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Program Diploma - Capstone Project

Project Title: ReFrylt
Author: Tony Sun
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Project Overview

1.1 Description

A web application that leverages a chrome extension allowing the capturing of web page text passages. Captured text passages are stored in a database, that can then be accessed via a webpage application which will display captured texts in an organized fashion. This project is inspired from the chrome extensions: Session Buddy and Super Simple Highlighter.

1.2 Problem

This project attempts to overcome the limitations of bookmarking, as in addition to referencing interested webpages, you able to be more specific and deliberate for what you are interested in, each bookmarked. As the number of bookmarks increase and as time pass, the bookmarks folder inevitably becomes overwhelming, disorganized and the significance of each bookmark gets lost in the process. Furthermore, syncing updates of bookmarks across different browser clients and their devices may become unavailable or limiting.

1.3 User Profile

Initial end users would most likely be students, or anyone learning a new subject matter, as they are able to easily reference multiple webpages and directly see the pieces if passages that are points of interest from each webpage. In our webpage counterpart (the ReFrylt portal), users can see their passages of interest from each webpage tabulated and grouped based the “group” or “folder” of each passage or based of a user defined keyword attached to each passage or even by date of the passage. In contrast, users typically would be opening some bookmark and skimming the page(s) or rereading the paragraphs to identify the sentence or passage of interest. In addition, users can attach notes on each passage, to provide better context.

1.4 Requirements: Use Cases and Features

Users want to easily sign into their RefryIt account via the chrome extension to connect to their RefryIt portal.

Users want to simply highlight and “add” (via right-click => content menu) passage into their account.

Users want a seamless interaction when visiting and then logging into the RefryIt portal (the webpage counterpart)

Users want to see their recent highlights on the default page, as well as a clean and convenient way to view user pre-defined groups in the sidebar. In addition, on the default page, user wants to search up keywords predefined in their “keywords bank list” or phrase and/or date associated with each “highlight” from their entire highlights bank.

Users want highlight cards from a given same URL address (domain+path) to be grouped together.

Users want to see the passage’s domain icon, full URL, date of highlight, keywords associated and the option to delete/edit highlight info… and a drop-down section for hiding/showing various info.
Users want to attach notes to each highlight card.

Users want to have cards generally filtered by the portal page they are on.

Users want to be able to add/update/edit/delete keyword bank list items, and group list items.

Users want a method to open the webpage containing that highlight passage.

Users want to personalize their UI color scheme.

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1.5 Tech Stack and APIs

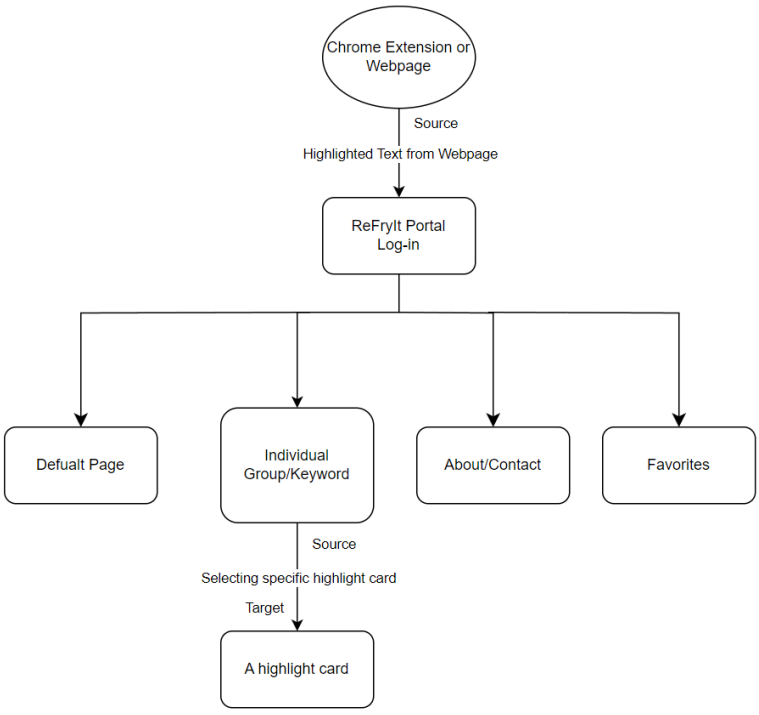
(March 3, 2024)
Front-end/Backend: JavaScript (ReactJS)
Database: KnexJS
Server: ExpressJS

API:
Chrome Extension
HTML Web (local Storage)
Google Identity
Clipboard

Potential API:
Google Drive
Google Search
OpenAI

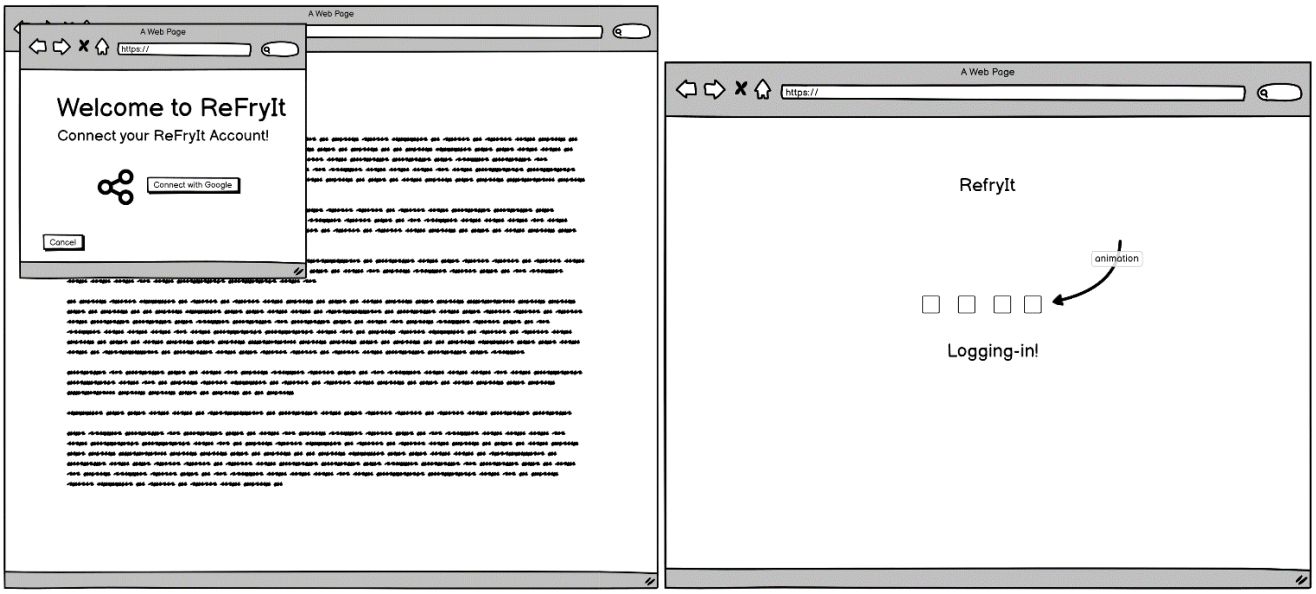
2. Client-Side Implementation

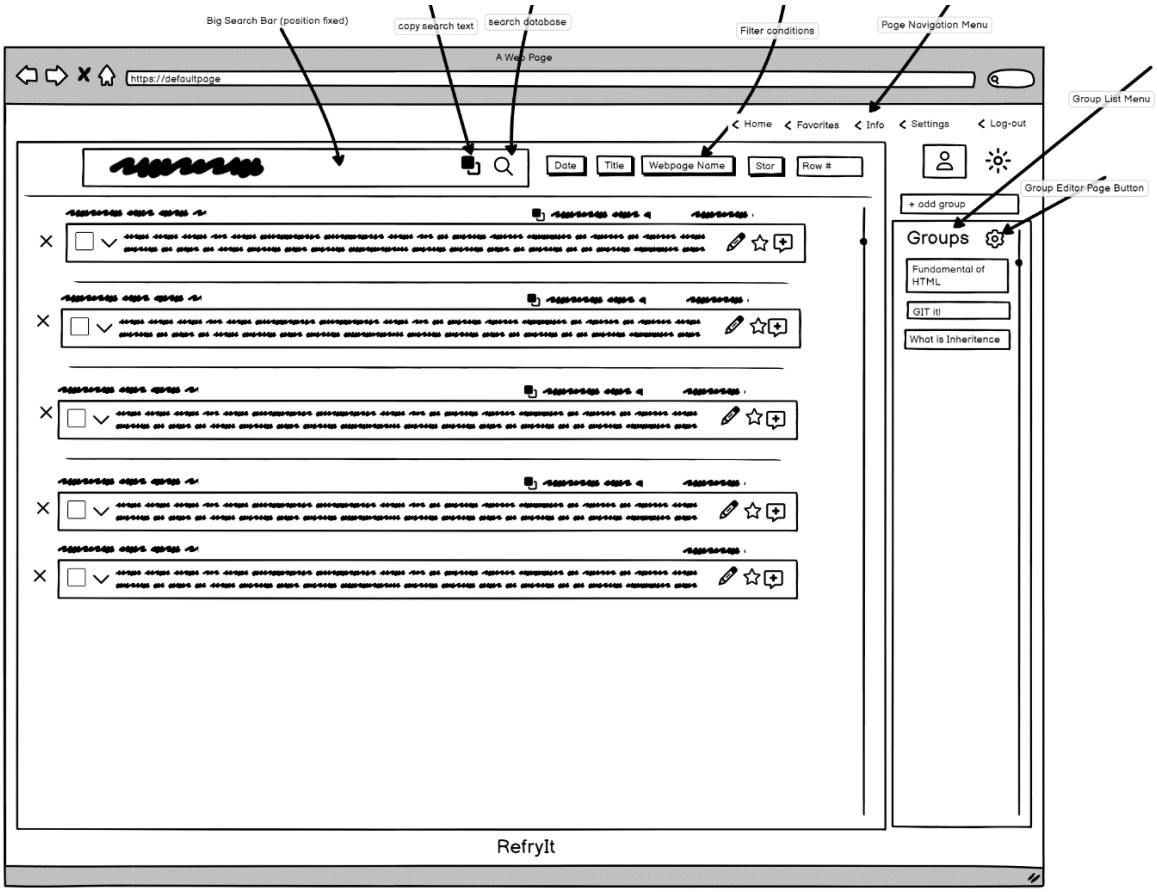
Site Map

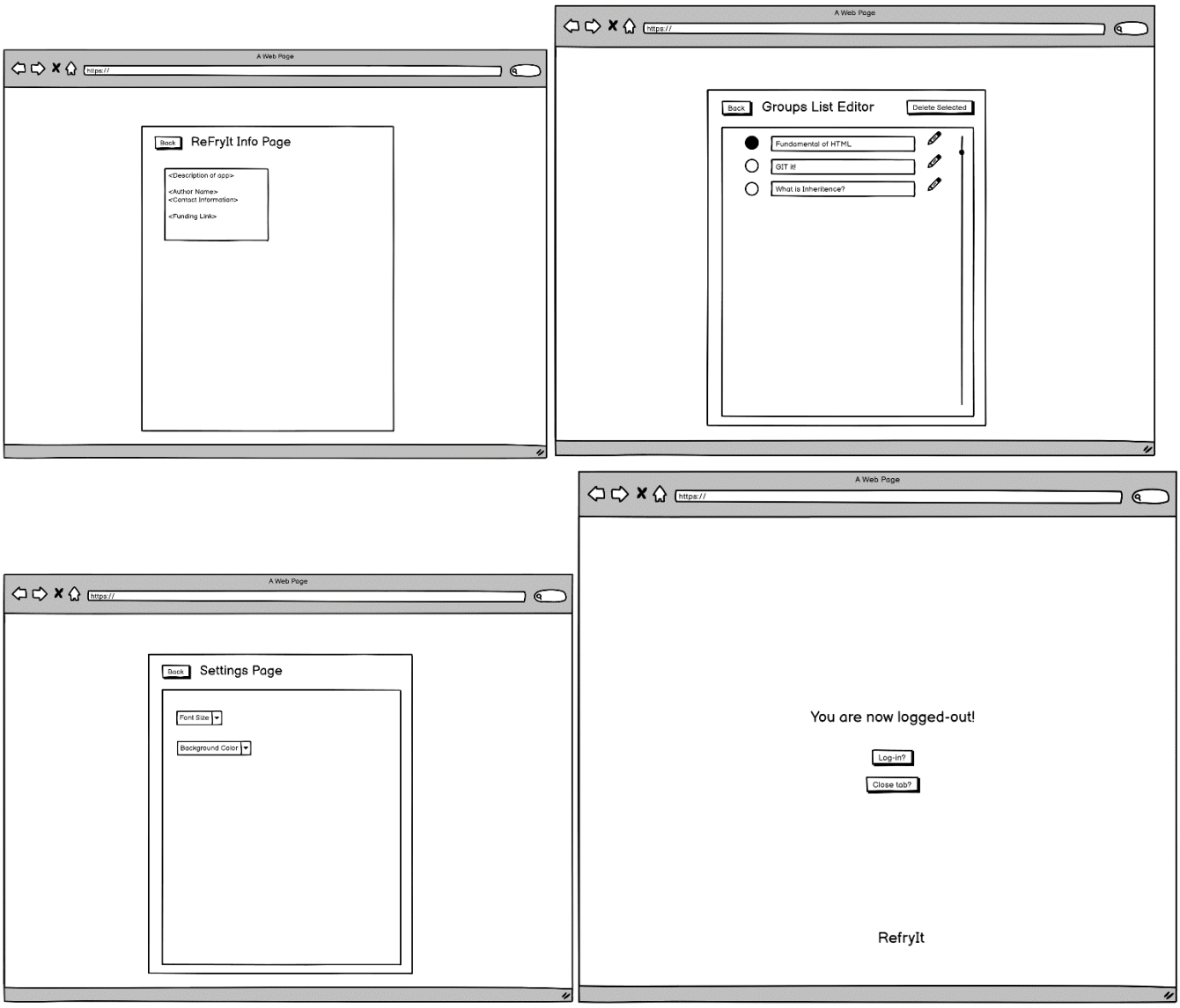


- *Chrome Extension:*
  - *Users inserts data into database.*
  - *Extension should be able to scrape basic info**
- *Default Page*
  - *List of recent highlights*
  - *Sidebar has cards, represent "keyword/group" in the keyword bank.*
  - *Search bar for searching keywords from entire database or "route group" specific.*
- *Favorite Page*
  - *Look up starred highlights.*
- *About/Contact*
  - *Basic Information about site and author*

Screen Details







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3. Server-Side Implementation

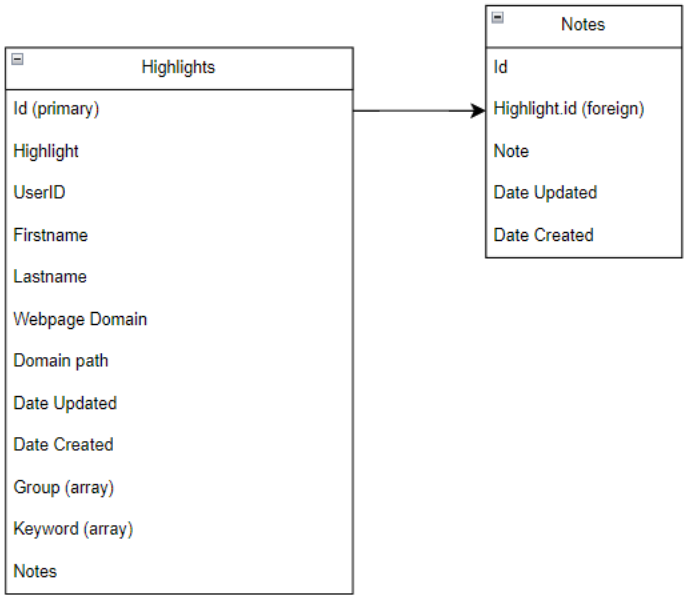
3.1 End-Point Descriptions

End-point	Response Format
Get /highlights/filter/recent/:amount	Get most recent highlights by date
Get /highlights/filter/:keyword/:amount	Get highlights by group keyword
Post /highlights/:(something)	Inserts a new row in the highlight table
Delete /highlights/:id	Delete specific highlight, cascade notes
Get /notes/:highlightid	Gets notes for specific highlight
Post /notes/:hightlightid	Creates a note specific to a highlight
Put /notes/:noteid	Edit specific note entry
Delete /notes/:noteid	Deletes a specific note

3.2 External APIs that will be consumed.

Web Api: local storage
Google Identity: “to log-in” => captures some sort of id unique to user
Chrome Extension: develop a chrome extension companion.

3.3 Database Structure



3.4 Authentication/Authorization and Security

Google Identity

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4. Project Roadmap

Phase 1

Milestones	Goal
1	Create database and design models
2	Build server boilerplate and hook up to database
3	Create seed data
4	Define all Endpoints in express, connect endpoints to any external web api
5	Connect frontend to backend, establish functional route calls and proper consumption of returned data from backend
6	Create just the functional aspect of pages and components with returned data
7	Create simple chrome extension that can be interacted with
8	Create minimal functional chrome extension, capture highlighted text
9	Have extension connect and interact with backend
10	Have extension successfully pass and insert data into databases
11	Test frontend accessibility of inserted data by extension
12	Implement OSS – Google sign-in to extension
13	Style frontend
14	Style extension
15	Test for full base webpage responsivity.
16	Demo Day April 17th

Phase 2

Refactor.
Implement industry standard authentication means for user validation/sign-up/log-in
Implement AI assisted features.
OpenAI: to interpret keyword/phrase, then suggest relevant highlights for selection.
Google Search: for search suggestion… based of unique group/keyword bank.
Implement Google Drive incorporation, and/or a remote database.

Users want to import a browser's export bookmark file and implement it into the portal. Maybe...

Phase 3

Refactor.
Publish to chrome store with running database and real users. Add monetization.

5. Demo Day Information

Please fill out the Google Forms that will be sent out via Slack. This information will be used to complete your presentation and to showcase your profile on the BrainStation website.