

Lock&Learn

Leon Zhang (40175616)
William Chong (40176360)
Alice Chen (40176279)
Ryan Kim (40175423)
Georgia Pitic (40175034)
Julie Trinh (40175335)
Hao Yi Liu (40174210)
Anna Hsu (40178711)
Fatema Akther (40177866)

Project Description (max 1 page)

The purpose of our project is to solve the main issue that many parents are facing with their children regarding the usage of electronic devices (phones, laptops, tablets, etc). Our system will allow parents to restrict the freedom children have when using their devices by adding a locking mechanism on the device after a certain timeout period and requiring the child to complete an educational activity to continue using their device.

The system will only unlock if the child successfully completes the lesson and the knowledge test at the end. If he fails to do so, they will have to redo the lesson until they have passed to ensure comprehension of the lesson. A lesson may include many different topics which are selected by the parent to personalize the learning experience of the child. Furthermore, other configurations such as the timeout setting and the length of the exercises may be chosen by the parent.

The correction of the test will be done automatically by the system. For tests that contain objective answers (MCQ, short answers), the correct answers will be entered into the system to validate them. For tests with subjective answers (written assessments), the system will use AI to correct the submission of the text and return an overall grade.

Although the main objective is to lock one device, in the near future, the system will be compatible with multiple devices. With a simple login, multiple devices can be locked for a child, and they would need to pass the lesson to access any of their devices.

Finally, the educational material of the system will be provided by teaching professionals. An AI will validate and verify that the content of the material is appropriate to post. Additionally, the professionals that provide appropriate teaching material will be compensated and the parents that would like to access the material will need to purchase the libraries. However, a default library will be provided if parents are unable to purchase the extended libraries.

Risk

Here is a list of the main risks we would have to consider when building our app and ways to mitigate these risks.

- Privacy and Data Security: This is the risk that personal information would be breached. A few things can be done to mitigate this risk:
 - o Implement strict data privacy measures
 - o Only collect the necessary user data
 - o Use strong encryption to protect our users' data
- Inappropriate Content Exposure: This is the risk that someone with ill intent would add inappropriate content to the platform. There are a few ways we could mitigate this risk:
 - o Review and curate all educational content that is being sold on our platform.
 - o Encourage our users to report any inappropriate material.
- Excessive screen time: This is the risk that a child using the app would get addicted to their Ipad and would use it an unhealthy amount of time. A few things can be done to mitigate this risk:
 - o Encouraging breaks
 - o Add a system including and rewarding kids for participating in physical education exercises
 - o Provide parents with tools to monitor and manage their kids' screen time

Competition (max 1 page, min 3 competitors)

Search terms: Focus app, productivity app, quiz app, child learning app, educational app

Pages examined(25): <https://www.focustodo.cn/>, <https://www.udemy.com/>, <https://getcoldturkey.com/>, <https://apps.ankiweb.net/>, <https://quizlet.com/>, <https://www.forestapp.cc/>, <https://www.duolingo.com/>, <https://www.brainpop.com/>, <https://www.readingrockets.org/>, <https://chrome.google.com/webstore/detail/stayfocusd-block-distract/laankejkbhbdhmpifngcngdelahlfoji>, <https://www.mrise.com/>, https://play.google.com/store/apps/details?id=dragon.games.biequiz&hl=en_CA&gl=US, <https://apps.apple.com/us/app/be-focused-focus-timer/id973130201>, <https://www.classdojo.com/>, <https://www.prodigygame.com/>, <https://www.adventureacademy.com/>, <https://www.khanacademy.org/>, <https://www.coursera.org/>, <https://www.tynker.com/>, <https://appblock.app/>, <https://www.abcmouse.com/>, <https://heyfocus.com/>, <https://kahoot.com/v/>, <https://mysteryscience.com/>, <https://edu.google.com/workspace-for-educatio>

[n/classroom/](#), <https://freedom.to/why>, <https://freedom.to/features>,
https://play.google.com/store/apps/details?id=to.freedom.android2&hl=en_US

Competitor 1: Family Link (<https://families.google/familylink/>)

Family Link is an application developed by Google that offers features such as Screen Time Management, App Access Restrictions, Activity Monitoring, Remote Lock & Unlock, and Content Filters. Our app still stands out by having a mechanism that unlocks the application after the exercises have been completed, a direct and engaging integration of learning, and a balanced approach of screen time management and education.

Competitor 2: Stay on Task

(<https://chrome.google.com/webstore/detail/stay-on-task/lamjibgpfmngkknajabeoncednnlgiao>)

Stay on Task is an application that helps with productivity. It blocks sites that are on users block list and redirects them to their to-do lists until their tasks are done. It's helpful to students to keep away from distractions and remember their goals. It however, lacks in having the learning element we aim to have in our application. Our application will block students from apps on their block list until they complete quizzes to support learning in their desired subject.

Competitor 3: Freedom (<https://freedom.to/>)

Freedom is an application and browser extension that mainly focuses on managing the access to websites and apps during time slots they call "Freedom sessions". Each of these so-called sessions can be customized by the user, whether it's the time of the session, the websites/apps that are permitted to access, or even if the sessions allows for the Internet to be used at all. That being said, we believe that Freedom's discipline-reliant method of restricting access makes it easy to circumvent its benefits, and a product that relies on their users' own ability to have self-restraint. As such, we consider our application to be a step ahead in terms of productivity boost, since the users' restrictions will be set by the parents, and the teaching figures will be assigning lessons.

Description of Customer and Company

As the sole stakeholder of the project, Dr. Ali Akgunduz has been a Professor in the department of Mechanical, Industrial and Aerospace Engineering at Concordia for the past 20 years. He has earned a Ph.D. in Industrial Engineering and Operations Research at the University of Illinois at Chicago and has been putting his expertise to practice by researching the fields of airline and railway operations, human-computer-interaction etc. He is most passionate about finding modern

solutions and optimizations to transportation management and improving the user experience by pushing for customer driven product design.

<https://www.concordia.ca/faculty/ali-akgunduz.html>

<https://users.encs.concordia.ca/~akgunduz/>

<https://ca.linkedin.com/in/ali-akgunduz-9296a245>

Dr. Ali Akgunduz has informed us that nowadays, it is challenging to control both children's and adolescents' addiction to technology. Many parents struggle with managing their children's screen time as they spend a lot of time gaming or browsing the internet rather than completing their homework and studying for their classes. He has also mentioned that a lot of parents, if not all, can relate to this issue which is why he came up with a solution to address this common problem experienced by many. Therefore, he is interested in developing an application designed for parents which allows them to schedule their children's screen time effectively and ensures that they complete their homework on time instead of spending the entire day playing on their phones and computers. Furthermore, Dr. Ali Akgunduz, being a teacher himself, also considered the needs of other educators and included a feature that helps teachers promote and sell their courses on the platform.