Vision and Scope Document

1. Project requirements
   1. Background

Coursera is a web-based platform that offers millions of unique students online learning opportunities. The StudySync team consists of students pursuing a degree provided through Coursera. Throughout our studies, we have noticed the drawbacks of online-based learning through the web browser. In particular, the ease with which distractions find their way into our study sessions. These distractions mainly come from social media or entertainment websites like YouTube, Reddit or Instagram. Combining the many distracting websites with the inherent freedom of online learning is a recipe for lacklustre study sessions and possibly failure of courses. We see the production of the StudySync web extension as a well-fit solution to this problem.

* 1. Project Opportunity

Coursera serves over 113 million learners worldwide, offering a large demographic to tap into. While building a web extension that caters to all of these students is unreasonable, we have direct access to around 10,000 unique learners currently enrolled in the same program as the StudySync team. The BSc in Computer Science program is offered in cooperation with the University of London. These users display constant frustration with the ease of online distractions and the need for study habit tools provided by Coursera. Our preliminary questionnaire confirms the desire for a tool of this nature. Users are frequently distracted by unrelated websites, need help to focus on their Coursera studies and try to implement a wide array of technologies to mitigate this problem. They also see value in a time tracker, which helps display their study habits' effectiveness by semester.

* + 1. Comparative Evaluation
       1. Limit

Limit is a web extension which limits the time you can spend on distracting websites, offering a solution to BP-2. It is a lightweight tool allowing users to input problematic websites and set daily time limits. Limit is built on a blacklist in which the onus is on the user to find and declare websites which are problematic to their productivity time.

The extension has the following workflow:

* Ensure extension is enabled.
* Add a website URL they find problematic on the settings page.
* Set a daily time limit on the settings page for said URL.
* Limit tracks users time on blacklisted websites, and if the daily limit is reached, the user is notified they have reached their daily limit.

The extension also helps pinpoint desirable traits for an app of this nature. The UI is simple, with clear, interactive elements and visual distinction to help guide the user through its functionality. The tool does not contain bloatware or unnecessary functionality to further the usability of the extension. It also indicates Limit takes privacy seriously, and the data used by the application is stored locally on the user’s machine without being sent to a database or the cloud. The lack of a paywall also helps user uptake and lowers the barrier to entry.

Limit offers a solution to our business problem BP-2 by allowing users to limit time spent on websites they see as distracting. However, when framed within our desired user class, we don’t see it as a good fit.

To start, the web extension is a blacklist which comes with a high overhead cost to set up correctly. Users must document all websites they see as problematic and write them into the extension. Meanwhile, StudySync would be a whitelist that removes this overhead time by stopping everything by default. The user would then have quick access to add URLs to the whitelist.

Furthermore, the extension still allows access to these problematic sites for a limited time. Users can get engulfed in a task on a given website when permitted. For example, a user is writing a comment to a Facebook post, and Limit jumps in and says the site is now blocked as they have spent too much time on Facebook. The user can get frustrated and turn off the extension to complete their comment. The user then forgets to enable the extension, and their study sessions are again at the mercy of distracting websites. The age-old adage “An ounce of prevention is worth a pound of cure” applies here. StudySync would solve this by preventing access from the start during study sessions. This would stop users from investing in these distracting sites during their study sessions.

Reviewing Limit has validated the need for a whitelist approach to website blocking.

* + - 1. Web Blocker

Web Blocker is a web extension which serves as a simple blacklist for distracting websites, offering a solution to BP-2. The extension redirects users to a specified URL when they try to navigate to a blacklisted URL. Like Limit, it puts the onus on the user to find and document problematic websites for the extension to block.

The extension workflow is below.

* Enter the URL to be blocked.
* Optionally specify the redirect link the user will be sent to when accessing backlisted websites.
* Optionally specify a schedule for the blocking to occur.
* Extension redirects the user if the URL is on the blacklist and the time falls within the schedule.

Web Blocker provides all of its functionality with very little user interaction. The user does not need to go through complicated workflows to block pages. The extension does not contain bloatware and contains fit-for-purpose functionality. Much like Limit, the extension would allow a user to get quickly acquainted with its functionality—a vital aspect of these extensions. The redirect option is also a unique solution for blocking the page, but it could lead to confusion as no alert is provided when the user is redirected. Web Blocker also does not hide behind a paywall, which we see as a necessity for any web extension of this kind.

Web Blocker performs well as a blacklist web extension. However, much like Limit, its broad nature and high setup costs leave much to be desired. The user will again have to find and list all problematic pages in the extension. We see this as a high entry barrier in these kinds of extensions. The extension also does not offer a simple on/off toggle to disable the blocker. Users can switch productivity mindsets, and with this extension, it would need to be entirely turned off to allow for that switch. We don’t see this as a good solution, as the extension could be forgotten once disabled. StudySync could ask users if they want it enabled after navigating to coursera.org.

Web blocker has confirmed the need for a whitelist approach to web blocking.

* + - 1. WebWork

**Target Audience:** Companies who want to monitor and limit the time spent on specific activities for their employees.

**Functionality:** This application will track the time spent each day working on a specific project, and this data is collected and stored on the project's front dashboard. The task admin can set a maximum limit for the time spent so that the users can work efficiently. The current task is previewed above the time, and the user enters what task they are performing for the time being. The application has a timer that allows the users to directly select when they are working and when they stop working. However, users must manually start the timer, which may lead to dishonesty regarding the legitimate time spent on an activity.

**Ease of Use:** The web extension for the application is neatly ordered with the current project listed at the top and the tasks for the day listed below, with the timer counting once the user presses start. All the core features are present with one click on the application, allowing for fast and efficient navigation. The start/stop button is colour-coded, making it easy to know when the timer is live. However, the application only offers free services for the first fourteen days, with £3.17 being charged monthly afterward. This may discourage many users as other competitor's software is free to use.

* + - 1. Web Activity Time Tracker

“Web activity time tracker” is a featured extension on the Chrome web store that monitors and limits the time of web activity and blocks distracting websites. This extension benefits users by helping them stay focused, boosting productivity, and increasing digital well-being. Daily web usage statistics can be exported to a CSV file that aids users in analyzing and controlling the time spent on a website. This software has a broad user base, around 20,000, with a decent review rating of 4.8 out of 5. Students use it to focus on their studies and not get distracted by YouTube videos. This is also used by people who need to track every minute of their billable activity for the client and has assisted them in better time management. Website blocker is an open-source project that gives developers absolute transparency, flexibility, and agility so that users get more secure and stable software. This being open-source software, designers were able to enhance the overall user experience and add new features more effectively. However, this tool has one significant downside: it does not have a password-locking feature and allows children to change family settings.

* + - 1. 5th Market Comparison
      2. 6th Market Comparison
      3. SWOT
      4. STEEPLE

Overall, the website blockers perform well and provide many functions to increase the student's productivity. Unfortunately, they all require high upfront setup costs, aren’t built directly for Coursera, and can ask for payment to be of actual use. On the other hand, the time trackers also suffer from the same issues the website blocker does. The lack of Coursera integration is also glaringly apparent here, as users cannot accurately understand their study time per course or task. The high barrier to entry for these solutions also limits the number of students who will put in the effort to solve this problem. With this in mind, combined with the results from our initial user research, we see this as an excellent opportunity to produce a fit-for-purpose web extension with a low barrier to entry. Using an agile development process, solving this problem will be a perfect opportunity for StudySync.

The web extension would limit the barrier to entry by providing base settings that integrate well with the average student’s desired settings. It would also be a free web extension, lowering the entry barrier. Focusing on Coursera integration would also provide a relevant, accurate picture of their study habits on the platform. The web blocker would behave as a whitelist as opposed to a blacklist which would limit the decisions needed by the user. These options would combine to provide the best productivity tool for students to pair with their Coursera studies. The direct access to the degree students is an excellent testing ground to get an MVP product tested, produced and published.

* 1. Project Problems and Objectives

BP-1: Studying on Coursera is hindered by the complexity of the web browser.

BP-2: Social media sites and other content sites easily distract from study sessions.

BP-3: Coursera does not provide quality feedback regarding students' study habits.

BO-1: Provide Coursera-integrated productivity tools that enhance study sessions.

BO-2: Remove all website distractions from Coursera study sessions.

BO-3: Effectively track 80% of students study time regarding tasks related to courses accessed via Coursera.

* 1. Success metrics

SM-1: Completion of project within relation to guidelines set by module leaders.

SM-2: User feedback indicates MVP is in line with user requirements.

SM-3: Complete implementation of SRS.

SM-4: Have 100 downloads within six months after release.

* 1. Vision statement

For computer science students enrolled in the program offered via Coursera and the University of London who need help to limit distractions to their studies, StudySync is a web extension that will provide a single point of access to study productivity tools. The web extension will use a whitelist to block all web traffic except for the URLs specified. The system will combine this with time-tracking analytics to provide actionable feedback on the quality of the user’s study sessions. The time tracker will track students' time spent studying during semesters in each class and each specific task within classes. This extension will increase students’ productivity and provide actionable statistics to help guide their study sessions. This enables students to create better study habits and become better students. Unlike the current productivity web extensions on the market, our product will integrate directly with the Coursera website, contain no paywall, and come with out-of-the-box functionality to combine into a low barrier to entry Coursera productivity extension.

* 1. Project risks

BR-1: The team’s other responsibilities (courses, careers) could limit the practical completion of daily tasks. (Probability = 0.7; Impact 9)

BR-2: User intentions could limit time-tracking tools, leading to low usage statistics. (Probability 0.3; Impact 4)

BR-3: Users may prefer to stick with their current productivity tools instead of adopting StudySync (Probability 0.5; Impact 3)

* 1. Project assumptions and dependencies

BA-1: Users will use StudySync properly.

BA-2: Users will allow StudySync to access website information and data.

DE-1: StudySync needs access to the Coursera website to track study time effectively.

DE-2: Users need to know what the time tracker is currently tracking to provide accurate analytics.

DE-3: StudySync needs access to web browser URL searches.

1. Scope and limitations
   1. Features

L1-1: View and update whitelist URLs and settings.

L2-1: Add whitelist settings to the extension dropdown menu.

L3-1: On/off toggle on extension dropdown menu.

L3-2: Add to whitelist button on the extension dropdown menu.

L3-3: Add a whitelist settings button on the extension dropdown menu.

L2-2: Create a whitelist HTML page.

L3-1: Add a form which contains all allowed URLs.

L3-2: Add a save button.

L1-2: Store the whitelist in a persistent state on the local machine.

L2-1: Create a local flat database to store whitelisted URLs.

L1-3: Block all URLs that are not present on the whitelist.

L2-1: Input all URL queries through web extension.

L2-2: Check the URL against the whitelist.

L2-3: Output based on validation.

L3-1: Block the page if the URL is not on the whitelist.

L3-2: Allow the page to load if present on the whitelist.

L1-4: View and update time tracker settings

L2-1: Add time tracker settings to the extension dropdown menu.

L3-1: Create space to indicate which course is being tracked.

L3-2: Create space to indicate which task is being tracked.

L3-3: Create a space that shows the current time tracked in this study session.

L3-4: Add a stats button which links to the time track HTML page.

L2-2: Create a time tracker settings HTML page.

L3-1: Create options to adjust task categories.

L3-2: Create an option which indicates that the new semester has started.

L3-3: Create an option which ends current semester tracking.

L3-4: Depending on user feedback, further options can be added at the project manager’s discretion.

L1-5: Track time spent on Coursera-related tasks.

L2-1: Implement Coursera integration.

L3-1: Track which course the user is studying on Coursera.

L3-2: Track which task the user is completing on Coursera.

L1-6: Store the time tracking data in a persistent state on the local machine.

L2-1: Create a local flat database to store time data.

L1-7: Display data analytics on a data dashboard.

L2-1: Create data visualizations for semester, courses and miscellaneous stats.

L3-1: Visualization can be chosen via user feedback at this stage.

L2-2: Allow users to download stats in standard formats.

* 1. Scope of the agile development process.

INPUT THE GANTT CHART HERE.

* 1. Limitations and exclusions

LI-1: No support will be provided for the Coursera mobile applications.

LI-2: Users must keep a Coursera page open for all time-tracking.

LI-3: Further productivity tools (Pomodoro, etc.) are out of scope for the initial release.

1. Project context
   1. Stakeholder profiles

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Stakeholder | Major Value | Attitudes | Major Interests | Constraints |
| University of London BSc Computer Science Students | Improved study productivity and time savings by limiting distractions. | Receptive to the project throughout development but not overly excited until the final product release. | Successful completion of courses. Implementation of quality study practices. | Extremely busy schedule may struggle to see value in looking into new tools. |
| StudySync (Team 68 Group 6) | Successful completion of CM2020. Combined with the development of essential project management skills. | Strong commitment and enthusiasm related to project development and delivery. | Successful completion of project and course. Quality implementation of well researched project. | Like the rest of the students, the team's busy schedule, combined with the course's timeline, limits the potential of the web extension. |
| Coursera | Improved ecosystem surrounding students and their study time. | No attitude regarding the project unless it breaks their terms of service. | Implementation of a quality online learning platform. Maintenance and inclusion of a quality community of learners. | Their terms of use need to be accounted for throughout the project lifecycle. |
| Dr. Sean McGrath and Module Tutors | No direct benefit. May use success or failure of the overall class to dictate future decisions regarding this module. | Strong enthusiasm throughout project development. Always willing to lend a helping hand. | Seeing student success throughout the course. Providing quality feedback to students. | Their grading scheme and oversight will directly affect what the end goal of the project is. |
| University of London | No direct benefit. Like above, class statistics are more useful to this stakeholder. | No direct attitude towards the project, unless it deviates from a standard delivery. Such as violating program regulations. | Seeing overall student success throughout courses. Fostering a quality environment for learning. | The program regulations will directly affect what can and will be produced by our team. |

* 1. Project priorities

|  |  |  |  |
| --- | --- | --- | --- |
| Dimension | Constraint | Driver | Degree of Freedom |
| Features | All features scheduled for MVP must be fully operational. | Features correspond to a well-fit product for our project problems. Failure to implement features is failure to solve the problems. | If the initial scope and project are finished before the deadline. The team can create further functionality. |
| Quality | The team has agreed to a standard of work which matches upper second class – first class. | Team wished to do well in the class. | The schedule is more pressing than quality. If the quality needs to be adjusted to meet deadlines. Talks can begin then. |
| Schedule | The midterm submission date is January 8th, 2024. The final submission date will be in March. | NA | The schedule between submission deadlines can change based on iterative feedback and development. |
| Cost | The main finite resource the project is dealing with is time. Project needs to be finished within course defined deadlines. | NA | NA |
| Staff | Staff is limited to 5-person team assigned by the University. | NA | NA |

* 1. Deployment considerations

The web extension will be deployed initially on the Google Chrome store to these users only. Our preliminary questionnaire indicates that 71% of the degree students use Google Chrome. The users must have an up-to-date Chrome browser to utilize the extension. The team will have to adhere to the Google Chrome Program policies while developing to ensure our extension is allowed to be listed on the Chrome store. As mentioned, Coursera policies and the University of London’s regulations will also guide how the extension is deployed. The team must also ensure the deployment matches the module leaders' project guidelines.