Tunnel Vision: Documentation

Software Engineering

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Requirements

1.1 Costumer Statements

Costumer statements were a collection of our ideas of what we foresaw the software looking like, behaving, and interactions with other software. Collectively we choose to have everyone write out a statement or statements. Format was optional, allowing for what felt natural to the individual. This allowed for a more open discussion after everyone put in their input. The requirements were an easy job after that, with focus on group discussions over the statements provided.

1.2 Requirements

1. User Requirements

1.1. Functional Requirements:

1.1.1. User shall be able to search for specific topics categories

-- User will be presented with choices under the category (i.e., Math, science, ...) and able to choose a tag under category or be able search for specific tag.

1.1.2. User shall be presented with a visualization of how much time one has watched in the video's window

-- User will see blocks with image tab on it and thumbnail image, displaying watched length.

1.1.3. User shall be presented with a visual thumbnail of an image and accessible link to video window with length of video.

-- This will be presented in the information searched with thumbnail image of video and watch length of video

1.1.4. The user will be able to save, favorite sites and videos for further study or future study times.

-- This will be a tab that displays a book of knowledge tab with a heart on it, and will have all the saved, favorited sites and videos.

1.1.5. User will be able to create a que of sites and videos for study time, to pick up where they left off.

-- The application will have a button on left side of the link to add it to the que for access through the que. This will also have a button to see current que and switch to another que.

1.1.6. Upload, connect other devices and applications calendars for schoolwork and subjects.

- Allow the user to upload their syllabuses and class schedules to the application.

1.1.7. Focus mode emergency shut off in case of emergency

-- The focus mode should have a way to create an emergency shut off if call, text is sent to user, or an emergency arises.

1.1.8. Exiting Focus mode before time is over, will present a user with a problem to solve to exit the focus mode before time is over.

-- The problem shall be a difficult puzzle, problem from quiz, that pertains to the subject/category that they are studying.

1.1.9. The application shall allow the user to change subject/category of the current focus mode.

-- This will enable users to change when they have completed a task to move to another task.

1.1.10. The application will prompt the user once a task is finished if the user wishes to exit focus mode.

-- In instances that a homework site show completed, submitted, or some other object of completion, then the user shall be prompted with a window of the allotted time left in focus mode, asking if the user wishes to continue to another task or category/subject, or quit the focus mode session.

1.1.11. Scheduled focus modes for the user, to be defined by the user.

1.2. Non-Functional Requirements:

1.2.1. Displays previous videos watched by user

1.2.2. Save preferred searches/videos

1.2.3. User determines topics of focus for duration of session

1.2.4. User determines topics of focus for duration of session

1.2.5. user specified topic tab for specialized subjects

1.2.6. User shall not be permitted to visit any 17+ sites, or offensive sites.

-- Sites that are not permitted in detail will be provided in a .csv or .txt file format, this will also be hardcoded

1.2.7. The user will activate "Focus mode" from any portion of the site

-- focus mode will be a floating button that is accessible from any location of the application.

1.2.8. Focus Mode when selected will display a window with ability to choose category of study, tags, duration, type of focus mode

-- The search function will be limited to the category of choice or subject chosen. Time may be specified by user.

1.2.9. The application shall have a color palette scheme for a preference for specific user, under the settings.

-- This will include relaxing color palettes and user defined square palettes.

1.2.10. Allow a user defined font.

-- Allow for readable relaxing fonts for the reader fonts and website changeable fonts if capable of changing to preference

1.2.11. While watching a video or looking at a site for studying, the system shall display recommended sites and videos.

-- The recommended sites and videos will be only closely related videos in the category/subject of the focus mode session.

1.2.12. The application will have a setting and list of applications that the user has and allow for user defined locking.

-- this will keep users from locking important applications, but lock others, such as games, and store front applications.

1.2.13. The focus mode will have several different types of focus modes.

-- The types of focus modes are Individual study, Collaborative study, and project. This will give access to things like discord and slack

in collab, and project, while in individual you will be limited to email, google products, notepad, IDE's, etc.

2. System Requirements

2.1. Functional Requirements

2.1.1. Disable ability to exit page location for period of time.

2.1.2. Ability to takes notes with stylus

2.1.3. User is unable to minimize or exit out of app while session is running.

2.1.4. User is unable to move away from specified topic and specialized subjects chosen at the beginning of session.

2.1.5. Parse internet sites for preferred tags in search, confined to overarching categories

-- System will send out a request for sites that pertain to a tag (Vector's-cross product) with the overarching categories (i.e. Math)

2.1.6. The Focus mode when active will have set limits in for breaks.

-- The system will pause study time for a 5 min break halfway through with a 30 mins study time to a 59 mins, 10 min break halfway through the focus mode from 60 mins to 89 mins, 15 mins for 90 mins or more mins.

2.1.7. Connectivity across school sites and homework sites to bring in to-do lists and homework sheets.

-- (i.e., canvas, WebAssign, Pearson, etc.) These sites will be connected to find the to do list, schedules, syllabuses, and homework that is coming to do to create application on to-do list and allow a more focused approach. Create tags and

categories for the user.

2.1.8. The system will keep track of the user habits, focus mode time accumulated, goals set by user, studied sites, videos watched.

-- These will be brought into create a level/experience system of achievements to give users incentive to continue to use and create good study habits.

2.1.9. The system will display the information of sites and videos in a sortable way, by preference of user.

-- Default will be by relevance to one subject/category, but will have the options of selecting by date, length, and type object.

2.1.10. The scheduled Focus mode will send out reminders to the user to the screen in banner form, as well as a window in the dashboard/home.

-- The system will send out reminders at a specified time to remind the user, the reminder will be defaulted to two hours before, and then

one hour before.

2.1.11. The focus mode function will sound an alarm with the time is over.

-- The alarm can be user defined or present an option to download a preferential alarm sound other than default options.

2.2. Non-Functional Requirements:

2.2.1. Ability for note taking with supporting OS

2.2.2. Accessible button in upper right corner with a clock face for user to change how long their session is.

2.2.3. System will communicate with search API to communicate for information on startup of program and sign in.

--(i.e., google search algo API) System will connect and gain access to API network, start workload on the preferred search, most searched question for topic, new content.

2.2.4. System will load all user data, history, favorites, previous ques

2.2.5. System will display the home/dashboard page

-- The home/dashboard will display a box layout of the data in rounded squares. Each will display history, current que, current search, New search, Focus mode achievements.

2.2.6. System shall sync across the system sister applications to allow for seamless transitions of study.

-- Between mobile application, desktop, and eventually website application.

2.2.7. The application will have a severity level of restrictions on the users' applications.

-- applications such as gaming applications will be locked down and other non-educational applications.

2.2.8. The application will have a collection of usernames to create a leaderboard based on achievements.

-- This will be congruent across all systems, and applications, with a network call.

2.2.9. The login to system will be encrypted, prompting users for a username and password, all further communication with application will be encrypted per application and site standards.

-- Login into the site's canvas, WebAssign, etc. will have the encryption logins per applications preference.

2.2.10. Integration to applications with social features, such as discord, slack, teams, google products, and emails.

-- This will provide a collaboration to the focus mode, allowing for further help and functionality to the application.

Architecture

1. Documentation

1.1. Tunnel Vision

1.1.1. main block for the software, this is the main developed piece of code. This will call all outside request for information required to function as a focus application for the individual users' preferences.

1.2. User System

1.2.1. main block for the software, this is the main developed piece of code. This will call all outside request for information required to function as a focus application for the individual users' preferences.

1.3. Tunnel Vision Database

1.3.1. main block for the software, this is the main developed piece of code. This will call all outside request for information required to function as a focus application for the individual users' preferences.

1.4. YouTube

1.4.1. main block for the software, this is the main developed piece of code. This will call all outside request for information required to function as a focus application for the individual users' preferences.

1.5. Google

1.5.1. main block for the software, this is the main developed piece of code. This will call all outside request for information required to function as a focus application for the individual users' preferences.

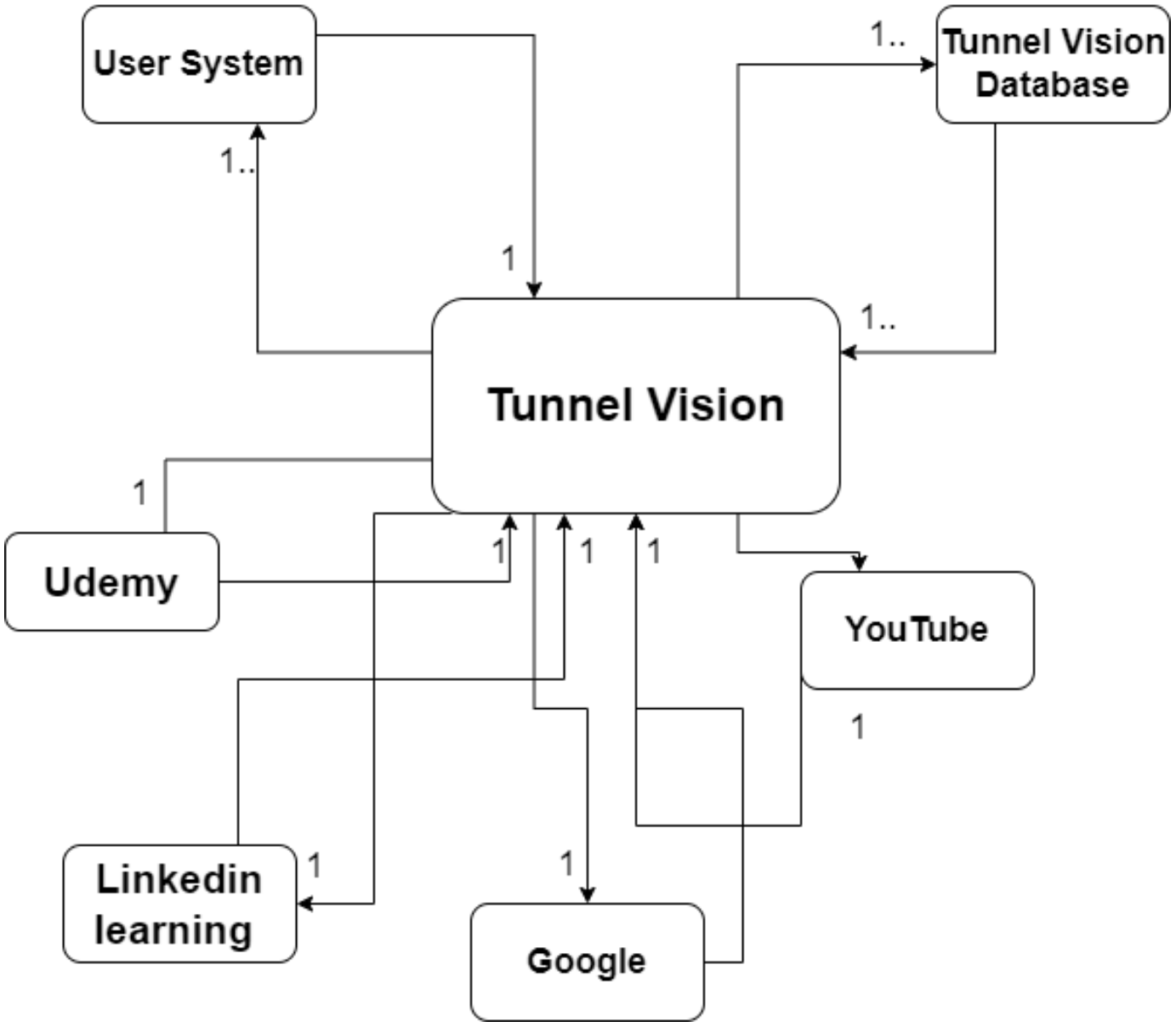
1.6. Udemy

1.6.1. main block for the software, this is the main developed piece of code. This will call all outside request for information required to function as a focus application for the individual users' preferences.

1.7. LinkedIn Learning

1.7.1. main block for the software, this is the main developed piece of code. This will call all outside request for information required to function as a focus application for the individual users' preferences.

2. Flow-Chart


User System
Tunnel Vision Database
Tunnel Vision
Udemy
YouTube
Linkedin learning
Google
1..
1
1..
1
1
1
1
1
1
1
1
1

Design

1. Documentation

1.1. Tunnel Vision Software

1.1.1. Startup

1.1.2. Login/Create Account

1.1.2.1. This allows the user to create or login to their account to start using Tunnel vision. This allows users to store their information and achievements into the cloud(database).

1.1.3. Authorization

1.1.3.1. Send information for users' username/password to the database to be verified.

1.1.4. Tunnel Vision Database

1.1.4.1. This is the database called for authentication and achievements about the user and the leader boards for Tunnel Vision.

1.1.5. Dashboard

1.1.5.1. This is the home screen for the user, showing focus mode, leaderboards, achievements, their topics, current assignments, projects, current subjects, history, Subjects/Categories, news.

1.1.6. Achievements

1.1.6.1. This will be the area that shows the users current achievements, working achievements, leaderboards, ranking, and tasks to complete for points.

1.1.7. Check user Activity

1.1.7.1. This checks the data needed to show achievement progress, such as tasks completed, videos watched, hours watched, focus time achieved, how many focus times were completed.

1.1.8. User Preferences

1.1.8.1. This holds system settings along with saved cloud settings for the user based preferences of what the user wants the system to look like and act for them specifically.

1.1.9. Focus Mode

1.1.9.1. A feature that locks the system and filters searches to what the user is focusing on or selected subject/category. This does not allow for the user to go off topic or do anything but focus on the current task.

1.1.10. System Lock

1.1.10.1. This happens when focus mode is on and locks the user from using applications that do not meet the criteria of the current subject/category the user has tasked to complete and study.

1.1.11. YouTube Search

1.1.11.1. This is a search of YouTube for the users subject/category

1.1.12. User Preference Filter

1.1.12.1. This filters out the content that does not pertain to the users search criteria, and the subject/category.

1.1.13. YouTube API

1.1.13.1. This is the communication between the system and the YouTube database. With the search and filter criteria.

1.1.14. Video GUI

1.1.14.1. Tunnel Vision build video player, not allowing for the clicking on or show of new videos other than the recommended by the search criteria.

1.1.15. Increment: Number of hours, Number of Videos Watched

1.1.15.1. This updates the achievements section in the database.

1.1.16. Google Search

1.1.16.1. This is the search of the google database with the subject/category of user has tasked.

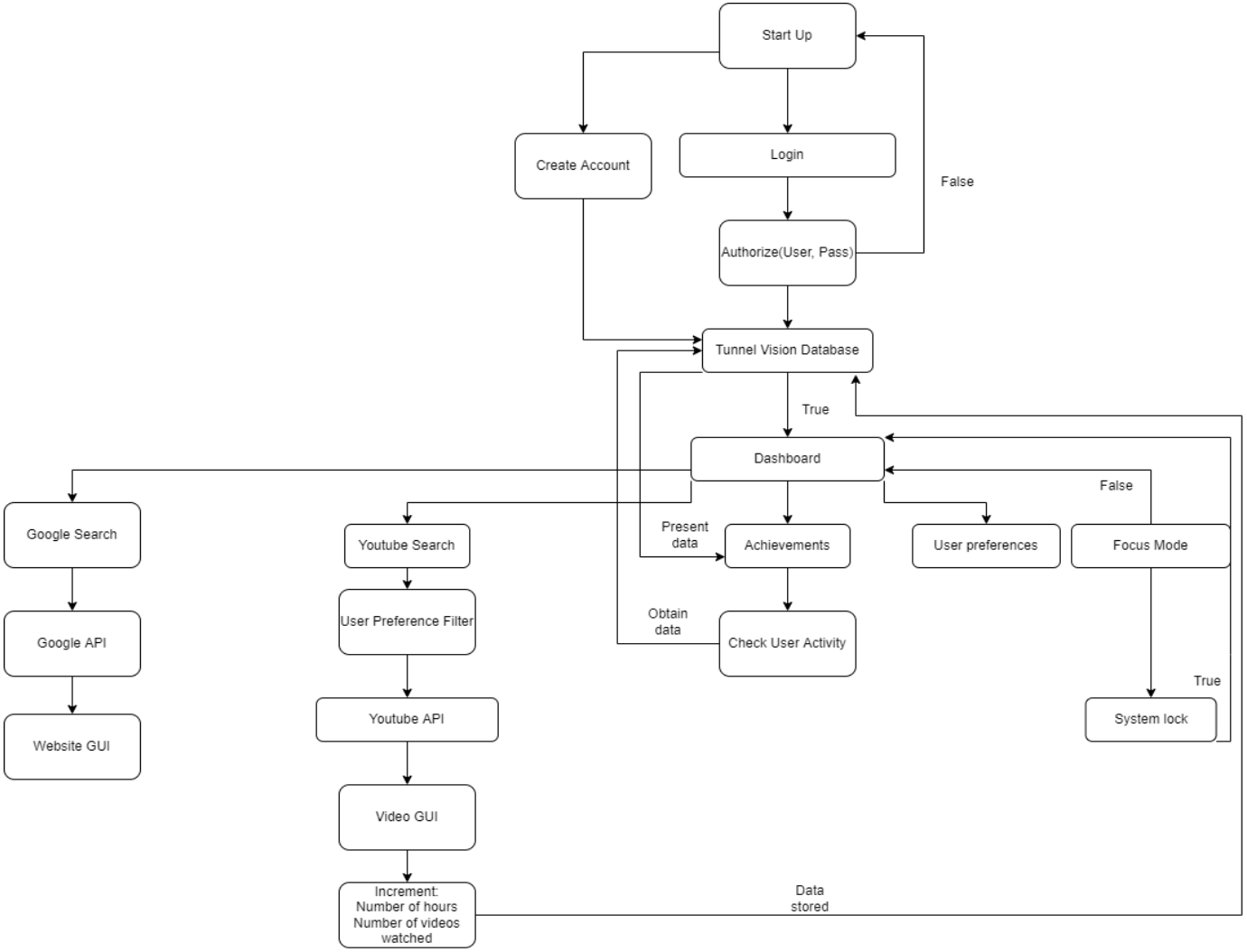
1.1.17. Google API

1.1.17.1. The communication between the Tunnel Vision and Google database.

1.1.18. Website GUI

1.1.18.1. The Tunnel Vision display of information for the user to pick through and study the information for the task that has been set by the user.

2. Flow-Chart


Start Up
Create Account
Login
False
Authorize(User, Pass)
Tunnel Vision Database
True
Dashboard
False
Google Search
Youtube Search
Present data
Achievements
User preferences
Focus Mode
Google API
User Preference Filter
Obtain data
Check User Activity
True
Website GUI
Youtube API
System lock
Video GUI
Increment:
Number of hours
Number of videos watched
Data stored