

Project Proposal

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Project Name: FocusInstant

- Summary of proposed project (1 page)

In our term project, we are going to build an online study room. The study room allows multiple users to stay in one room to achieve several goals. At the same time, they can communicate with each other.

We find there are many Time Management Software helps people to live with self-discipline, but what about those people who want to study together or have questions? Especially in this special time, Covid19 restricts people's leaving home. Friends are separated in different cities and may feel lonely. We may call our friends through a communication app but talk nothing. Two people do their own things and just enjoy each other's company. As a result, we decide to make a web app to encourage people to ask questions and learn together to reduce loneliness.

The app will provide several pre-defined goals with optional time interval, but the user can also customize their own goals. During the goal time, animation based on the progress will be played on the page to encourage our users to stay on the web page.

After accomplishing a goal, the user will receive a small collection. More than 50 different collections and several different animations are in our plan. To extend the user's interest to our app and encourage them to have an account, some collections can be achieved by satisfying specific conditions. Some collections will have new appearance. When using it with an account, customized goals and collection progress will be saved. Users can use them quickly when next time opening the room. Besides, the account saves history goals and a timeline, users can check these summaries to see how much time they have studied. For gaining more users, the collection page and timeline both can be download and share on the social platforms.

One of the most important function of our project is the unique chat rooms. The page generates a unique link when a user creates a room. Other can join in this room through this link. People can communicate in these rooms.

We will use database to save user's information. CSS and jQuery will be used to improve layout. Php, java and html will be used to build the structure of the website. To accomplish live chat, we may use something else, like Flash socket or WebSocket.

On the following pages, we will detailed analyze the problem we meet now, our solution, our stakeholders, competitors, and some other schedules.

- Explain your problem space

At present, there are many mobile apps that help people focus on their own work. Forest is one of the most famous application. It helps people focus on their work by restricting mobile phone activities. When people need time to concentrate on work, users can plant a tree in the forest app. The growth time of the tree is user-defined from 30 minutes to two hours, if the user leaves the software, the tree will wither. After the user has reached the focus goal set by himself, the user will receive a tree and virtual currency as a reward. The tree will be recorded in the "land" which refreshes and records every day, and the user can review the tree he/she planted every day in the history record for to check daily focusing time, virtual currency can be used to purchase different types of trees in the application. At the same time, the forest has the function of planting trees with friends. Everyone sets a dedicated time together. As long as one user leaves during this period, the tree planting plan of the entire team will fail.

Forest software has kept the #1 ranking in the App Store efficiency application list all year round, but we found that this kind of application has not found a good alternative on the desktop. Forest has Chrome extension, but the users of other Browsers such as Microsoft Edge and Safari also account for 33% in the market share. At the same time, this software does not have a lightweight version on mobile phones; users need to buy and download the software before they can use it on mobile phones. In addition,

the function of co-planting trees is relatively simple. The current time management software or learning software has not yet been able to communicate within the application, people need to communicate in another application.

With the rapid progress of the modern society, people's main productivity tool is often computers rather than mobile phones. Forest may help people who use mobile phones frequently, such as college students to focus on their own learning, but it is not a software that is used very frequently for office workers. Most Office workers are forbidden to use their mobile phones for too long at work. The efficiency application on their mobile phones does not prevent them from browsing some non-work-related websites while using the computer, or the chat software on the computer costs much of time.

- Explain your solution

In order to solve the potential problems which mentioned in the problem space, we designed a website that not only combines the features of the current efficiency software that can help people to manage time, but also adds some features such as voice communication and creating rooms to make the webpage have more useful function. It can also have more functions while being lighter.

Our webpage uses the form of creating rooms to encourage users to focus on time together in groups. The rooms can be public or private, depending on the user's decision who create the room. If the user is only an individual and wants to find other people with common goals/learning tasks, such as writing code together or just looking for people to focus on own task silently, he/she can find a public room. If it is an online class group that needs to complete a task together like the group project, they can open Private room to study. This allows users to quickly find the same group, improve their learning efficiency or be able to solve their problems more quickly. We believe that discussion and communication are very important in the learning process. Therefore, the room administrator can decide whether to enable voice communication during the learning process, which is convenient for users to communicate and ask questions or answer other users' questions during the learning process. In order to encourage users to use web pages more frequently for focused learning, we have set up a reward mechanism. The reward mechanism is also

divided into individual and group. For individual users, after completing their own learning tasks, they can choose to leave the chat room and receive their own individual rewards, if you quit halfway, it will only be counted as a individual failure; for group, if the whole team has completed the common learning task, each member can receive the team reward, but if one person fails to complete the task or leave during the period, the task of the whole team is Failure.

Finally, our solution is provided in the form of a web page, both desktop and mobile version will be provided at that time; so that users can achieve cross-platform use without occupying too much storage resources. At the same time, when users want to migrate to other platforms, they only need to provide a username and password to synchronize data on different devices.

- Detail your competitors in this space. If you have no competitors, why?

Yes, we do have competitors in our space, the major one would be the Forest brought by SEEKRTECH CO., LTD. In this software, users also could experience the pomodoro with custom duration, and start to a pomodoro with other users via internet. The attracting point of Frost, which differentiate itself to the other timer app, is that once the user set a time in Frost, for awaking themselves that they need temporarily put down their phone and focus on what's more important in real life, Forest would suppositionally help users to plant a seed. As time goes by, this seed will gradually grow in the tree. The designer of the software is trying to create a sense of accomplishment for users through making users earning their bigger forest, once they finish more and more pomodoro they set. In addition, the mechanism to stop the users from playing their phone is also related to the planting. As the introduction in the App Store, "if you cannot resist the temptation of using your phone and leave the app, your tree will wither." It means that the current seed that the software helps to plant would not grow in a tree, and there is no attentional punishment.

There are two major issues of the software: First, once the users have planted a large forest, it is hard for the forest to have a noticeable change from finishing further pomodoro, it would discourage the users from continuing pushing forward their

progress. Second, the penalty mechanism is too simple: seeing a virtual tree wither will not be enough to make users feel guilty, to prevent them from stop the timer.

- Description of stakeholders

Compared to the other timer in the market, most of the well-designed pomodoro only provided in mobile app version. At the meanwhile, users could not avoid installing a software on their phone or PC, even when they only need a pomodoro to remind them to focus on what's more important in real life.

The stakeholders of our web application would be different kinds of users. The first one would be the users who wants a pomodoro with comprehensive function and precise design on their PC. It is awful to image that someone must set a timer with target on their phone when he/she is really working on the computer. Our pomodoro based on the web could really avoid this situation happen. Second, users who do not want install an extra software on their PC for only realizing the function of the pomodoro: they could be able to set a quick timer on the web by only opening a web browser already existing on the computer.

In addition, some of people really enjoy finishing the teamwork with their numbers in person, because they could freely express their own idea without any delay, and encourage others to continue completing their tasks, when they are lazy. However,

because of the COVID-19, face-to-face commutation is hard to be realized. In our web, not only the users could set their target together and keep watch on other's progress on their own sub-tasks, but also each team numbers could inspire others with the pre-set words by the system for avoiding wasting time on typing. People who fall in love with completing the teamwork in person would enjoy our web application.

- Any interesting technologies you may use

In the project, we probably use Websocket to transfer users' data. WebSocket is a reverse Ajax technology, which enables a double-way communication channel. Many browsers such as Chrome and Safari have already supported it. The connection is opened through an HTTP request called a WebSocket handshake, which uses some special headers. The connection will remain active, and we can use JavaScript to write and receive data.

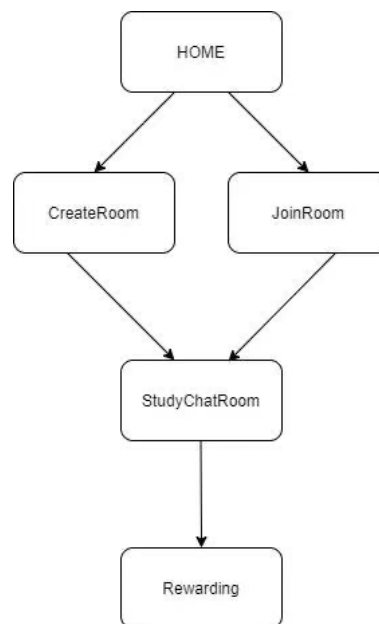
- Any functional and non-functional requirements

Functional	Non-Functional
Create/Updates/Delete Accounts	Account's status will be changed through the database
Send users unique room links	The link will be destroyed when the room is empty or by users manually
Create unique links randomly	
Invalidate the room link	
Allows real-time communication	
Picture editing	The output picture should small then 700kb
Support playing animation	
Time counting	

- Estimated project schedule

Time	Goal
3.12	Basic structure and some visual work
4.16	Finish most part of the project
Before presentation	Debug and improve appearance
4.30	Final day

- Site map outlining the basic structure of your app



- Two wireframes that help demonstrate intended functionality

