Outliner: Quarantine Edition

CS 372 Project: Fall 2020

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Introduction

Motivation

During quarantine, one of our team members (Philip) found work as a freelance developer. He was added to a small team of senior professionals and they were tasked with capturing and planning the app development project. The senior developers favoured "OmniOutliner"[1] as their app of choice for such work, but instant communication was paramount as the team needed to work from home and make meaningful changes to the project during meetings. Philip scoured the internet in search of Outlining software that enabled real-time collaboration between co-workers, and the only service he found had been discontinued in 2017: "The Outliner of Giants"[2]. The team settled on using Google Docs with a custom style set to give the appearance of hierarchical organization, but the inability to collapse low-level information and limited support of reorganization were big barriers for the senior developers.

During our initial project discussions, several general ideas were thrown around, but this opportunity ultimately won because it was specific and estimable. The AJAX challenges will test our limits as young developers. We are glad to be investing our time solving a few difficult problems, while prioritizing the timely delivery of excellent software.

Our Goal

Our high-level goal is to design, produce, and deliver a website that enables teams to collaboratively edit private OPML files.

Requirements

Functional

We plan for our web application to have a wide range of useful functions that will separate it from similar applications. These functions include:

- Create and manage an account on the website
- Create, save, share, modify and export text documents
- See who is editing your document in real-time and see the edits in real time
- Logs of edits for each document
- Collapsing hierarchy structure inside of the text documents
- Create and use document templates
- Search tool to search for keywords in your document
- Receive notifications when your document has been edited by someone

Quality

Quality is a very important aspect of any software development project. It defines the user's experience and developer’s ability to modify and reuse the code. In this project we have carefully considered all the quality requirements from the developer’s and user’s point of view to give our best performing **Real-time Collaboration Outliner** with tons of features.

Software design

We will try to design our web-based application in a way that we can reuse our program to modify in order to add new features and updates according to the changing requirements in the future.The ways in which we are organising our program with various web-based programming languages to make sure its reusability are:

- Using CSS (cascading style sheet) externally and linking it to the different pages for defining layout and design of the pages. CSS can be applied throughout the web application. It also enables debugging, since CSS errors need only be fixed in one file, rather than across all the pages of the site.
- Using JavaScript for events and validations externally rather than embedding in the html document to reuse our code for other pages validations.

For Users

Our main focus is to give our users the best experience possible, so we are creating something simple yet effective to use. We plan for our **Real-time Collaboration Outliner** to be simple and easy to navigate for the users.

Some features we are adding to make a seamless experience for users are as follows:

- Email only sign-ups are available. Also users can login without any lengthy passwords which are hard to remember
- They can upload profile pics for fun.
- Users will understand its functions the moment they go to the site. It is easy to understand its functionality without any complications
- It is reliable. Users can rely on the software to get what they want
- Style choices including colour schemes and fonts to make it more attractive

Milestones

During the 10 weeks that we will be working on this project we will be mimicking the 40-20-40 rule of thumb for the distribution of effort. For the first 4 weeks we will be designing our application. The next 2 weeks we will be coding and implementing all of the features listed above. And finally in the last 4 weeks we will be focused on testing and performing maintenance on our application to ensure that our product is reliable and ready to be used by the user.

Programming Languages, Development Environment, Etc

The programming languages we will be using in this project will mainly consist of web development languages.

for example the front end or client side will be done in:

1. **HTML** - language used for creating web pages.
2. **CSS** - for styling documents.
3. **JAVASCRIPT** - for error tolerance and for validation of inputs.

Meanwhile we will use a variety of languages also for the back end or server side for example:

1. **PHP** - for server side programming.
2. **MYSQL**- for creating tables in a database.

Finally we will want our website to allow web pages to be updated asynchronously. This will be done by exchanging data with a web server behind the scenes. This is beneficial to help update the website without reloading the page. The methods we will use to do this is by using **AJAX** and **JSON.**

We will use the following IDE's and Development environments to program our website:

1. **Brackets** - to write code.
2. **uregina domain** - this is where our website will be published.
3. **hercules** - this is the computer we will use to store our files and create our database. It will contain our final work.

References:

1. “Outlining Software For Pros - OmniOutliner.” *The Omni Group*, www.omnigroup.com/omnioutliner/.
2. “The Outliner of Giants.” *A Feature Rich Outline Processor for Students, Researchers, Writers, and Project Managers.*, Angelic Informatics LTD, www.theoutlinerofgiants.com/.