



SWE573

PROJECT REPORT

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Ayhan Çavdar

2022719039

Memorycloud

https://github.com/ayhncvdr/swe573_cavdar.git

<http://34.77.211.252:8000/>

HONOR CODE

Related to the submission of all the project deliverables for the Swe573 2022 Fall semester project reported in this report, I Ayhan Çavdar declare that:

- I am a student in the Software Engineering MS program at Bogazici University and am registered for Swe573 course during the Spring 2023 semester.
- All the material that I am submitting related to my project (including but not limited to the project repository, the final project report, and supplementary documents) have been exclusively prepared by myself.
- I have prepared this material individually without the assistance of anyone else with the exception of permitted peer assistance which I have explicitly disclosed in this report.

Ayhan Çavdar



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1. Overview

Memorycloud is a web-based application that allows users to store, organize, and share their memories. The application's goal is to provide a user-friendly interface and a variety of capabilities to improve the user experience when managing personal memories.

The primary purpose of Memorycloud is to allow users to generate digital representations of their memories, such as photographs, videos, and textual descriptions. It supports social sharing, allowing users to share their memories with friends, family, or the larger community.

The application uses the latest technologies and frameworks to create a smooth and responsive user experience. Its backend is built on the Django framework, which provides sophisticated data management and security capabilities. The front end is developed with HTML, CSS, and JavaScript to provide an easy and aesthetically appealing experience.

Key Features of Memorycloud include:

- **User Registration and Authentication:** Users may establish accounts and securely authenticate themselves to access their memories.
- **Memory Creation and Organization:** Users may upload images, videos, write descriptions, and choose places for their experiences to create unique memories.
- **Social Sharing:** Users may share their memories with the Memorycloud community. This increases user interaction and connection.
- **Search and Filtering:** Memorycloud has search and filtering capabilities, allowing users to rapidly identify specific memories based on keywords, dates, location, and any other information.
- **Like and Comment:** Users may like or comment on the memories.
- **Following Other Users:** Users may follow others and see their memories on the home page.

Memorycloud is being developed iteratively and collaboratively, including feedback from user testing and continual improvement. The project developer adheres to industry best practices to ensure code quality, security, and scalability.

Memorycloud's goal is to give users a centralized and user-friendly platform for saving and sharing their treasured memories, creating personal relationships, and generating a sense of nostalgia and emotional well-being.

2. Software Requirements Specification

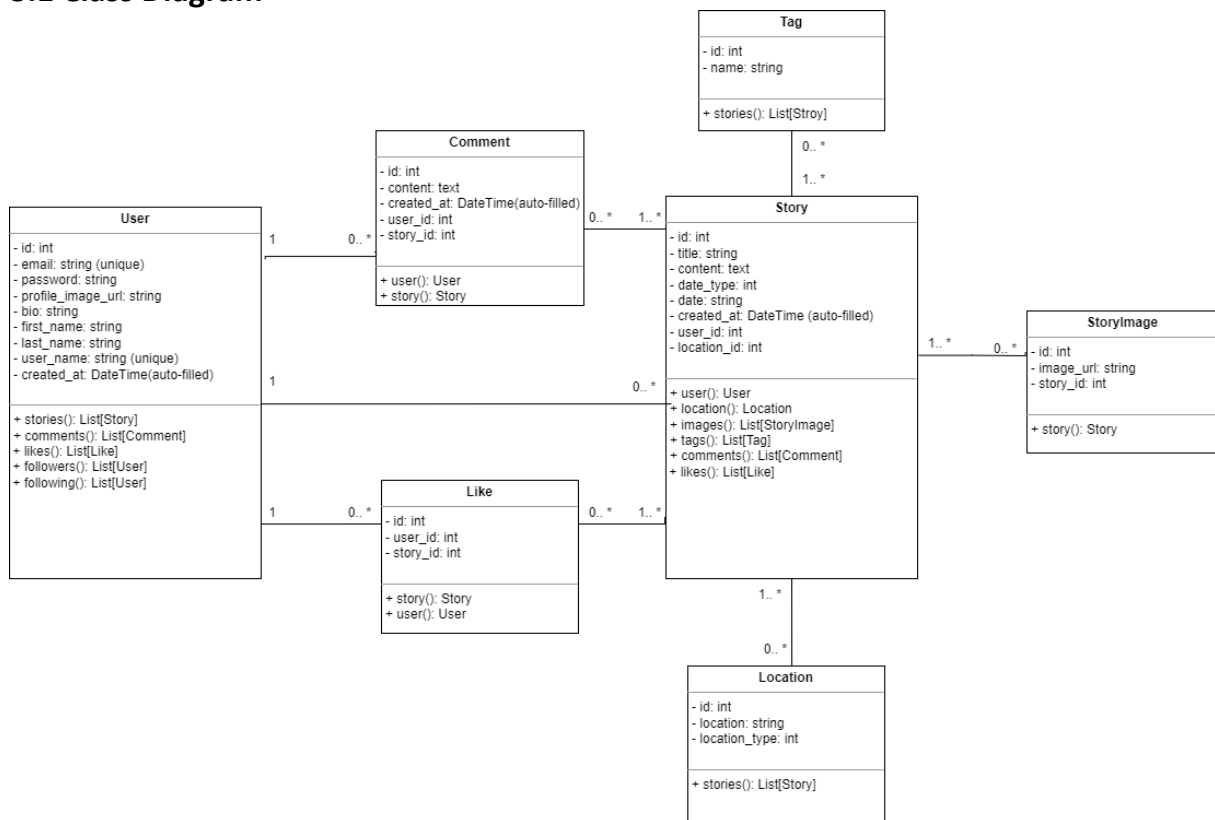
1. The system shall provide a web interface accessible via a web browser. **(completed)**
2. The users should be able to access the website all the time. **(completed)**

3. The users should be able to upload their stories without data loss or corruption.
(completed)
4. The system shall provide accurate search results based on user queries. **(completed)**
5. The users should be able to search for stories based on location. **(completed)**
6. The users should be able to search for stories based on location radius selection. **(Not completed)**
7. The users should be able to search for stories based on tags. **(completed)**
8. The users should be able to search for stories based on the story's title. **(completed)**
9. The users should be able to comment on other users' stories. **(completed)**
10. The users should be able to delete their memories. **(completed)**
11. The users should be able to like other users' memories. **(completed)**
12. The users should be able to follow other users. **(completed)**
13. The users should be able to add a title to their stories. **(completed)**
14. The users should be able to add a location to their stories. **(completed)**
15. The users should be able to view the story's location in a map view. **(completed)**
16. The users should be able to add tags to their stories. **(completed)**
17. The users should be able to upload files of their stories. **(completed)**
18. The users should be able to add a specific date to their stories. **(completed)**
19. The users should be able to add a specific time to their stories. **(completed)**
20. The users should be able to add a range of dates to their stories. **(completed)**
21. The users should be able to add decade information to their stories. **(completed)**
22. The users should be able to view all the users' stories in a list format. **(completed)**
23. The users should be able to view followed users' stories in a list format. **(completed)**
24. The users should be able to create an account using their personal information.
(completed)
25. The users should be able to log in to their accounts by entering their usernames and password. **(completed)**
26. The users should be able to upload their pictures to their accounts. **(completed)**
27. The users should be able to view all the comments on a separate page. **(completed)**
28. The users should be able to view all the likes on a separate page. **(completed)**
29. The users should be able to view the number of comments for a story. **(completed)**
30. The users should be able to view the number of likes for an account. **(completed)**

31. The users should be able to view the full story on a separate page. **(completed)**
32. The users should be able to perform search actions on any page. **(completed)**
33. The users should be able to update their account information. **(completed)**
34. The users should be able to log out from their accounts. **(completed)**
35. The system shall provide a simple interface for viewing and uploading their stories.
(completed)

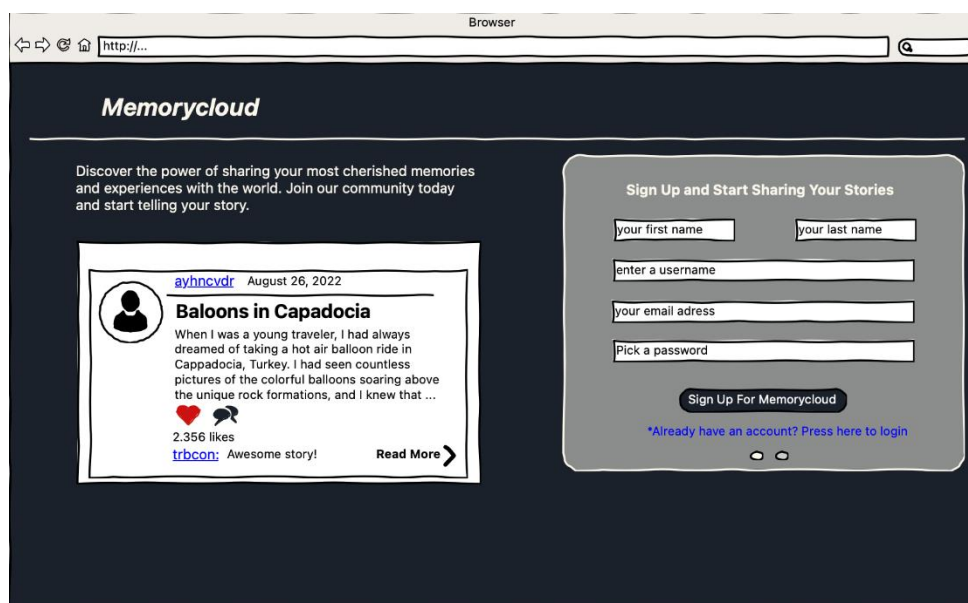
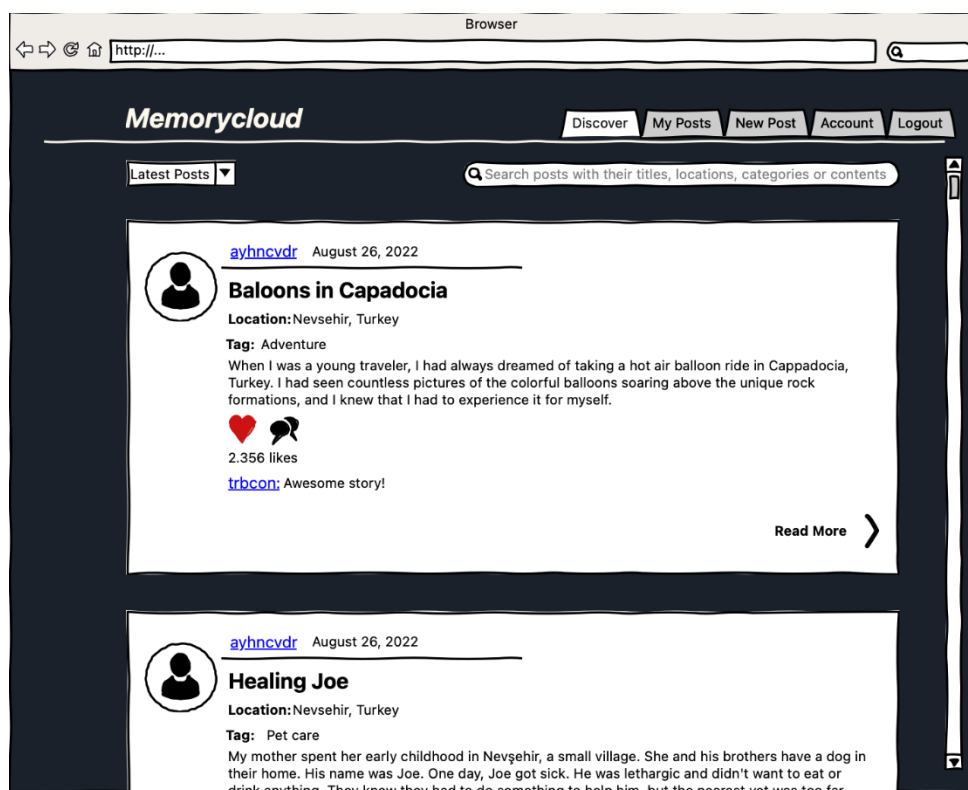
3. Design (Software & Mockups)

3.1 Class Diagram



3.2 Website Mockup

During the initial stages of the project, the below demo designs were created to visualize the overall structure and user interface of the Memorycloud website. These mockups provided a starting point for discussions and served as a reference for the developer. However, as the semester progressed, significant changes and improvements were made to the initial designs based on user feedback and evolving project requirements.




Browser

http://...

Memorycloud Discover My Posts New Post Account Logout

Latest Posts Search posts with their titles, locations, categories or contents

 [ayhncvdr](#) August 26, 2022

Baloons in Capadocia



Location: Nevsehir, Turkey

Tag: Adventure

When I was a young traveler, I had always dreamed of taking a hot air balloon ride in Cappadocia, Turkey. I had seen countless pictures of the colorful balloons soaring above the unique rock formations, and I knew that I had to experience it for myself.

One early morning, before the sun had even risen, I found myself standing in a field with other excited adventurers, waiting for our hot air balloon ride to begin. As the sky started to lighten, the balloons began to inflate, rising gracefully into the air.

Finally, it was our turn to climb aboard our balloon. I was filled with anticipation and excitement as we lifted off the ground, slowly ascending into the sky. The view was absolutely breathtaking, with stunning valleys and canyons of Cappadocia stretching out as far as the eye could see.


2.356 likes

[trbcon](#): Awesome story!

Browser

http://...

Memorycloud Discover My Posts New Post Account Logout

Add a New Post/Edit a Post  Delete This Blog

Title*
Baloons in Capadocia

Location*
Turkey, Nevsehir

Tags:
adventure

Images: [unfile_coc3stadeaf.mg](#)

Content*

When I was a young traveler, I had always dreamed of taking a hot air balloon ride in Cappadocia, Turkey. I had seen countless pictures of the colorful balloons soaring above the unique rock formations, and I knew that I had to experience it for myself.


One early morning, before the sun had even risen, I found myself standing in a field with other excited adventurers, waiting for our hot air balloon ride to begin. As the sky started to lighten, the balloons began to inflate, rising gracefully into the air.

Browser

http://...

Memorycloud

DiscoverMy PostsNew PostAccountLogout



ayhncvdr

ayhancavdar896@gmail.com

Account Info

Username*

ayhncvdr

Email*

ayhancavdar896@gmail.com

Password*

Image:

Currently: [profile_picture.jpg](#)

Change:

Choose File

No file chosen

Update

Browser

http://...

Memorycloud

DiscoverMy PostsNew PostAccountLogout

Latest Posts



Search among your posts with their titles, locations, categories or contents

Balloons in Capadocia

Location: Nevsehir, Turkey

Tag: Adventure

When I was a young traveler, I had always dreamed of taking a hot air balloon ride in Cappadocia, Turkey. I had seen countless pictures of the colorful balloons soaring above the unique rock formations, and I knew that I had to experience it for myself.

2.356 likes

[trbcon](#): Awesome story!



Read More

Healing Joe

Location: Nevsehir, Turkey

Tag: Pet care

My mother spent her early childhood in Nevşehir, a small village. She and his brothers have a dog in their home. His name was Joe. One day, Joe got sick. He was lethargic and didn't want to eat or drink anything. They knew they had to do something to help him, but the nearest vet was too far away to take him there.

2.356 likes

[trbcon](#): Awesome story!

Read More

3.3 Actual Design

The screenshot shows a web browser window with the URL `34.77.211.252:8000/signin`. The page has a dark header with the "Memorycloud" logo on the left and a "Register" button on the right. The main content area is a light gray rectangle. In the center, the heading "Log in" is displayed above two input fields: "Username" and "Password". Below these fields is a pink "Login" button. At the bottom of the form, there is a link that says "Not registered? Create a account".


The screenshot shows a web browser window with the URL `34.77.211.252:8000/signup`. The page has a dark header with the "Memorycloud" logo on the left and a "Login" button on the right. The main content area is a light gray rectangle. In the center, the heading "Sign Up" is displayed above a series of input fields: "First Name", "Last Name", "Username", "Email", "Password", and "Confirm Password". Below these fields is a pink "Sign Up" button. At the bottom of the form, there is a link that says "Do you have an account? Login".

Home

34.77.211.252:8000/profile/ayhancavdar

Branches - Murat Er... (1387) Roundcube... BOĞAZİÇİ UNİVERS... Issues | Board View YouTube Keşfet / Twitter Stream TV, Watch U... OpenPlayground F 5 AI Tools That Can... Best GitHub Copilot... automated code ge... Cubtale Testing Pro... Diğer yer isaretleri

Memorycloud Search for user and story... Discover My Profile New Post

 **ayhancavdar** Account Settings

1 posts 0 follower 1 following

ayhan çavdar

This is Ayhan. I am a software developer and a student at Boun

ayhancavdar Delete Post

Title: How to treat Joe?

Timeframe: 1970s

Tags: pet care

Location: Suvermez, Emirdağ, Afyonkarahisar, Ege Bölgesi, Türkiye; Circle Area in Dağlıgan, Emirdağ, Afyonkarahisar, Ege Bölgesi, Türkiye

My mother spent her early childhood in Nevşehir, a small village. She and his brothers have a dog in their home. His name was Joe. One day, Joe got sick. He was lethargic and didn't want to eat or drink anything. They knew they had to do something to help him, but the nearest vet was too far away to take him there.

They were worried about Joe's health, so they decided to research and find a solution on their own. They asked their neighbors for advice and told them about some natural remedies that could help with Joe's symptoms.

They made a mixture of honey and ginger and gave it to Joe to drink. They also gave him some chamomile tea to help soothe his stomach. They kept a close eye on him, monitoring his temperature and ensuring he was comfortable. My mother got carried away in those days and started jotting down Joe's condition daily. That way, she would

Post Details

34.77.211.252:8000/postdetails/story_id=2a7fb32f-c3ce-4d30-ab95-87d9e204d8dd&profile_id=

Branches - Murat Er... (1387) Roundcube... BOĞAZİÇİ UNİVERS... Issues | Board View YouTube Keşfet / Twitter Stream TV, Watch U... OpenPlayground F 5 AI Tools That Can... Best GitHub Copilot... automated code ge... Cubtale Testing Pro... Diğer yer isaretleri

Memorycloud Search for user and story... Discover My Profile New Post


ayhancavdar

Title: How to treat Joe?

Timeframe: 1970s

Tags: pet care

Location: Suvermez, Emirdağ, Afyonkarahisar, Ege Bölgesi, Türkiye ; Circle Area in Dağlıgan, Emirdağ, Afyonkarahisar, Ege Bölgesi, Türkiye



My mother spent her early childhood in Nevşehir, a small village. She and his brothers have a dog in their home. His name was Joe. One day, Joe got sick. He was lethargic and didn't want to eat or drink anything. They knew they had to do something to help him, but the nearest vet was too far away to take him there.

Results

34.77.211.252:8000/search?query=suvermez

Branches - Murat Er... (1387) Roundcube ... BOĞAZICI UNIVER... Issues | Board View YouTube KeyJet / Twitter Stream TV, Watch L... OpenPlayground F 5 AI Tools That Can... Best GitHub Copilot... automated code ge... Cuddale Testing Pro... Diğer yer isaretleri


Memorycloud Search for user and story... Discover My Profile New Post

Search Results for "suvermez"

Profiles:

No profiles found!

Stories:

 ayhancavdar

Title: How to treat Joe?

Timeframe: 1970s

Tags: pet care

Location: Suvermez, Emirdağ, Afyonkarahisar, Ege Bölgesi, Türkiye; Circle Area in Dağlıcan, Emirdağ, Afyonkarahisar, Ege Bölgesi, Türkiye

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They were worried about Joe's health, so they decided to research and find a solution on their own. They asked their neighbors for advice and told them about some natural remedies that could help with Joe's symptoms.

They made a mixture of honey and ginger and gave it to Joe to drink. They also gave him some chamomile tea to help soothe his stomach. They kept a close eye on him, monitoring his temperature and ensuring he was comfortable. My mother got carried away in those days and started jotting down Joe's condition daily. That way, she would have a report that she could show when they went to the vet, but hopefully, she did not use it because Joe started to feel better. He was more active and started eating and drinking normally again. We were relieved and grateful that our efforts had paid off.

Although they couldn't take Joe to the vet, they did their best to care for him. They knew he was an essential part of their family and were willing to do whatever it took to keep him healthy and happy.


Settings

34.77.211.252:8000/settings

Branches - Murat Er... (1387) Roundcube ... BOĞAZICI UNIVER... Issues | Board View YouTube KeyJet / Twitter Stream TV, Watch L... OpenPlayground F 5 AI Tools That Can... Best GitHub Copilot... automated code ge... Cuddale Testing Pro... Diğer yer isaretleri

Memorycloud Search for user and story... Discover My Profile New Post

Profile Image



Dosya Seç | Dosya seçilmedi

First name

ayhan

Last name

çavdar

Bio

This is Ayhan. I am a software developer and a student at Boun

Save

The screenshot shows a web browser window with the Memorycloud website. The browser's address bar displays the URL 34.77.211.252:8000/discover. The Memorycloud interface includes a search bar at the top with the text "Search for user and story...". On the right side, there are links for "Discover", "My Profile", and "New Post". The main content area features a profile for "ayhancavdar". The profile information includes the title "How to treat Joe?", the timeframe "1970s", and the tag "pet care". The location is listed as "Suvermez, Emirdağ, Afyonkarahisar, Ege Bölgesi, Türkiye; Circle Area in Dağlıgan, Emirdağ, Afyonkarahisar, Ege Bölgesi, Türkiye". The profile contains three paragraphs of text describing a childhood experience with a dog named Joe. The first paragraph describes Joe's illness and the family's search for a vet. The second paragraph describes the family's decision to research and find a solution. The third paragraph describes the family's efforts to care for Joe, including using honey and ginger, and chamomile tea. The profile ends with a thumbs-up icon.

Discover

Memorycloud

Search for user and story...

Discover

My Profile

New Post

ayhancavdar

Title: How to treat Joe?

Timeframe: 1970s

Tags: pet care

Location: Suvermez, Emirdağ, Afyonkarahisar, Ege Bölgesi, Türkiye; Circle Area in Dağlıgan, Emirdağ, Afyonkarahisar, Ege Bölgesi, Türkiye

My mother spent her early childhood in Nevşehir, a small village. She and his brothers have a dog in their home. His name was Joe. One day, Joe got sick. He was lethargic and didn't want to eat or drink anything. They knew they had to do something to help him, but the nearest vet was too far away to take him there.

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Although they couldn't take Joe to the vet, they did their best to care for him. They knew he was an essential part of their family and were willing to do whatever it took to keep him healthy and happy.

👍

The screenshot shows a web browser window with the Memorycloud website. The browser's address bar displays the URL 34.77.211.252:8000. The Memorycloud interface includes a search bar at the top with the text "Search for user and story...". On the right side, there are links for "Discover", "My Profile", and "New Post". The main content area features a profile for "suzanuskudari". The profile information includes the title "Whispers of Childhood", the timeframe "June 6, 1995 - June 21, 1995", and the tag "childhood". The location is listed as "Area Around Çakılı Köyü, Derinkuyu, Nevşehir, İç Anadolu Bölgesi, Türkiye". The profile contains five paragraphs of text describing a childhood experience in a village. The first paragraph describes the summer sun rising over the village. The second paragraph describes the innocence and curiosity of youth. The third paragraph describes the ancient olive trees and the melody of cicadas. The fourth paragraph describes the excitement of playing near a creek. The fifth paragraph describes the sun embracing the children and the gentle embrace of the summer day. The profile ends with a thumbs-up icon.

Home

Memorycloud

Search for user and story...

Discover

My Profile

New Post

suzanuskudari

Title: Whispers of Childhood

Timeframe: June 6, 1995 - June 21, 1995

Tags: childhood

Location: Area Around Çakılı Köyü, Derinkuyu, Nevşehir, İç Anadolu Bölgesi, Türkiye

As the summer sun rose over our small village in rural Turkey, I, Suzan, opened my eyes with anticipation. It was a day filled with the promise of adventure and the sweet aroma of freedom that only childhood can bring.

With the innocence and curiosity of youth guiding my every step, I dashed out of our humble home, my bare feet lightly grazing the warm earth. The village was alive with the joyful chatter of neighbors and the gentle breeze carrying the scent of wildflowers.

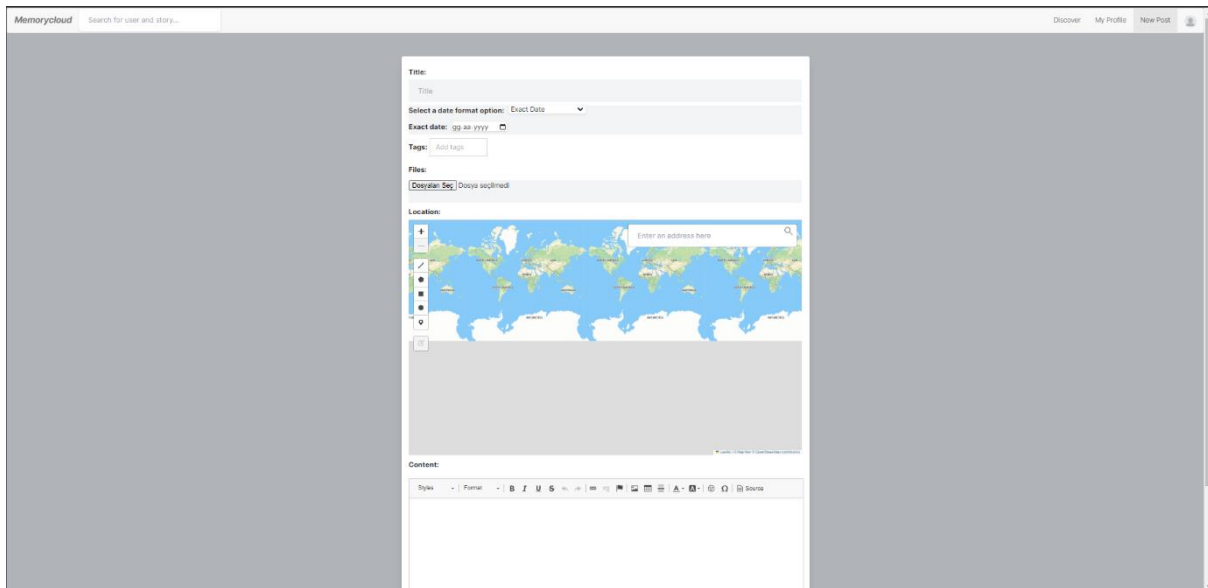
In the distance, the ancient olive trees stood tall and proud, their branches whispering secrets of generations past. The air was filled with the melody of cicadas, a familiar summer soundtrack that accompanied our daily routines.

My heart brimmed with excitement as I joined my friends near the village's sparkling creek. We laughed and splashed in the crystal-clear water, creating playful melodies that harmonized with the babbling brook.

The sun embraced our carefree spirits, casting a golden glow on our sun-kissed faces. We chased butterflies and collected wild berries, letting the warmth of the summer day envelop us in its gentle embrace.

As the afternoon sun reached its zenith, we sought refuge under the shade of a majestic oak tree. With a shared sense of wonder, we exchanged stories of mythical creatures and faraway lands, our imaginations painting vivid pictures in the canvas of our minds.

👍



3.4 Software Design

Memorycloud is a project that combines backend and frontend technologies to produce a powerful and user-friendly online application for organizing and sharing memories. Django, GeoDjango, Leaflet, and OpenCage are among the frameworks and components used in the software design.

3.4.1 Backend Design with Django and GeoDjango

The Memorycloud application is built on Django, a robust and extensible web framework. It follows the Model-View-Controller (MVC) architectural model, allowing for quick backend code creation and maintenance. Django is a Python-based high-level framework for constructing online applications that manage responsibilities, including URL routing, request processing, database operations, and user authentication.

GeoDjango, a Django plugin that adds support for geographic fields and spatial operations, is used for geographical data management in the project. GeoDjango uses the PostGIS database's features, allowing for storing, querying, and modifying geographic data. This allows the Memorycloud application to manage location-based features and deliver services like geolocation tagging and searching.

3.4.2 Frontend Design with HTML/CSS/JavaScript

The Memorycloud application's frontend design is based on HTML, CSS, and JavaScript. HTML provides the structural underpinning of webpages, while CSS defines the visual display and layout. JavaScript, a dynamic programming language, is used to improve interaction and provide client-side functionality.

The front-end design utilizes contemporary web development standards to build a visually beautiful and intuitive user experience. It guarantees responsive design, allowing the Memorycloud application to quickly adapt to multiple devices and screen sizes. The front end also connects with several tools and frameworks, like Leaflet and OpenCage, to improve the user experience and give mapping and geocoding capabilities.

3.4.3 Database Design with PostGIS

The Memorycloud application's database is built on PostGIS, an extension of the PostgreSQL relational database system. PostGIS extends spatial database functionality, allowing storing, querying, and modifying geographic data. Spatial indexing, complex spatial operations, and interaction with other geospatial tools are all supported.

The database structure is intended to store and retrieve memory-related information as efficiently as possible, including user data, memories, albums, and associated geographical features. PostGIS spatial data enables robust geospatial queries and operations, allowing for location-based searching, mapping, and visualization.

3.4.4 Dockerization and Deployment on GCP

The Memorycloud application is containerized using Docker to provide easy deployment and scalability. Docker allows the program and its dependencies to be encapsulated into portable, isolated containers. This method assures consistent distribution across several settings while simplifying the setup procedure.

The Memorycloud application uses its architecture and capabilities to run on the Google Cloud Platform (GCP). GCP offers scalable and dependable hosting, allowing the application to meet a rising user base and data storage requirements. Configuring the necessary resources, including virtual machines, networking, storage, and load balancers, to guarantee maximum performance and availability is part of the GCP deployment.

4. Status of The Project

With the ideal deployment and accomplishment of all defined objectives, the Memorycloud project has reached a key milestone. The developer has thoroughly tested the program and a select set of users to ensure its functioning and usefulness.

The Memorycloud project is currently stable and functioning. The developer and users both successfully tested and verified all requirements. The application has been dockerized and deployed on GCP, enabling users to access and use its features reliably and safely.

As the project progresses, the emphasis will change to collecting user input, fixing any identified issues or additions, and constantly developing the application based on user feedback. Regular maintenance, monitoring, and upgrades will be performed to maintain the Memorycloud application's smooth operation and long-term success.

5. System Manual

This section provides instructions on how to set up and run the Memorycloud project on your local machine using Docker and Linux containers. Before proceeding with the installation and setup, please ensure that you have downloaded and installed Docker from the official website (<https://www.docker.com>). Also, you need to install git.

5.1 Installation Steps

Follow the steps below to install and run the Memorycloud project:

1. Clone the Repository: Download the source code from the Memorycloud project repository on GitHub using the following command:
git clone https://github.com/ayhncvdr/swe573_cavdar.git
2. Set Environment Variables: In the project root directory, locate the .env file. Open it in a text editor and set the necessary environment variables. Ensure that the variables 'DB_NAME', 'DB_USER', 'DB_PASSWORD', 'DB_HOST', and 'DB_PORT' are configured correctly for your database setup. Here is the .env file I am using:

```
POSTGRES_USER=***
POSTGRES_PASS=***
POSTGRES_DBNAME=***
DATABASE=***
PG_HOST=***
PG_PORT=***
SECRET_KEY= ***
DEBUG=***
ALLOWED_HOSTS=localhost 127.0.0.1 [::1] 34.77.211.252
GEOAPIFY_KEY=***
```

(Geoapify key is for searching locations in the map. If you don't have it, it does not break the app, but that functionality won't work. So, you can get a new API key from this page: <https://www.geoapify.com/get-started-with-maps-api>)

3. Build and Run Containers: Open a terminal or command prompt and navigate to the project root directory. Run the following command to build and run the containers:
docker-compose up --build

Docker will automatically download the required container images and build the application container using the specifications from the Dockerfile. It will also install the necessary packages listed in the requirements.txt file inside the container.

4. Access the Application: Once the dockerization process is complete, you can access the Memorycloud application in your web browser at **localhost:8000**. The application should be up and running, allowing you to register, log in, create memories, and perform various other actions as specified in the project's functionality.

5.2 Troubleshooting

- If you encounter any issues during the installation or setup process, please refer to the project's documentation or reach out to the project development team for assistance.
- Ensure that you have a stable internet connection during the Docker image download and container build process.
- Double-check the configuration of the environment variables in the **.env** file to ensure they match your database setup correctly.

6. User Manual

This section provides a comprehensive guide on how to use the Memorycloud application. It covers various features and functionalities available to the users.

6.1 Sign In / Sign Up

1. Open the Memorycloud application in your web browser.
2. On the Sign In page, enter your credentials if you already have an account.
Otherwise, click on the Sign-Up link to create a new account.
3. If signing up, provide the required information and follow the instructions to complete the registration process.
4. After successful sign in or sign up, you will be redirected to the home page.

6.2 Home Page

1. The Home page displays memories from users you are following.
2. Scroll through the memories to view their details, including the user who posted the memory, the number of likes, comments, and a comment section.
3. Interact with memories by liking, commenting, or clicking on the user's profile to visit their profile page.
4. To create a new memory, click on the "New Post" button.

6.3 Discover Page

1. The Discover page allows you to explore memories from other users.
2. Scroll through the memories to view their details, like the home page.
3. Interact with memories as described in the home page section.

6.4 New Post

1. Click on the "New Post" button to create a new memory.
2. Fill in the required information, including the memory details and optional tags.
3. Optionally, specify the location of the memory using the integrated map.
4. Click on the "Post" button to publish your memory.

6.5 Profile Section

1. Access your own profile by clicking on your username or profile picture.
2. On the Profile page, you can view your own profile information, including your username, bio, and profile picture.
3. Scroll through your own memories to view their details and interact with them.

6.6 Memory Details

1. When viewing a memory's details, you can see the user who posted the memory, the number of likes, comments, location in the map and a comment section.
2. Like the memory by clicking on the "Like" button.
3. Add a comment by typing in the comment box and clicking on the "Comment" button.
4. Click on the user's profile picture or username to visit their profile page.

6.7 Deleting Memories

1. To delete one of your own memories, access the memory details page.
2. Click on the "Delete" button to remove the memory from your profile.

6.8 Searching

1. Use the search bar, usually located at the top of the application, to search for memories and profiles based on user queries.
2. Enter keywords, such as date, location, tags, or comments, to filter the search results.
3. The search results will be displayed on a separate page.

7. Test Results

The Memorycloud application underwent thorough testing to ensure its functionality and reliability. The following tests were performed:

7.1 Unit Tests

A total of 20 unit tests were implemented in the tests.py file to assess different components and functionalities of the application. These tests cover critical areas and ensure that the code functions as intended. All unit tests were executed, and the results are as follows:

```
PS C:\Users\AyhanCavdar\Desktop\swe573_cavdar> python manage.py test --verbosity 2
Found 20 test(s).
Creating test database for alias 'default' ('test_memorycloud')...
Operations to perform:
  Synchronize unmigrated apps: ckeditor, gis, leaflet, messages, staticfiles
  Apply all migrations: admin, auth, contenttypes, core, sessions
Synchronizing apps without migrations:
  Creating tables...
  Running deferred SQL...
Running migrations:
  Applying contenttypes.0001_initial... OK
  Applying auth.0001_initial... OK
  Applying admin.0001_initial... OK
  Applying admin.0002_logentry_remove_auto_add... OK
  Applying admin.0003_logentry_add_action_flag_choices... OK
  Applying contenttypes.0002_remove_content_type_name... OK
  Applying auth.0002_alter_permission_name_max_length... OK
  Applying auth.0003_alter_user_email_max_length... OK
  Applying auth.0004_alter_user_username_opts... OK
  Applying auth.0005_alter_user_last_login_null... OK
  Applying auth.0006_require_contenttypes_0002... OK
  Applying auth.0007_alter_validators_add_error_messages... OK
  Applying auth.0008_alter_user_username_max_length... OK
  Applying core.0011_alter_story_date_format_alter_story_decade_and_more... OK
  Applying core.0012_alter_location_area... OK
  Applying core.0013_alter_location_area... OK
  Applying core.0014_alter_location_area... OK
  Applying core.0015_story_no_of_likes... OK
  Applying core.0016_story_is_liked_by_current_user... OK
  Applying core.0017_story_no_of_comments_alter_comment_content... OK
  Applying core.0018_alter_story_content... OK
  Applying core.0019_story_exact_date_and_time_alter_story_date_format... OK
  Applying core.0020_alter_profile_user... OK
  Applying core.0021_remove_profile_id_user... OK
  Applying core.0022_alter_profile_email_alter_profile_username... OK
  Applying sessions.0001_initial... OK
System check identified no issues (0 silenced).
test_comment_post (core.tests.CommentPostTestCase) ... ok
test_delete_story (core.tests.DeleteStoryTestCase) ... ok
test_discover_view (core.tests.DiscoverTestCase) ... ok
test_follow (core.tests.FollowTestCase) ... ok
test_index_view_with_following_users (core.tests.IndexTestCase) ... ok
test_index_view_with_no_following_users (core.tests.IndexTestCase) ... ok
test_like_post (core.tests.LikePostViewTestCase) ... ok
test_new_post (core.tests.NewPostTestCase) ... []
[]
ok
test_post_detailed (core.tests.PostDetailedTestCase) ... ok
test_profile (core.tests.ProfileTestCase) ... ok
test_search (core.tests.SearchTestCase) ... ok
test_settings (core.tests.SettingsTestCase) ... ok
test_signup (core.tests.SignupTestCase) ... ok
test_account_creation (core.tests.UserTestCase) ... ok
test_user_username_uniqueness (core.tests.UserTestCase) ... ok
test_userprofile_string_representation (core.tests.UserTestCase) ... ok
test_users_commented (core.tests.UsersCommentedTestCase) ... ok
test_users_followers (core.tests.UsersFollowersTestCase) ... ok
test_users_following (core.tests.UsersFollowingTestCase) ... ok
test_users_liked (core.tests.UsersLikedTestCase) ... ok
-----
Ran 20 tests in 17.277s
```

7.2 User Testing

User testing was conducted to evaluate the application from the perspective of end users. The objective was to identify usability issues, functional bugs, or user experience concerns. The testing process involved a group of users interacting with the application and providing feedback. During the user testing phase, the following observations were made:

- No errors or critical issues were encountered during the testing process.
- The application performed well and responded promptly to user actions.
- Users could successfully navigate through different sections of the application and perform desired tasks.
- The user interface was found to be intuitive and easy to understand.
- All essential features and functionalities were tested and found to be working correctly.

Based on the user testing results, no significant issues or errors were identified. The Memorycloud application demonstrated stability and usability, providing a satisfactory experience to the users.

8. Video Link

The video is a bit long, but you can watch it in 1.25x 😊

<https://drive.google.com/file/d/1zfczYsxEqzTQKrebrQ28we5XlBgHvtL8/view?usp=sharing>