MERT AYDIN
2022719024
27.05.2023

SWE 573 FINAL REPORT

Project Name: Storyverse

Git repository: https://github.com/mert-aydin/SWE-573

Git tag version: v0.9

Deployment URI: https://storyverse-385315.lm.r.appspot.com

Usernames and other information: You may use one of the following emails to login: dummyuser1@example.com, dummyuser2@example.com and dummyuser2@example.com

Passwords for each account are the same and are “123456” (without quotes).

HONOR CODE

Related to the submission of all the project deliverables for the Swe573 2022 Fall semester project reported in this report, I Mert Aydın 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.

Mert Aydın

Project Details..... 3

Overview..... 3

Application Design and Features..... 3

Deployment..... 4

Software Requirements Specification..... 5

Functional Requirements..... 5

Non-Functional Requirements.....5

Design, UML Diagrams and Images..... 7

Status of Project..... 10

Status of Deployment..... 11

System Manual..... 11

User Manual..... 11

Test Results..... 11

Demo Video..... 11

Project Details

Overview

For my SWE 573 class at Boğaziçi University, I have developed and deployed an innovative Flask-based web application that allows users to share their stories in a dynamic, multimedia environment. The concept was inspired by the modern trend of social media blogging and storytelling, with the objective of building an engaging platform that can help users express their thoughts, ideas, and experiences. The result is a full-fledged application equipped with advanced features, allowing seamless interaction in an easy-to-navigate UI design.

Application Design and Features

The application has been built using Flask, a lightweight yet powerful web framework for Python. It includes key features such as user registration and authentication, post creation and editing, image uploads, tagging system, and geolocation functionality.

1. **User Registration & Authentication:** Users can create an account, log in, and securely manage their personal information.
2. **Post Creation & Editing:** Users can create stories, edit existing ones, and manage their publication statuses. The post editor supports text and image input.
3. **Image Uploads:** The application allows users to upload images related to their stories. These images are stored securely and can be accessed only with the proper permissions.
4. **Tagging System:** To enhance searchability and content categorization, users can assign tags to their stories. This feature fosters better content discovery and groupings of related stories.

5. **Geolocation Functionality:** Users can also tag their posts with geographical locations. This feature adds a unique dimension to storytelling by letting users visually connect their posts to specific locations on a map.
6. **Date and Time Stamping:** Each post is time-stamped automatically, creating a chronological record of users' stories.

Deployment

The application is hosted on Google Cloud, taking advantage of its robust infrastructure and security features. Google Cloud's scalable architecture allows the app to handle growing numbers of users and data efficiently.

1. **Backend:** The backend of the application is hosted on Google Cloud, utilizing its powerful computing services to handle complex server-side operations.
2. **Frontend:** The frontend is also hosted on Google Cloud, ensuring smooth and fast delivery of content to users' browsers, irrespective of their geographical locations.
3. **Database:** The application's database is hosted on Google Cloud's scalable and secure SQL service. This setup allows for efficient data management and retrieval, and guarantees the safety and privacy of users' data.

The successful development and deployment of this application have demonstrated my ability to build a full-stack web application, from front-end user interface design to back-end server operations and cloud-based hosting. I am looking forward to further enhancing this application by incorporating user feedback and new feature ideas.

Software Requirements Specification

Functional Requirements

1. **User Account Creation and Authentication:** The system is designed to facilitate user registration, sign-in, and profile management. This includes creating an account, logging in, and updating profile information.
2. **Story and Experience Creation:** Users can creatE and share personal stories and experiences. These can be accompanied by images and geolocation data.
3. **Social Interaction Features:** The platform enables user interaction via features such as likes and follows.
4. **Search Functionality:** An advanced search function allows users to locate specific posts or topics using keywords, hashtags, or other criteria.
5. **Reporting and Content Moderation:** Users can report content or behavior deemed inappropriate. Furthermore, moderation tools allow supervisors to identify and eliminate harmful or unsuitable content.
6. **Responsive Design:** The application is designed with responsive principles to ensure usability across a spectrum of devices and screen sizes.

Non-Functional Requirements

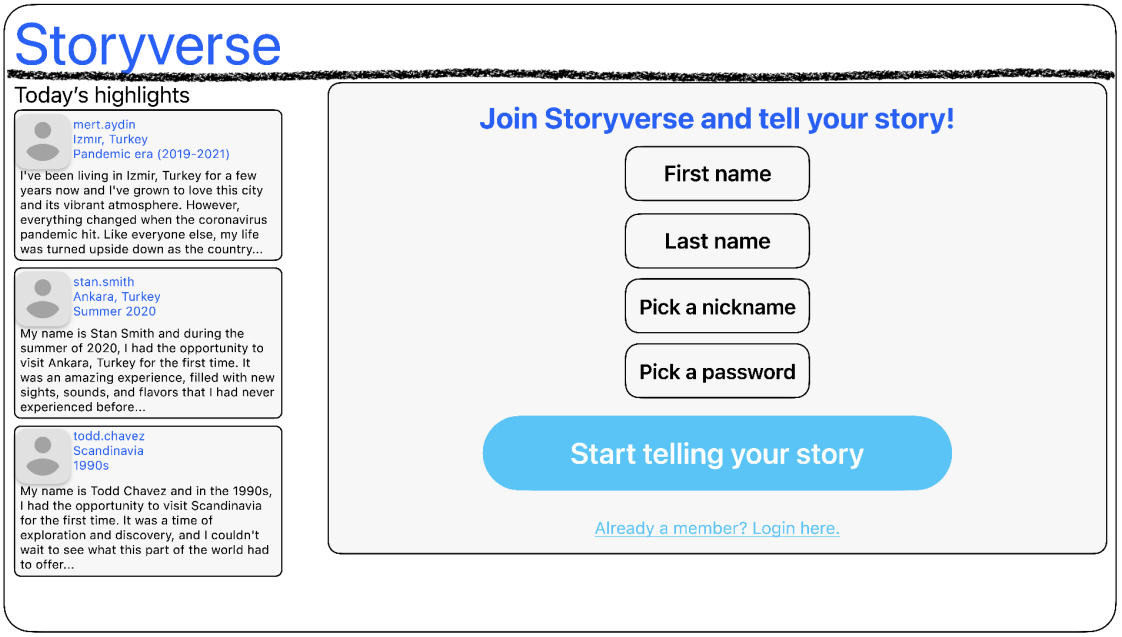
1. **Usability:** With an intuitive design, the application is easy to use, catering to users with varying levels of technical expertise.
2. **Performance:** The system is engineered to handle significant volumes of user-generated content and interactions without performance degradation.
3. **Security:** Robust security measures have been put in place to safeguard user data and prevent unauthorized access or breaches.
4. **Accessibility:** The application has been designed with inclusivity in mind, ensuring accessibility for users, including those with disabilities.

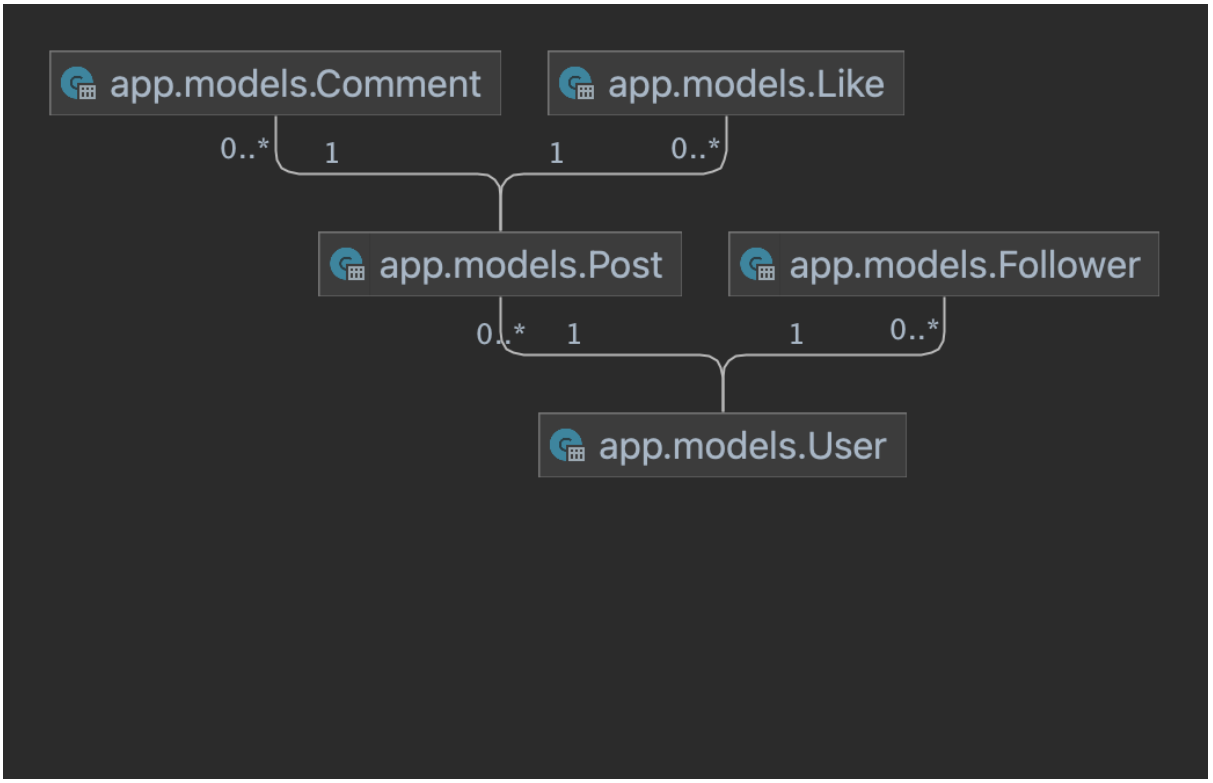
5. **Compatibility:** The system is compatible with a broad range of devices, operating systems, and web browsers.
6. **Availability:** The application guarantees high availability, with minimum downtime or disruptions.
7. **Scalability:** The architecture is designed to handle growth and increased usage over time, allowing for scalable operations.
8. **Maintainability:** The application's design and development approach facilitates easy maintenance and updates over time.
9. **Reliability:** The system is reliable and stable, minimizing the risk of system failure or data loss.
10. **Privacy:** The system upholds user privacy, with strong controls and policies in place to protect user data and ensure compliance with relevant laws and regulations.

The fulfillment of these functional and non-functional requirements results in an application that is not only feature-rich but also robust, scalable, and user-friendly. These requirements form the blueprint of the software development process, ensuring a final product that meets user expectations while maintaining performance and security standards.

Design, UML Diagrams and Images

Login Page





My Profile

Storyverse

Search... Search

Logout

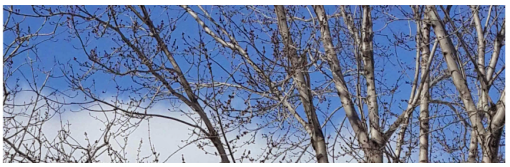
A Theatrical Journey: From Trois-Rivières to Montréal

Mar 10 2015 - Mar 18 2015

Mert · a day ago

Trois-Rivières, Montreal

During high school, I had the incredible opportunity to attend a French theater festival in Trois-Rivières, Canada. It was a journey filled with excitement and cultural exploration that I will never forget. The trip began on March 10, 2015, when our group embarked on a flight from Turkey to Canada. As we arrived in Trois-Rivières, I couldn't help but feel a sense of anticipation. The city had a charm of its own, with its quaint streets and friendly atmosphere. We settled into our accommodations, ready to immerse ourselves in the world of theater. For four nights, Trois-Rivières became our temporary home. We attended numerous captivating performances, ranging from classic plays to contemporary productions. The talent and creativity of the actors left us in awe, and we were inspired by their dedication and passion for the art form. The festival provided a platform for cultural exchange, as we met fellow theater enthusiasts from different parts of the world, all united by our love for the stage. During the days, we explored the city, taking in its historical landmarks and vibrant local culture. Trois-Rivières offered a glimpse into the rich heritage of Quebec, and I was captivated by the fusion of French and Canadian influences. We indulged in delicious local cuisine, sampling traditional dishes that delighted our taste buds. As the festival drew to a close, our journey continued to the bustling city of Montreal. We bid farewell to Trois-Rivières and embarked on a new adventure. The vibrant energy of Montreal was infectious, and we dove headfirst into its vibrant arts scene, exploring museums, art galleries, and lively neighborhoods. The city's blend of old-world charm and modern flair was a captivating sight to behold. During our two nights in Montreal, we discovered its iconic landmarks, such as the Notre-Dame Basilica and Mount Royal. We strolled along the charming streets of Old Montreal, savoring the distinct European ambiance. The city's dynamic cultural scene offered a multitude of experiences, from live music performances to bustling street festivals. As our time in Canada came to an end, we carried with us unforgettable memories and newfound appreciation for the power of theater and the beauty of cultural exchange. The journey had broadened our horizons, exposing us to different perspectives and fostering lifelong friendships. On March 18, 2015, we boarded our flight back to Turkey, our hearts filled with gratitude for the incredible experiences we had shared. The French theater festival in Trois-Rivières and our subsequent exploration of Montreal had left an indelible mark on my soul, igniting a lifelong love for the arts and fueling my desire to continue exploring the world and embracing new adventures.



+

Create a Post

Title

Story

Tags (separated by space)

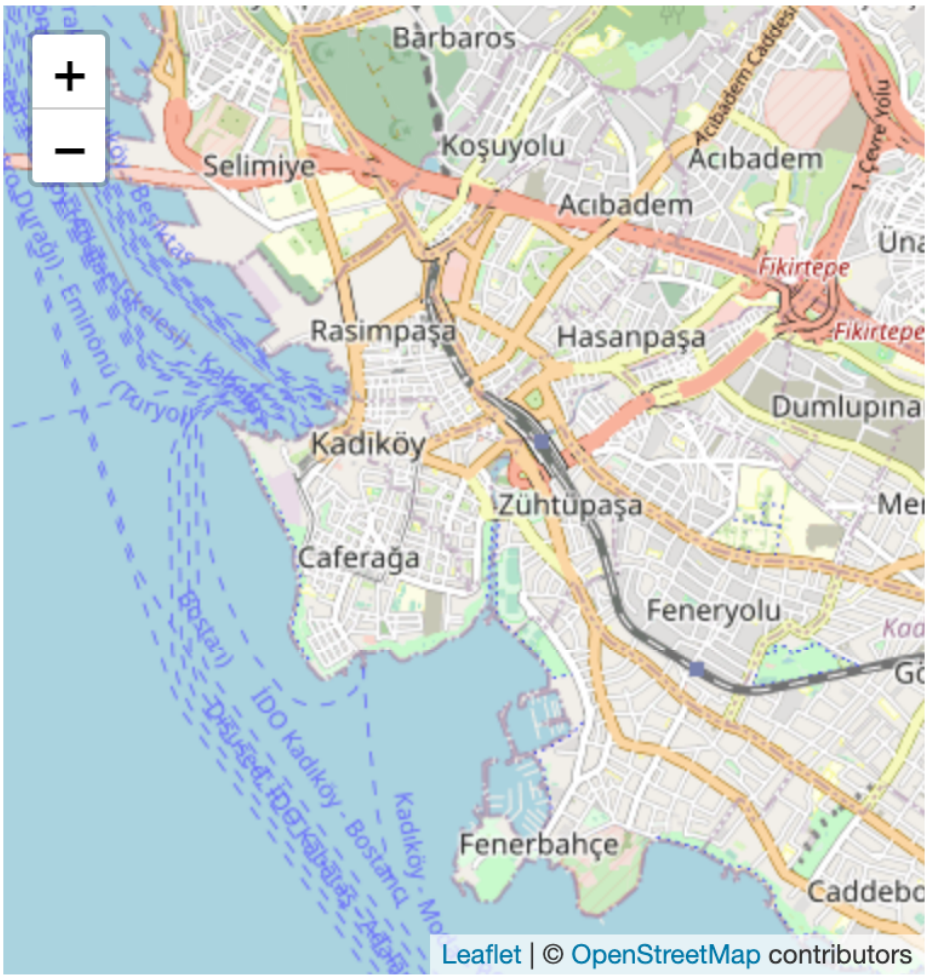
Date Type: Exact Date Season Decade

Start Date: dd.mm.yyyy

End Date: dd.mm.yyyy

Image Image Choose File No file chosen

Geolocation



Submit

Status of Project

Requirement #	Status (OKAY / NOT OKAY)
FR1	OK
FR2	OK
FR3	OK
FR4	OK
FR5	NOK
FR6	OK
NFR1	OK
NFR2	OK
NFR3	OK
NFR4	OK
NFR5	OK
NFR6	OK
NFR7	OK
NFR8	OK
NFR9	OK
NFR10	OK

Status of Deployment

The application is currently deployed and running on Google Cloud Services. You may access it through https://storyverse-385315.lm.r.appspot.com. The application can handle various screen sizes, browsers and platforms. A dockerized version is also available within the flash drive I provided. Please note that dockerized application is using a local database and not Google's services since Google SQL instance only accepts whitelisted IP to access outside of Google's servers. However the applications are up to date on both sides. Only difference is the database. The login credentials I provided at the beginning of this report are valid for both.

System Manual

Prerequisites

Before you begin, ensure you have met the following requirements:

- You have installed the latest version of Docker and Docker Compose.
- You are familiar with basic Docker usage and commands.

Installing and Running the Application

To install and run this application, follow these steps:

1. Load the Docker images from the provided .tar files using the docker load command:

```
docker load -i web.tar
```

```
docker load -i database.tar
```

2. Navigate to the directory containing the docker-compose.yml file.
3. Start the Docker containers using Docker Compose:

```
docker-compose up
```

The application should now be running and accessible at http://localhost:5000.

User Manual

Welcome to Storyverse! Once you navigate to our website at http://localhost:5000, you will be seamlessly directed to either the /login or /dashboard pages, depending on your current authorization status.

Are you a new user? No worries! You can explore our site using one of our readily available demo accounts, or opt to create your own personalized account for a more immersive experience.

Upon successful login, your journey begins at the dashboard. Here, you'll discover a plethora of captivating stories shared by our vibrant community of users. Stories are intuitively organized from the most recent, giving you fresh content each time you visit. What's more, we prioritize stories from the users you follow, making sure you never miss an update from your favorites.

Feel free to explore our users' profiles. If someone piques your interest, just click their username to learn more about them and consider following their stories.

Fancy sharing your own story? That's easy! Look for the 'plus' button located on the bottom-right corner of your dashboard. This is your gateway to becoming a storyteller. It leads you to the post creation page, where you can craft a compelling post complete with a title, content, start and end dates, a captivating image, relevant tags, and even geolocation details. Once you're satisfied with your creation, hit submit and voilà! Your story will appear at the top of your feed, ready to inspire others.

Remember, you can always exit our platform securely by clicking the "logout" button. We can't wait to have you on board, sharing and enjoying stories on our dynamic platform. Enjoy your journey with us!

Test Results

Unit tests are available within my repository and you may view them directly at: https://github.com/mert-aydin/SWE-573/blob/main/tests/routes_unit_tests.py. User tests for the requirements I marked as “OK” are successfully completed.

Demo Video

You may find it in the thumb drive titled as “DEMO_VIDEO.mp4”.