaming preferences and sustainability interests. As she answers the questions, Sarah feels a sense of alignment between her gaming world and her values towards sustainability.
- Presented with options to join existing sustainability-themed gaming communities or create her own, Sarah feels enthusiastic about the prospect of connecting with like-minded individuals who share her passions.

#### Step 3: Joining a Sustainability Community

- Sarah decides to join an existing "EcoGamers" community dedicated to promoting sustainability in gaming. Finding a chat channel where members discuss eco-friendly gaming practices, she feels a sense of belonging and purpose.
- Engaging in conversations about sustainability and gaming strategies, Sarah experiences a genuine connection with others who share her values, making her excited to contribute and learn from the community.

#### Step 4: Gaming and Sustainability Integration

- While playing her favourite game within the app, Sarah notices an in-game popup notification. It's a "Sustainability Tip of the Day" that reminds her to power down her devices when not in use. She feels empowered by the app's proactive approach to intertwining gaming and environmental responsibility.
- The app displays her real-time energy consumption metrics and how they relate to her gameplay duration, giving her a sense of her environmental impact. This makes her more conscious of her gaming habits and motivates her to make eco-friendly choices during gameplay.

#### Step 5: Social Interaction

- Sarah starts a voice chat with her fellow "EcoGamers" community members. They decide to organise a virtual cleanup event within the gaming world they're playing in. Sarah feels thrilled about the idea of using gaming to make a positive impact on the environment.
- The app facilitates the planning and scheduling of the event and provides tools for tracking the environmental impact of their virtual cleanup. Sarah feels a sense of accomplishment, knowing that her virtual actions can translate into tangible environmental benefits.

#### Step 6: Reward System

- As Sarah participates in eco-friendly activities and events within the app, she earns "Eco-Points," a virtual currency. These points can be used to unlock eco-themed in-game items or even make real-world donations to environmental causes through the app. Sarah feels rewarded and fulfilled as she sees her gaming efforts translating into positive contributions towards sustainability.
- The app sends her a notification that she has earned enough Eco-Points to plant a tree in a reforestation project. This makes her feel proud and excited to be part of a gaming community that actively makes a difference.

#### 3.1.3.2 User's Cognition and Feelings:



Sarah's experience with the app evokes a range of positive emotions—excitement, curiosity, belonging, empowerment, fulfilment, and pride. Her cognitive journey is enriched by the app's ability to integrate sustainability seamlessly into her gaming world, fostering a sense of purpose and accomplishment. Each interaction deepens her connection with both the gaming community and her commitment to sustainability, resulting in a fulfilling and emotionally satisfying experience.

### 3.1.4 Persona's Actions and System Responses:

- Sarah's Actions: Sarah's strong interest in both gaming and sustainability prompted her to download the app and explore its sustainability features. She joined the "EcoGamers" community to connect with like-minded gamers and started participating in sustainability-focused activities.

- System Responses: The app provided a seamless onboarding experience, encouraged her to join a sustainability community, integrated sustainability tips into her gaming experience, enabled social interactions, and rewarded her for eco-friendly actions. This made Sarah feel excited and motivated to combine her passion for gaming with her commitment to environmental sustainability.

## 3.2 Second hand retailer – Liwen Liu

Title: Second Hand Experience - Buying and Selling

### 3.2.1 Persona

Mary, 24, business student

Mary loves buying new clothes. She is outgoing and likes to know more people and make new friends. She likes green life and cares about sustainability. She is on a tight budget so she is hoping to buy cheaper second hand stuff.

### 3.2.2 Setup

Mary is going to buy some new clothes to wear for the winter. She opened the app on her phone and entered the second hand retailer community.

### 3.2.3 Step-by-step Interaction

Mary felt excited and curious as she scrolled through the posts about people selling their second hand winter clothes. She saw a post about a blue jacket that looked really nice. She clicked into the post to view more pictures of the jacket and saw the price was only twenty euro, which she feels at ease she can totally afford. She felt more relieved as she read the text description and saw the size of the jacket was small, which was her size. Mary sent a direct message to the seller to express her interest and asked about how she can buy this jacket.

As she was waiting for the seller's response, she viewed some other posts by the seller and saw a pair of brown cotton shoes for only ten euros. The size was size six, a bit too large for Mary. But Mary

thinks the size is perfect for her cousin and this pair of shoes looked like the kind of shoes that her cousin would like. It would be ideal for a Christmas gift.

At this time, the seller replied and said she was okay with collecting the jacket at the south of the city, or pay by bank transfer and the seller can send the item by post. Since Mary doesn't live far from the south of the city, she asked whether she could go collect it the next day. Mary wanted to also buy the shoes and she got a discount of five euros by buying two items together. Mary agreed with the seller to collect the items at 5pm on the next day. Mary was quite happy with this experience and cannot wait to collect the jacket and shoes.

Mary noticed that in her closet, there were some clothes she bought a while ago but she hardly wore them because she didn't like the clothes anymore. Mary decided to send a post in the second-hand retailer community in the app and see if anyone was willing to buy them at a cheap price. She took pictures of a sweater she bought last year and posted that she was willing to sell it for eight euros. Mary felt surprised that only one hour later, a girl contacted her to express her interest in buying the sweater. They arranged the payment and Mary said she will send the sweater by post to the girl but there will be an additional charge of two euros. Mary felt a sense of accomplishment for selling her clothes.

### 3.2.4 Analysis on Implications

#### 3.2.4.2 Positive Implications

The application created a platform for second hand enthusiasts, making it easier for potential second hand buyers to explore nice cheap second hand products and also helped people to sell their unwanted items to other users who need them. The buyers get a good experience by saving their budgets and sellers are happy to get rid of unwanted items. This encourages sustainability in communities and avoids unnecessary waste.

#### 3.2.4.2 Potential risks

However, the application should also make users be aware of the potential scams and warn people to take extra cautions especially when making payment.

## 3.3 Socialise – Yingzheng Pan

Title: Virtual Hangout - Friends Reunited with a Green Twist

### 3.3.1 Persona: Sarah, 26, Environmental enthusiast

Sarah, a proactive friend who treasures both her relationships and the environment, takes the lead. She utilises our application, creating a private space named the "Eco-Friendly Reunion," tailored for their virtual gathering. Her mission is clear: to ensure a seamless and enjoyable experience, reuniting old friends while embracing their shared passion for an eco-conscious lifestyle. Sarah's dedication to sustainability is underscored by her new job as a Sustainability Project Manager, focused on pioneering initiatives that bring positive change to her city's environment.

### 3.3.2 Setup:

Personalised invitations are extended to Alex, Emily, and John, each accepting with eager anticipation. Excitement radiates from each of them as they prepare to reunite with their cherished friends. Within this thoughtfully crafted space within our application, their exclusive voice channel, "Reunion and Refresh," transforms into the welcoming stage for their reunion and heartfelt discussions. The atmosphere mirrors the warmth and inclusivity that have fortified the bonds of this close-knit group.

### 3.3.3 Step-by-step Interaction:

During the conversation, the friends not only shared updates and discussed their work but also delved into their thoughts and emotions, making the interaction rich with cognition and feelings.

Sarah felt a deep sense of fulfilment as she shared her latest updates, her voice laced with enthusiasm and passion for her role as a Sustainability Project Manager. Her dedication to pioneering initiatives for her city's environment resonated with a mix of pride and determination, showcasing her commitment to making a positive impact. Alex was inspired by Sarah's dedication and shared his recent adventures with genuine awe and excitement. His voice carried the wonder he felt while immersing himself in the beauty of the natural world, expressing a profound connection with nature. His stories evoked feelings of amazement and reverence among the group, reminding them of the awe-inspiring wonders of the environment.

While Emily discussed her artistic projects, she infused her words with a sense of creativity and inspiration drawn from nature. Her passion for art and nature intertwined seamlessly, creating a vivid picture of her imaginative process. The group could feel her artistic expressions coming to life, igniting a sense of admiration and creativity within them. John was the storyteller of the group, reminisced about their college days with heartfelt anecdotes, weaving a tapestry of shared memories. His words were laced with nostalgia and warmth, bringing forth a range of emotions from laughter to heartfelt sentiment. As he recalled their outdoor escapades and their shared love for the environment, a sense of camaraderie and friendship filled the virtual space, making everyone feel deeply connected.

As the conversation flourished and the idea of a virtual nature walk was proposed, the friends experienced a surge of excitement and anticipation. The prospect of exploring their local natural surroundings, even in a virtual realm, sparked a sense of curiosity and wonder. Their collective decision to embark on this adventure added an element of shared exploration, deepening their connection and allowing them to experience the beauty of the natural world together, fostering a sense of unity and mutual appreciation.

In this virtual hangout, the friends not only shared their professional endeavours but also opened their hearts, allowing their genuine emotions and shared love for nature to create a profound and meaningful connection among them. The conversation left them feeling inspired, connected, and eagerly anticipating more virtual hangout sessions in the future, strengthening their bond as friends and environmental advocates.

### 3.3.4 Analysis on Implications:

**Environmental Awareness:** The scenario places a strong emphasis on environmental awareness and sustainability. By integrating discussions about eco-friendly practices, sustainability initiatives, and nature appreciation, the virtual hangout actively promotes these values among the friends. This can lead to increased awareness and consciousness about environmental issues.

**Shared Experiences:** The scenario encourages the group to actively contribute and share their experiences related to sustainability. This sharing of experiences can help in building a stronger sense of community and shared values among the friends, fostering a deeper connection.

**Inspiration and Ideas:** By discussing their own sustainable endeavours and eco-friendly initiatives, the friends can inspire each other to adopt more environmentally friendly practices in their own lives. It can also lead to the generation of new ideas for eco-conscious projects.

**Virtual Nature Walk:** The idea of a virtual nature walk allows the friends to virtually explore natural surroundings. This activity not only promotes a love for nature but also serves as a reminder of the beauty of the natural world, which may encourage more eco-conscious behaviour.

## 3.4 White Collar – Zehao Yu

### Title: Social Media application – White Collar

#### 3.4.1 Persona:

Emily is a 27-year-old marketing manager working at a well-known Internet company. She graduated from a prestigious university and holds a PhD in Marketing. As a tech-savvy professional, she has a passion for design and creation. In order to obtain industry information in a timely manner, she often uses social media application to learn about the latest marketing trends. She also often uses social media application to establish connections with clients or industry peers and exchange work experiences.

#### 3.4.2 Scenario:

On Friday morning, Emily came to her desk, sat down and started her morning routine. She pulled out her phone, with her most used social media apps displayed on the screen.

#### 3.4.3 Step-by-Step Interaction with the System:

##### 3.4.3.1 Open App

Emily taps the social media app's icon with her finger. The login screen was displayed on her phone screen. Then she entered her username and password and successfully logged in to her account.

##### 3.4.3.2 Browse News

After successfully logging in, Emily received personalised news and messages pushed to her. She clicked on the marketing section and browsed posts from marketing experts and articles about industry trends. Emily likes the simple interface of this social media application, without unnecessary advertisements and the like to distract her attention.

#### 3.4.3.3 Send Message

Emily was browsing the news when she suddenly remembered that she still needed to discuss an upcoming project with her client today. She immediately switched to the contact interface and clicked on the customer's name to open the chat interface. Then she started discussing the project content with the client. Emily feels it saves time because she doesn't need to discuss with customers in person.

#### 3.4.3.4 Sharing Experience

After discussing the project with the client, Emily felt that she had gained a lot of valuable experience from her recent work. Emily wanted to share these experiences so she edited them into words. Then she clicked the 'Upload' button to publish the edited text. Other people's comments made Emily very happy.

#### 3.4.3.5 Event

Emily saw on a certain piece of news that there was a virtual marketing event the next night. She was very interested in it and read the news carefully. Then she clicked the link in the article to jump to the registration page to register. Through this activity, Emily met many like-minded friends, which made her like this social media application even more.

### 3.4.4 Persona's Actions and System Responses:

#### Actions:

Emily opened the social media application and entered her username and password to log into her account. She browsed the personalised news and messages pushed to her. Emily communicates with clients about projects that need follow-up by messaging them. She then edited her work experience and posted it on social media apps. She then browsed the news on the app and signed up for the virtual marketing event.

#### Responses:

The social media application verifies the entered username and password, displays a welcome screen and pushes news and messages that may be of interest based on an artificial intelligence algorithm to Emily. Process the article uploaded by Emily and present it in a better form. In addition, the application provides the function of sending and receiving messages, which also includes functions such as sending files or videos.

## 4. HTA

### Introduction – Zehao Yu

The four HTA sets in this part describe the interaction between users and applications in four different scenarios. The scenarios and domains of each HTA are different, but at the same time there are shared elements, such as setting up the application and navigating to the interface. Moreover, the user interactions described by these four HTA sets are related to the four scenarios in the previous part.

HTA for "Game fanatics" focuses on users who are passionate about gaming and sustainable development. It provides guidelines for integrating users' interests into applications.

HTA for "Second hand retailer" caters to user groups interested in second hand shopping and selling. It provides steps for buying and selling within the app.

"Socialise"'s HTA focuses on users' social interaction and information sharing needs. It provides users with a virtual platform for dialogue and discussion.

"White Collar"'s HTA focuses on what users in a professional environment think about browsing news and sharing experiences. It provides a platform where users in the professional field can discuss industry news.

### 4.1 Game fanatics – Minjuan Luo

#### 4.1.1 Goal:

Task 0: Sarah wants to integrate her passion for gaming with her commitment to sustainability using the new gaming app.

#### 4.1.2 Subtasks for Task 0:

##### 1. Download and Set Up the App

###### 1.1 Search for the app on the app store

###### 1.1.1 Open the app store application

###### 1.1.2 Use the search function to type the app's name

###### 1.1.3 Browse the search results

###### 1.1.4 Find the correct app

###### 1.2 Download the app

###### 1.2.1 Tap on the app's icon in the search results

###### 1.2.2 Tap the "Download" button

###### 1.3 Install the app

###### 1.4 Set up a user profile

###### 1.4.1 Provide a username

###### 1.4.2 Set a profile picture

###### 1.4.3 Enter an email address

###### 1.5 Select gaming preferences and sustainability interests

###### 1.5.1 Choose preferred game genres

### 1.5.2 Indicate interest in sustainability themes

## 2. Join a Sustainability Community

- 2.1 Browse and search for existing sustainability-themed gaming communities
  - 2.1.1 Access the "Communities" section
  - 2.1.2 Use the search function to find communities
  - 2.1.3 Browse through community descriptions
- 2.2 Choose the "EcoGamers" community
  - 2.2.1 Select "EcoGamers" from search results
  - 2.2.2 View community details
- 2.3 Request to join the community
  - 2.3.1 Tap the "Join" button
  - 2.3.2 Wait for community approval
- 2.4 Receive and accept the community invitation
  - 2.4.1 Open the notification about the invitation
  - 2.4.2 Accept the invitation to join

## 3. Explore Sustainability Features Within the Community

- 3.1 Navigate the community interface
  - 3.1.1 Open the "EcoGamers" community
  - 3.1.2 Explore the community homepage
- 3.2 Find and join the "Sustainability Tips" channel
  - 3.2.1 Access the community channels
  - 3.2.2 Search for the "Sustainability Tips" channel
- 3.3 Discover eco-friendly gaming discussions
  - 3.3.1 Read posts and discussions within the channel
  - 3.3.2 Like and comment on posts
- 3.4 Interact with fellow community members
  - 3.4.1 Start a text chat with another member
  - 3.4.2 Participate in ongoing voice chats

## 4. Integrate Sustainability in Gaming

- 4.1 Start a gaming session within the app
  - 4.1.1 Choose a game from the app's library
  - 4.1.2 Start a new gaming session
- 4.2 Notice in-game popup notifications
  - 4.2.1 Continue gaming until a notification appears
- 4.3 Read the "Sustainability Tip of the Day"
  - 4.3.1 Tap on the notification
  - 4.3.2 Read the tip provided
- 4.4 Check real-time energy consumption metrics
  - 4.4.1 Access the app's dashboard
  - 4.4.2 Observe energy consumption statistics
- 4.5 Assess the environmental impact of her gameplay
  - 4.5.1 Use provided tools to estimate impact
  - 4.5.2 Reflect on sustainability implications

## 5. Organise a Virtual Cleanup Event

- 5.1 Initiate a voice chat within the "EcoGamers" community
  - 5.1.1 Access the community's voice chat feature
  - 5.1.2 Create a new voice chat room
- 5.2 Propose the idea of a virtual cleanup event
  - 5.2.1 Share the idea in the voice chat
  - 5.2.2 Explain the concept and purpose
- 5.3 Collaboratively plan the event within the app
  - 5.3.1 Use app's planning and organisation tools
  - 5.3.2 Set a date, time, and goals for the event
- 5.4 Schedule the event and invite community members
  - 5.4.1 Send event invitations within the app
  - 5.4.2 Confirm the event details with participants
- 5.5 Use app tools to track the environmental impact of the event
  - 5.5.1 Monitor the event's progress
  - 5.5.2 Record and assess environmental impact data
- 6. Engage with the Reward System
  - 6.1 Participate in eco-friendly activities
    - 6.1.1 Complete sustainability-related tasks
    - 6.1.2 Earn achievements for sustainable gaming
  - 6.2 Earn "Eco-Points"
    - 6.2.1 Receive points for achievements
    - 6.2.2 Accumulate points for various actions
  - 6.3 Access the in-game shop to redeem points
    - 6.3.1 Navigate to the in-game shop
    - 6.3.2 Browse available items for purchase
  - 6.4 Choose in-game items or real-world environmental donations
    - 6.4.1 Decide between virtual and real-world rewards
    - 6.4.2 Make a selection based on earned points
  - 6.5 Receive a notification about earning enough Eco-Points to plant a tree
    - 6.5.1 Open the notification
    - 6.5.2 Accept or initiate the tree-planting action

#### 4.1.3 Plan for HTA:

Plan 0: Sequence of steps for app exploration

- Plan 0: Perform tasks 1, 2, and 3 when initially exploring the app, in that order.

Plan 1: Tasks for using the app for the first time

- Plan 1: Initially perform task 1.1 and then 1.2 when using the app for the first time. Only proceed to 1.3 if it is not the first time using the app.

Plan 2: Steps for joining a community

- Plan 2: Perform tasks 2.1 and its subtasks in sequence. Followed by 2.2 and its subtasks. Continue to 2.3 if interested in joining a community.

Plan 3: Actions for navigating community features

- Plan 3: Engage in tasks 3.1 and then proceed to 3.2 for discovering sustainability discussions within the community.

Plan 4: Interacting with sustainability features while gaming



- Plan 4: Start gaming (task 4.1), edit posts if necessary (task 4.2), and delete posts if required (task 4.3).

Plan 5: Engage with the app's reward system

- Plan 5: Initiate in-app sustainability-related actions (task 6.1), earn "Eco-Points" (task 6.2), access and redeem points (task 6.3), select rewards (task 6.4), and plant a tree if notified (task 6.5).

#### 4.1.4 Analysis for HTA:

##### 4.1.4.1 Frequent Tasks:

The most frequent tasks are associated with initial exploration (Tasks 1, 2, and 3), community navigation (Task 3.1 and 3.2), and engagement with the reward system (Task 6.1 to 6.5). To enhance user experience, the app should prioritise these tasks by providing a seamless and guided process for new users, organising community content by popularity, and simplifying reward utilisation.

##### 4.1.4.2 Complex Tasks:

Complex tasks encompass joining a community (Plan 2) and navigating the app's reward system (Plan 5). Streamlining these tasks by offering clear step-by-step guidance and intuitive navigation can significantly improve user engagement.

##### 4.1.4.3 Error Mitigation:

For the task of making payments within the app, potential errors may arise from buyer-seller disputes. To mitigate these, implementing in-person payment options and providing clear guidelines for user interactions could be beneficial in reducing such issues.

##### 4.1.4.4 Potential Risks:

While the integration of sustainability features within the gaming app presents numerous advantages, there are potential risks to consider. One significant risk involves the possibility of user data privacy concerns, especially if the app tracks and shares energy consumption metrics. Ensuring stringent data protection measures is crucial to prevent potential breaches or misuse of sensitive information. Additionally, the gamification of eco-friendly actions might inadvertently lead to performative behaviour without genuine sustainability practices, undermining the app's core purpose. Striking a balance between encouraging sustainable actions and avoiding tokenistic engagement is a challenge that necessitates careful design and implementation strategies.

## 4.2 Second hand retailer – Liwen Liu

### 4.2.1 HTA

0. To explore the second hand retailer community

1. Install and set up the app
  - 1.1 download the app

- 1.1.1 search for the app in app store
    - 1.1.2 click download the app
  - 1.2 create an account
    - 1.2.1 enter username
    - 1.2.2 enter email address
    - 1.2.3 enter password
    - 1.2.4 upload a profile picture
  - 1.3 sign in
    - 1.3.1 enter username
    - 1.3.2 enter password
2. Open the second hand retailer community
  - 2.1 Search for second hand retail community
    - 2.1.1 Click the “Communities” Section
    - 2.1.2 type in the keyword “second hand”
    - 2.1.3 Click the “Second hand retail community”
  - 2.2 Join a second hand community
    - 2.2.1 Browser different sub communities in “Second hand retail community”
    - 2.2.2 Click to open the community
    - 2.2.3 Click “join” to join the community
3. View second hand products
  - 3.1 View posts
    - 3.1.1 Browser the posts inside the community
    - 3.1.2 Click the post to open it
  - 3.2 View product details
    - 3.2.1 Swipe right see more pictures about the product
    - 3.2.2 Read the text description about the product
    - 3.2.3 Read the comments under the post
4. Sell second hand products
  - 4.1 Send posts
    - 4.1.1 Click on “Add” button to post
    - 4.1.2 Select pictures from the phone
    - 4.1.3 Write text description
    - 4.1.4 Click the “Post” button to send the post
  - 4.2 Edit posts
    - 4.2.1 Click on the post to edit
    - 4.2.2 Click “delete” button on the picture to delete the picture
    - 4.2.3 Click “add” button to add pictures
    - 4.2.4 Click on the text description to edit text
    - 4.2.5 Click finish to exit
  - 4.3 Delete posts
    - 4.3.1 Click on the post
    - 4.3.2 Click “delete” button to delete the post
5. Make the deal
  - 5.1 Communicate with the seller
    - 5.1.1 Click on the seller’s profile
    - 5.1.2 Click “direct message” button
    - 5.1.3 Send questions about the product
  - 5.2 Answer questions by buyers

- 5.2.1 Click “Direct Message” Section on the app
- 5.2.2 Click on unread messages
- 5.2.3 Answer the questions sent by buyers
- 5.2.4 Tell buyers the payment mode
- 5.2.5 Tell buyers the collection mode
- 5.3 Make payment
  - 5.3.1 Send the payment to the bank details provided by the seller
  - 5.3.2 Send confirmation of payment to the seller
- 5.4 Receive the payment and send product
  - 5.4.1 Receive the payment by buyer
  - 5.4.2 Prepare the product for buyer

#### 4.2.2 Plan

Plan 0: do 1-2-3 in that order when exploring second hand products, do 4 when sending posts about products and do 5 when making a deal on products

Plan 1: do 1.1 and then 1.2 when using the app for the first time, only do 1.3 if not for the first time

Plan 2: do 2.1: 2.1.1-2.1.2-2.1.3 and then 2.2: 2.2.1-2.2.2, and then do 2.2.3 if wish to join a community

Plan 3: do 3.1 and then 3.2

Plan 4: do 4.1, and do 4.2 if need to edit posts, and do 4.3 if need to delete posts

Plan 5: do 5.1 and then do 5.3 if buying second hand products, do 5.2 and then 5.4 if selling second hand products

#### 4.2.3 Analysis

The most frequent tasks are 3.1 View posts and 3.2 View product details. To make these tasks more efficient and improve user experience, the design should display posts according to popularity and generate personalised contents for users in order to maximise user’s chance to find satisfactory products.

The most complex tasks are 5.1 Communicate with the seller and 5.2 Answer questions by buyers. To make this easier, the app should allow forwarding posts to direct messages so that the users can clearly see which products they are referring to during the conversation.

A potential error that could happen during task 5.3 Make payment is that the buyer decided not to buy the product or the seller didn’t send the product to the user after the user had made the payment. To mitigate this users should make in person payment and collection if possible.

### 4.3 Socialise – Yingzheng Pan

#### 4.3.1 HTA

0. To explore socialise community

1. Install and set up the app

1.1 download the app

1.1.1 search for the app in app store

1.1.2 click download the app

1.2 create an account

1.2.1 enter username and email address

1.2.2 complete the profile

- 1.3 sign in
  - 1.3.1 enter username and password
- 2.Create a New Virtual Hangout community
  - 2.1 Open the application
  - 2.2 Initiate the creation of a new virtual hangout space
    - 2.2.1 Access the "Invite Friends" feature
    - 2.2.2 Select specific friends to invite
    - 2.2.3 Personalise invitations as needed
  - 2.3 Customise the hangout's name and settings
    - 2.3.1 Set up a dedicated voice channel within the hangout
    - 2.3.2 Customise the voice channel name and settings.
- 3.Engage in Conversations
  - 3.1 Start or join a conversation within the voice channel
  - 3.2 Share updates, ideas, and experiences
    - 3.2.1 Send text messages
    - 3.2.2 Share voice messages
    - 3.2.3 Share multimedia content
  - 3.3 Encourage discussions and active participation
    - 3.3.1 Implement call-to-action prompts
    - 3.3.2 Create and share poll
    - 3.3.3 Notify users of new messages
- 4.Proposing and Organizing Activities
  - 4.1: Suggest unique activities or discussions
    - 4.1.1 Describe the activity
    - 4.1.2 Set the date, time, and duration
    - 4.1.3 Define the theme or topic
  - 4.2: Organise and facilitate activities
    - 4.2.1 Enable RSVP and sign-up options
    - 4.2.2 Create event pages with descriptions and schedules
- 5.Supporting Eco-Conscious Conversations
  - 5.1: Provide features for sharing eco-conscious experiences and sustainability initiatives
    - 5.1.1 Implement dedicated discussion boards
    - 5.1.2 Create a resource library
    - 5.1.3 Initiate eco-challenges
  - 5.2: Encourage users to discuss eco-conscious living and sustainability
    - 5.2.1 Themed chat rooms for specific topics
    - 5.2.2 Expert Q&A sessions on sustainability
  - 5.3: Facilitate the exchange of ideas, inspiration, and information
    - 5.3.1 Idea boards for brainstorming
    - 5.3.2 Knowledge sharing for educational content
    - 5.3.3 Tips and suggestions for eco-conscious living

#### 4.3.2 Plan

Plan 0: do 1 – 2 – 3 – 4 in that order, can select 5 as an option for the socialise community.

Plan 1: do 1.1, 1.2 first and then 1.3 when we complete the previous tasks.

Plan 2: do 2.1 – 2.2 – 2.3 in that order, make sure to complete the 2.2.1, 2.2.2 and 2.2.3 in 2.2, and also finish 2.3.1 and 2.3.2 in 2.3 in that order.

Plan 3: do 3.1, 3.2, 3.3 in any order but should guarantee that Plan 2 is all finished successfully and correctly.

Plan 4 : do 4.1 and 4.2 in order, when we do 4.1, choose 4.1.1, 4.1.2 and 4.1.3 according to our preference order. In 4.2, we do 4.2.1 and then go to 4.2.2 in order.

Plan 5: When we finish doing Plan 4, we can do Plan 5 as an option for part of the user's preference socialise community. Do 5.1 – 5.2 – 5.3 in that order.

### 4.3.3 Analysis

Frequent task is Plan 3, users frequently use text, voice and video to communicate with each other, conversation task is the most frequent one, because all socialise and topic will use the conversation part, which lets users get to know each other better and discuss their favourite things together.

Complex task is Plan 2, which is the basic setting up part for the application. Especially it involves setting up a customised, feature-rich hangout. This task is complex due to the need to configure various options, roles, and permissions, especially for larger and more intricate hangouts. When users configure roles and permissions, it has a lot of steps for setting up the virtual hangout community in the application.

Error-prone task is 2.3, Users may accidentally assign conflicting permissions to different roles, leading to confusion and unexpected behaviour within the hangout. Users might misunderstand the roles and assign them inappropriately, granting too many or too few permissions to participants. If a high-impact error occurs, sensitive data within the hangout could be exposed to unauthorised participants. It is very important to do correctly setting up in 2.3.

## 4.4 White Collar – Zehao Yu

### 4.4.1 HTA

Goal(Task 0): Browse news using social media apps

### 4.4.2 Subtasks:

1. Open application
  - 1.1 Find the icon of the social media application from the phone screen
  - 1.2 Click on the app's icon
  - 1.3 Wait for the login interface to load
2. Create account
  - 2.1 Set username
  - 2.2 Set password
  - 2.3 Enter email address
  - 2.4 Enter phone number
3. Log in
  - 3.1 Enter username and password
  - 3.2 Click the login button
  - 3.3 Perform human-machine verification
4. Navigate to the news interface
  - 4.1 Click on the "News Interface" tab
    - 4.1.1 Find the "News Interface" tab

- 4.1.2 Click on the "News Interface" tab
  - 4.1.3 Wait for the news interface to load
- 5. Filter news content
  - 5.1 Use filters to filter news
    - 5.1.1 View all filtering options
    - 5.1.2 Select filtering options to narrow down news content
  - 5.2 Use search to filter news
    - 5.2.1 Enter specific keywords to narrow down news content
    - 5.2.2 Apply search to get a specific range of news
- 6. Read news articles
  - 6.1 Open the news article you want to read
    - 6.1.1 Browse the introduction to select the news article or post you want to read in detail
    - 6.1.2 Click the link to open the news article
  - 6.2 Read the content
    - 6.2.1 Scroll up and down to read the full content
    - 6.2.2 After reading, browse the comments section of this article
- 7. Express feelings about the article
  - 7.1 React to news posts
    - 7.1.1 Click the "Like" button to show your love for the article
    - 7.1.2 Click the "Favourites" button to quickly find the article next time
  - 7.2 Share news posts
    - 7.2.1 Click the "Share" button
    - 7.2.2 Select the contact you want to share and click the "Send" button
  - 7.3 Comment on news posts
    - 7.3.1 Scroll to the comment section of the article
    - 7.3.2 Enter your own comments in the comment area and post it

#### 4.4.3 Plan

Plan 1 :

Quickly check out the latest news updates during your break.

Do Task 1 (Open application) and Task 3 (Log in) first. Then do Task 4 (Navigate to the news interface). Finally do Task 6 (Read news articles).

Plan 2:

Spend more time exploring specific news topics.

Do Task 1 (Open application) and Task 3 (Log in) first. Then do Task 4 (Navigate to the news interface) and Task 5 (Filter news content). Finally do Task 6 (Read news articles).

Plan3:

Engage in news content and express your opinions.

Do Task 1 (Open application) and Task 3 (Log in) first. Then do Task 4 (Navigate to the news interface). Finally do Task 7 (Express feelings about the article).

#### 4.4.4 Analysis

The first three tasks are prerequisites for all other tasks. The remaining Tasks are the main means by which users interact with the application. Different plans represent different types of user needs. Apps should also be designed with flexibility in mind, allowing users to switch seamlessly between these plans. Overall, the app should be designed to match the preferences and needs of white-collar professionals.

## 5. Conclusion - Liwen Liu

Overall, the design of our social media application takes into account the social interaction, user engagement and environmental awareness, aiming to encourage sustainability in local communities. The report analysed two existing social media platforms, Discord and Twitter about how they engage with users effectively with various features and how these applications contribute to promote sustainability. Our application is designed for a wide range of groups, including gaming enthusiasts, environmental advocates, proponents of second hand products and white collar professionals. The application has eco-friendly gaming features with gaming and sustainability integration, which encourages users to participate in eco-friendly gaming practices. The second hand retailing feature provides a platform for users to engage in sustainable practices by participating in second hand retailing, fostering a more eco-conscious community culture. Additionally, the socialising feature that connects like-minded eco-conscious people provides a vibrant community for eco-conscious users. The application also has a feature for white collars designed for work professionals to enhance their working experience and work-related interactions. The report described four scenarios of how four different groups of people can explore different aspects and features of the application. It also included four Hierarchical Task Analyses to demonstrate how users with different purposes and goals can interact with the application.

## 6. Appendix

### References

<https://business.twitter.com/en/advertising.html>  
<https://discord.com/>