

# Verdantoff

## A video conferencing web-based platform BCIS Final Year Project

Team members: Siwei Gao, Tai Zhang, Jashika Kumari  
Client: James McConnor Supervisor: Jian Yu, Matthew Kuo  
Research and Development Project Part 2 – Semester 1, 2022

# AUT

## Introduction

Frontier Technologies is a company that assists other businesses with financial counseling. To communicate with clients remotely they use existing online environments such as zoom and skype, which some staff and clients are unfamiliar with saying the interface is too complex to navigate. With the creation of this project, we hope to provide a simple and functional web-based platform prototype that can be navigated easily.

## Objectives and goals

To develop a web-based platform able to:

- Create an account and log in to chat room
- Invite others on to that chatroom
- Be able to video-conference with anyone online
- Message anyone in that chatroom
- Share screen during conference

## Methodology

We have adopted the Scrum framework as it implements the most important Agile principles and techniques and is adaptable to manage software and product development, allowing for processes to be developed at a high quality, even while complex problems might arise the productivity continues.

We used the Trello board to assist us with scrum workflow this helped identify key tasks, timelines, and a better understanding of the sprints. Following the sprints, we had weekly meetings as well as mentor meetings.

This framework helped our team address complex problems while maintaining productivity and creativity. Assisting us in delivering a product with the highest possible quality as well as meeting the clients' expectations. With the Key features of the scrum, our team was able to plan and track the progress, keeping in regular contact with the client and mentor.

## Quality Assurance

### Guideline Documents

We laid down risk management plan, change management plan, code standards, and team contract as a part of the quality assurance plan. It provided a guarantee for the implementation of the project.

### User Story Testing

In each Scrum sprint, we worked as peer programming. The user stories were marked as completed after passing all acceptance testing and unit tests.

### Usability Tests

We implemented several usability tests after the prototype is developed, and improve it based on usability test feedback.

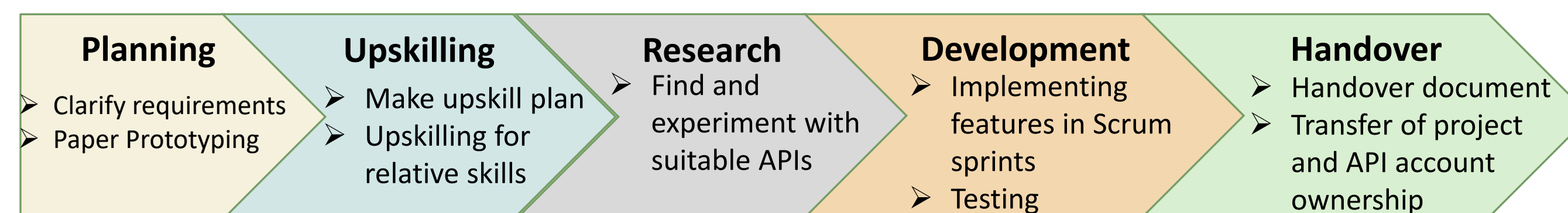
### GitHub Branch Control

The project repository contains different branches for different purposes, which guaranteed the quality of our code.

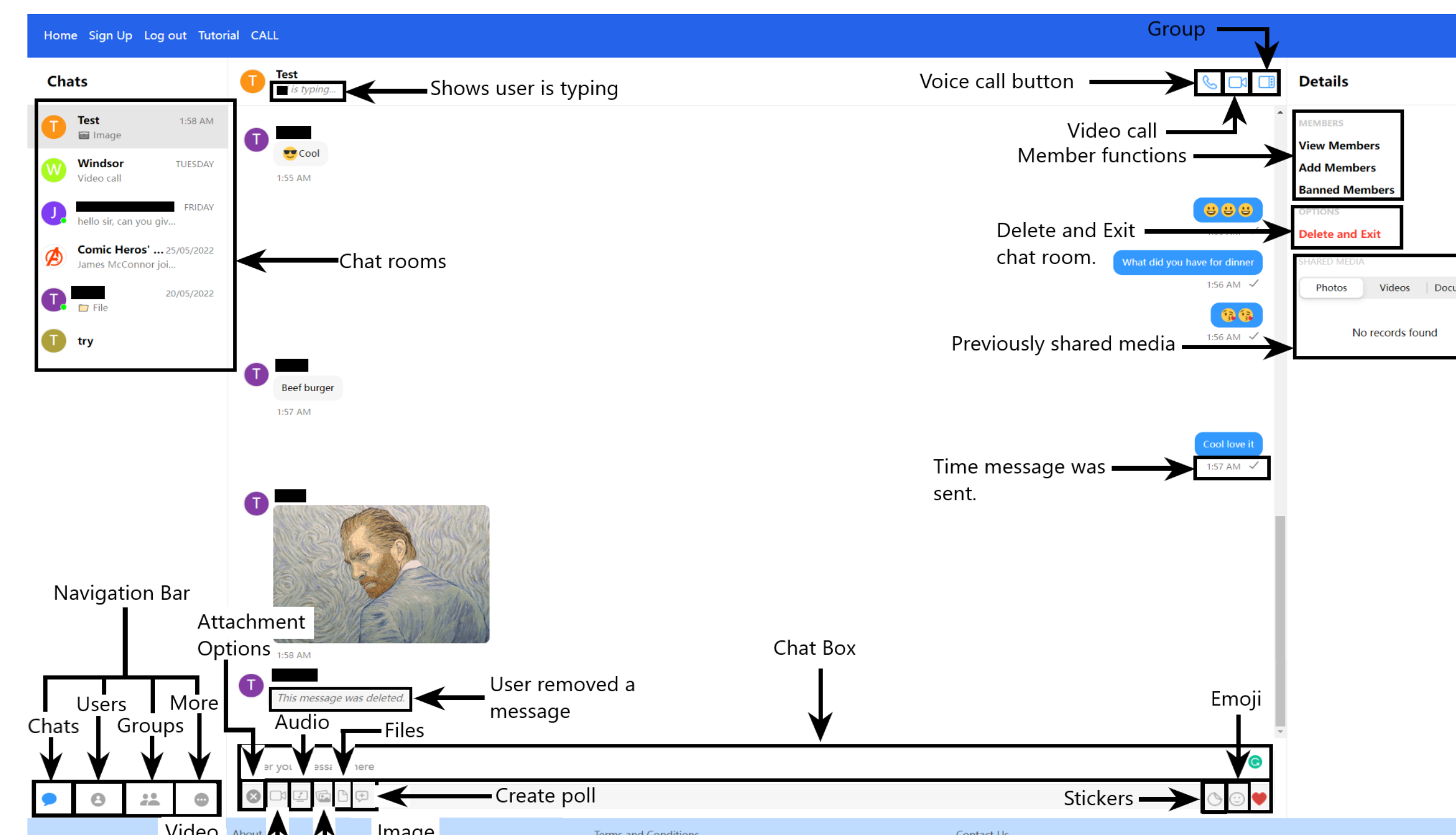
## Rationale

Verdantoff is a web-based platform that seeks to migrate office workers from the physical environment to virtual environments via the internet. To achieve this goal, client wants the team to build a web-based platform which can help employers to maintain real-time communication with their staff. The team has built a sign up and verification function, a login function, and using a third-party API to build the online chatroom. Users can also use the tutorial page to get familiar with the website as the client wants the website to be easy to use.

## Project Process



## Chat Page Overview



Our main functionalities are located on the Chat page, which includes two main sections: the chat list and the current chat interface. This page has a clear overview in terms of different types of conferences, different types of groups, and users. As a user of Verdantoff, we allow our customers to join and create an online conference and send various files. Verdantoff also provides different group types such as private groups and password-locked groups, the user can also manage their groups.

## Challenges

### Technical

#### Learning to use software:

The team is not familiar with JavaScript, Vuejs and Node.js when the project started. Therefore, a lot of research needs to be done during the project to use them. This took the team a lot of time.

#### Finding a suitable API:

The team needed to find a suitable API for completing the requirements. At first, the team wanted to build the chatroom and video conference user interface from scratch and only use the function provided by the API. However, we found it too hard to understand and takes too much time to build, therefore, we had to find a suitable API that can help us with it.

#### Learning the frontend framework:

The team chose to use Vue.Js and Tailwindcss to build the frontend. When we started upskilling, we found them very hard to learn and there weren't many good tutorial sources related to them.

#### Modifying CometChat:

We spent a lot of time on learning how to modify the open-source SDK provided by CometChat, we also needed to communicate with the API provider to get technical support from them.

### Non-Technical

It took quite some time for the team to switch back to "study mode" when the semester started due to the 3-month break and online study. Therefore, the time management at the start of semester two was poor. Keeping motivation was also a challenge throughout the semester.

## Recommendations

### Recommendations for future development

1. Build a personal detail page so users can store more personal information on it.
2. Add labels to every button in the chat function so users don't need to go to the tutorial page to find out its functionality.
3. Upload avatars so that users can better recognize each other.
4. Users can send voice messages, so they don't need to type when walking.

## Lesson learned

This is a challenging project that inspires us in our reflection.

1. Team members should upskill on the Vue.js in the future, as we found that our current skills weren't enough to develop more sophisticated features.
2. Communication with clients: It is important to communicate frequently with the client so that he can give more feedback on the project. Also, since our client is a non-technician, how communicating with him is also very important as we need to explain technical ideas to him.
3. We found that team meetings and peer programming can significantly enhance the performance of the development. Therefore, good communication and cooperation are very important.