HCID Health
POVs & Experience Prototypes

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Problem Domain

  Health and nearsightedness. We are seeking the main causes, such as activities and behaviours, of nearsightedness and poor eye health in general. Furthermore, we are examining possible ways to improve 21st century people's eye condition.

Additional Needfinding

  After our presentation on needfinding, we took into account the advices of Prof. Hao and interviewed more extreme users of different backgrounds. We went out to find individuals with different perspectives, behaviours and eye conditions. In doing so, we hope to gain a view on a larger scale.

  We interviewed a parent, who expressed deep concern for the children's eyesight. One cause of concern was due to studies. Nonetheless, the parent still believed that doing school work is important and because the current education system requires long hours of reading and writing, those times cannot be avoided. Another cause of concern was that of the children using electronic devices too much, such as playing games on the phone for long periods of time.

  We also found and interviewed an individual who does not wear glasses or contacts. He is only 75 degrees near sighted. He still studies a lot like most Taiwanese students, but he does have a profound interest in baseball and would spend play baseball once or twice a week in high school. He believes that his habit and love for baseball contributed to a better-than-average eyesight.

  We also interviewed a heavy player of the game, Pokemon Go. She says that because of the popularity of the game among her peers, the media and general public, she was attracted to it and actually went outside to walk and enjoy fresh air. However, she did notice that she was still too much exposed to phone screen. We believe the last point is terrible and should and could be changed with a new app. Most importantly, we

know that an interesting and popular application/game could make people inadvertently do healthy activities.

Finally, we interviewed a hardworking student who is conscientious about his studies and grades. He would put in the required time and effort that the course requires of him. Hence, he mentions that it could be due to the amount of time spent studying,and reading that led to him having shortsightedness.

Point Of Views:

A:
1) User Characteristic:
   Worrying, concern, anxious (Parent)
2) User Needs:
   To prevent their children from getting nearsighted, and improve their eyesight
3) Insights:
   Studying is still important, difficult to force their children to take actions, agrees that going outdoor or rest in between studying is good

   ● *A worrying, anxious parent seeks a way to help their children improve eyesight and prevent getting nearsighted so they don't have to buy new pair of glasses every other year.*
   ● *A concerned parent, whose two older children are already nearsighted and the youngest baby is not, seeks a method to watch over their children and remind them to take care of their eyes.*

B:
1) User characteristic
   Electrics-addicted (children)
2) User Needs:
   A method to use electronics devices but not get near-sighted.
3) Insights:
   Difficult to self management.
   Studying is important in their age but it tired/harmed their eyes.

   ● *Electric addict kids, who refuse to go outside and always stay in comfortable home, seek a way to use electronics at the same maintaining good eyesight because he/she it is hard to self-manage.*
   ● *Hard-working people, whose priority is to get straight A+$_s$, constantly sits in front of his/her desk to do homework and study, seeks a method to do school work for as long as possible without harming their eyes.*

How Might We Statements:

(1) **A worrying, anxious parent seeks a way to help their children improve eyesight and prevent getting nearsighted so they don't have to buy new pair of glasses every other year.**

HMW make glasses that can use for entire life?
HMW make parents less worrying?
HMW make kids stop using electrics automatically?
HMW improve eyesight?
HMW make glasses therapeutic?
HMW make nearsighted not have to wear glasses?

(2) **A concerned parent, whose two older children are already nearsighted and the youngest baby is not, seeks a method to watch over their children and remind them to take care of their eyes.**

HMW identify nearsightedness quicker?
HMW let kids watch themselves?
HMW let others to remind kids?
HMW let parents not need to watch/remind their kids?
HMW make kids more disciplined?
HMW get parents to be a good example for their kids to learn from?
HMW record eye usage and tell parents or doctor so they can offer suggestions?

(3) **Electric addict kids, who refuse to go outside and always stay in comfortable home, seek a way to use electronics at the same maintaining good eyesight because he/she it is hard to self-manage.**

HMW make kids use electonics less.
HMW make devices less harmful to eyes?
HMW make using electrics relaxing to eyes?
HMW make kids play things other than electronics?
HMW make indoor/electronics evil/bad and make outdoor activities like heaven (encourage kids to go outdoors more)?
HMW remind kids to rest their eyes?
HMW help kids develop the habit to take breaks?

(4) Hardworking students, whose priority is to get A+ in all his/her classes at all cause, constantly sits in front of his desk to do homework and study, seeks a method to do school work for as long as possible without harming their eyes.

HMW make students study less?
HMW make A+ not a priority?
HMW make kids afraid of getting nearsighted?
HMW make books less harmful to eyes?
<u>HMW make studying less harmful?</u>
<u>HMW let kids study in methods that put less stress on eyes?</u>
<u>HMW make studying involve less reading?</u>
HMW inspire kids study less and play more?
HMW make students less stressful?

Top 3 HMWs:

- HMW help kids develop the habit of taking breaks?
- HMW make devices/books less harmful to eyes?
- HMW make studying involve less reading, mix with other methods so that kids put less stress on their eyes?

Brainstorm Solutions:

(1) HMW make devices/books less harmful to eyes?

Detect brightness and distance and recommend optimal settings.
Make a new kind of screen that do no harm to eyes

(2) HMW help kids develop the habit to take breaks?

Redefined the game, Pokemon Go, to encourage going outside
Give rewards if kids take rest regularly
Fail class if not go outside enough
Lock the device after long continuous usage

(3) HMW make studying involve less reading, mix with other methods so that kids put less stress on their eyes?

Different teaching method, involve more discussions
Make learning/homeworking more like DIYs rather than readings

Top Solutions:

A. Detect brightness and distance and recommend optimal settings.
B. Give rewards if kids take rest regularly; otherwise shut down phone
C. Make learning/homeworking involve more projects and discussions.

Experience Prototypes:

A:
- Assumptions: Users spend a lot of time on electronics but did not care much about the device's setting. We designed a prototype that intends to offer optimal setting on a digital device.
- Photos:
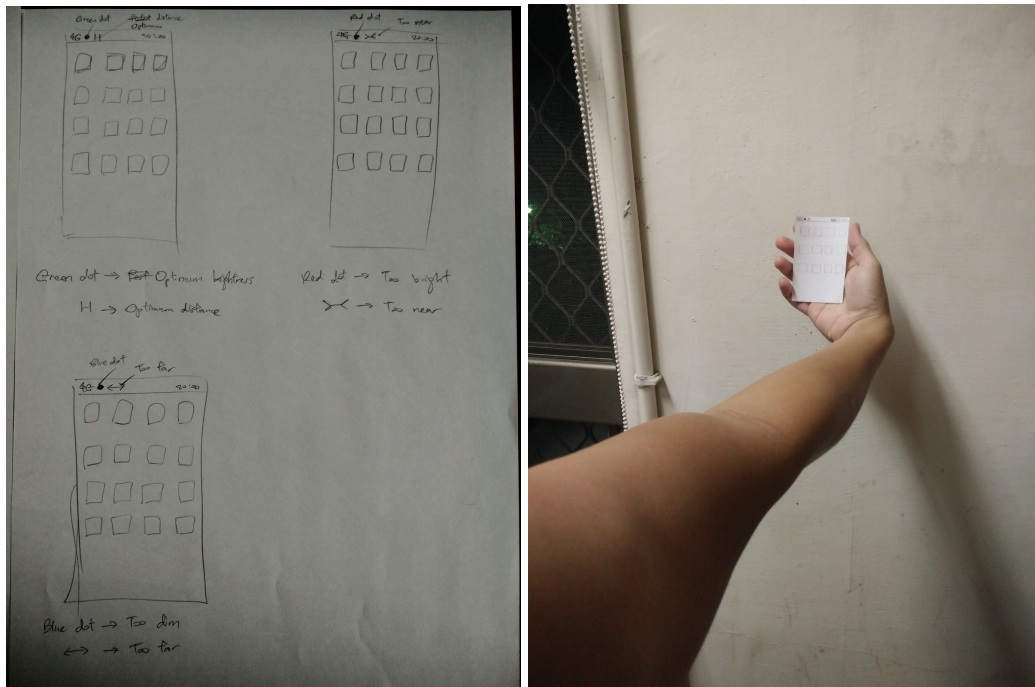
- Reviews: Concept was easy for user to understand. However, icons were not clear in indicating whether user was holding it too far or too near. Tester also mentioned that icons may be difficult to see under bright light. The icons may also not be eye-catching enough to catch the user's attention to warn them when they are using the phone.

B:

- Assumptions: Users are already motivated to improve their eye health and would be more encouraged if they were to receive rewards for taking actions. Furthermore, they are willing to play a new fun game. We designed a prototype to make people be involved in going outdoor and doing helpful activities.
- Photos:
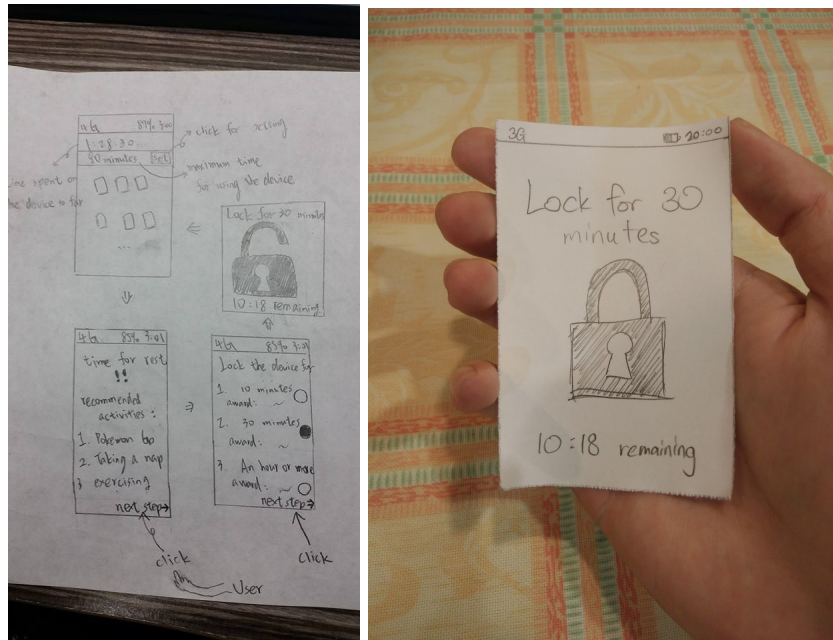
- Reviews: The lock screen is very clear. However, the settings allow the user to amend the duration of the lock on his own, allowing him to "cheat" by putting long screen times or short lock durations. The user may also need to use the phone urgently when the phone is locked, and the lock screen prevents the user from doing so. Hence, the app will need to be both strict in enforcing the lock, and flexible in catering to urgent situations at the same time.

C:

- Assumptions: Users regard good grades as their top priority , therefore , they spend most of their time reading , searching information on Internet , causing nearsightedness. If teacher could change the style of teaching , replacing traditional teaching method with class discussion or presentation , users might go out for discussion with other members instead of sitting in front of their computers for a long time.

- Photos:

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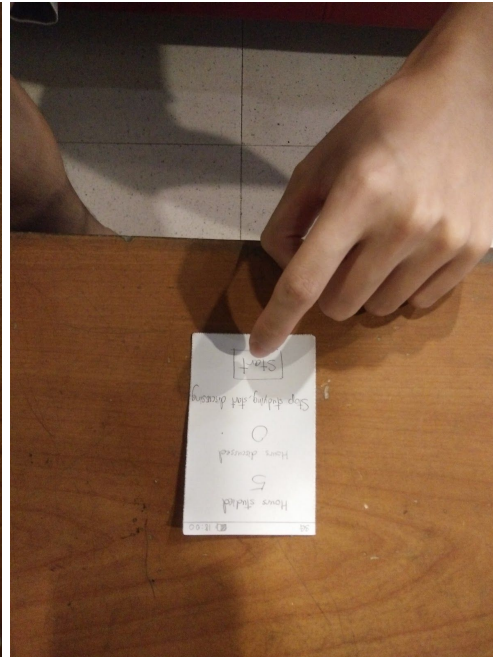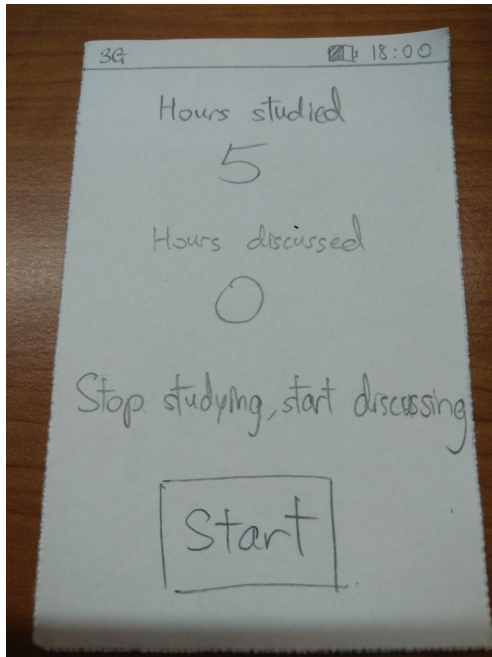
-   Reviews: Information is shown clearly on the app. However, user may not be disciplined enough to follow the advice given by the app. The app is also troublesome to use, which will discourage users from using it. Hence, some incentive may be needed to get the user to use the app diligently.