



Unplug

Benjamin Yu, Abraham Spitalny, Arnaud Planche, Louis Choicer, Michelle Lin, Sohail Ali



Roadmap

1. Introduction
 - 1.1. The Problem
 - 1.2. Is the Problem Really a Problem?
2. Study Results
 - 2.1. Multitasking Myth
 - 2.2. Students Not Knowing The Problem
 - 2.3. Real Consequences
 - 2.4. Does the problem exist?
 - 2.5. The problem is the problem
3. Competitors
 - 3.1. Flipd
 - 3.2. AppDetox
 - 3.3. Built-In Solutions
4. Proposed Solution
 - 4.1. Components
 - 4.2. Changing Agents
5. Sources

The Problem: The zombie apocalypse is upon us!



The Problem (cont.): The way forward for human-technology interaction



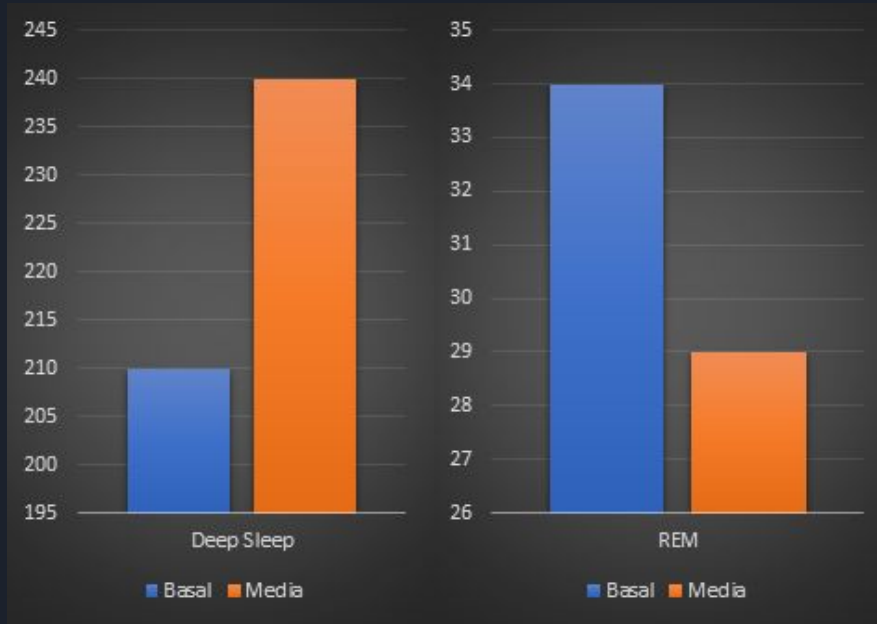
The Problem

- Distracted use of Technology
- Addictive Nature
- Student Study
 - One week of Media Consumption
 - Verbal Memory Tests

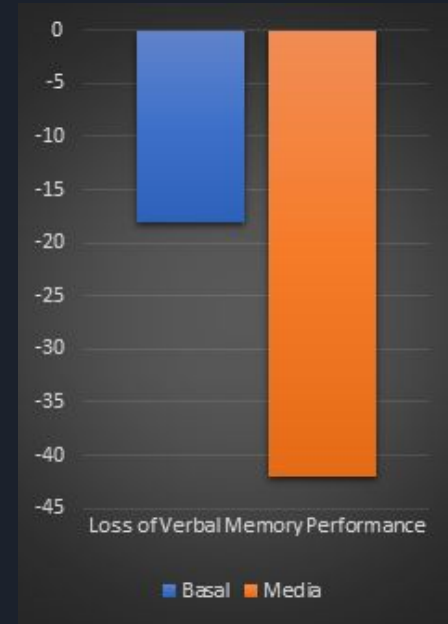


<https://www.nytimes.com/2010/11/21/technology/21brain.html>

Study Results



Poor Sleep Quality



Decreased Learning Ability



Multitasking Myth

You cannot focus on more than one task at a time.

- We can switch focus from multiple tasks quickly.
- Switching between tasks:
 - Leads to 40% loss in productivity
 - Perform much worse and likely to make more errors.
 - Cannot filter out irrelevant information. Seem more drawn towards it.



Students Not Knowing the Problem

- Our brain releases dopamine everytime we check our notifications.

Checking messages = Good Feeling = Making Progress

- Students believe that they can both text and listen to lecture simultaneously.
- When researchers followed students and see how they were going to study for the first 15 minutes, most of the students were already on social media in 2 minutes. Within those 15 minutes, they were on schoolwork for 65% of the time despite being watched.



Real Consequences

Lower Grades

- Students who within 15 minutes switch from studying to Facebook within the 15 minute studying period have been correlated to having lower grades.
- More studies have shown that there is a negative correlation between texting or using Facebook while in class or while doing homework.

Not Learning

- Information learning while being distracted is quickly forgotten. We need to be focused in order deeply understand ideas being taught.



Does the problem exist?

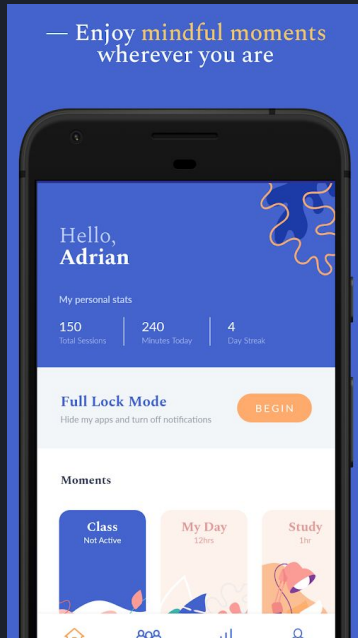
- Humans are not designed to multi-task. Meaningful learning involves cognitive processing including building connections between pictorial and verbal representations. This also introduces ***cognitive overload***, in which an individual's cognitive processing exceeds the cognitive capacity (**Mayer and Moreno**)
- Wilkes University surveyed 269 college students from 21 academic majors and found that **92%** of college students reported using their phones to send text messages during class
- In a survey conducted by psychologists at McMaster University, 80% of the students agreed that using a mobile phone in class decreases their ability to pay attention



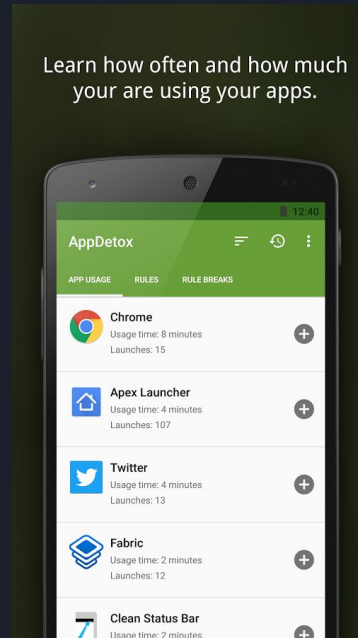
The Problem is a Problem

- In the same survey conducted by McMaster University, researchers found that students who multitasked on a laptop during a lecture urged other students to begin multi-tasking as well.
- Although cell phones are smaller than laptops and are perhaps less distracting, one could reasonably expect that a similar phenomenon of distraction applies to cell phones
- Although many students prefer to take notes on their computer, we have to take a step back and consider its pros and cons in the classroom environment

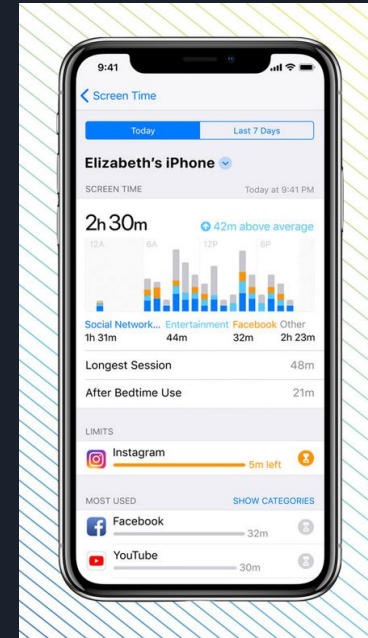
Competitors



Flipd
(Apple & Android)

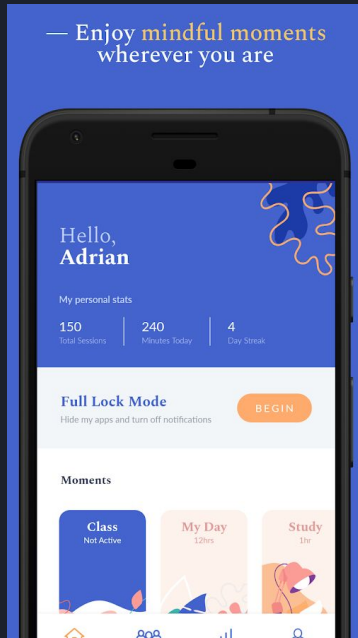


AppDetox
(Android)



Built-in Solutions
(Presented in picture: Apple)

Flipd - Apple & Android



Flipd
(Apple & Android)

Advantages:

- Effective and complete disconnection
- Ability to disconnect a friend's phone
- Available on both iPhones and Androids

Disadvantages:

- No control over "emergencies" notifications.

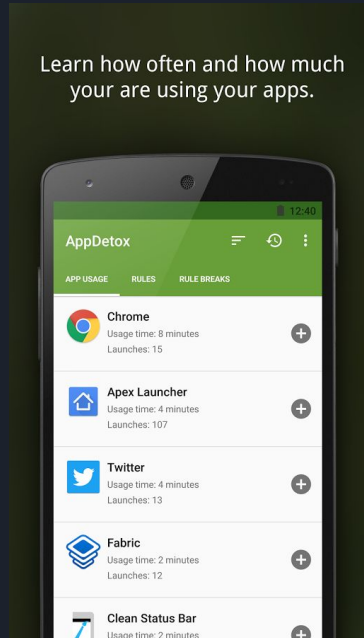
AppDetox - Android

Advantages:

- Control over what apps are blocked
- Reminders when non-productive apps are accessed

Disadvantages:

- Too inefficient and easy to bypass.
- No “emergency” options or special status to let people know you are unavailable
- Not available for iPhone Users.



Flipd
(Apple & Android)

Built-In Solutions



Built-in Solutions

(Presented in picture: Apple)

Advantages:

- Control over what apps are blocked
- Efficient statistics are at your disposal
- Easy to share across devices

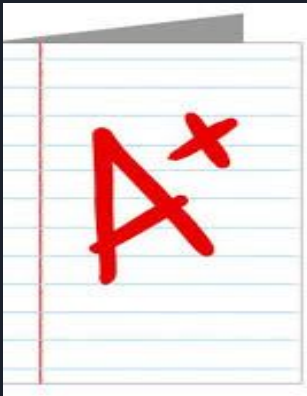
Disadvantages:

- Inappropriate ways to deal with emergency contacts
- No possibility to let people know you are occupied.

Proposed Solution

There are existing app blocking applications, however, our proposed solution offers more flexibility and caters more to the average college student.

How?...



Components

- **Scheduled Screen Time**



- App automatically activates blocked features during class time

- **Friend's List**



- Able to see which friends are offline as well and possibly incentivize users to stop using their device

Components

- **Emergency Contact**

- While the app is active, select people are able to contact you through an alternative

- **Device Linkage**


- Feature that makes it so that any changes made on the app from one device carries to the others.





Changing Agents: How can we unplug?

- Appealing to teachers and professors from K-12 to university
 - Education system must cope with technology
 - An outright ban is difficult to implement
 - Incorporate other tools in our app to facilitate learning such as using the phone as a polling device
 - Using a digital device not pertaining to classwork is distracting to other students and is disrespectful to the teacher or professor; thus, it undermines the learning atmosphere.
 - Use a reward and punishment system to incentivize students
 - Many schools have some formal or informal policy in place to address the use of technology in class, but it is not effective as it can be. Some schools even already use a technology-based solution. All this makes it very easy for our app to fit snugly in the education system.
- Market to students
 - Improve grades and class participation
 - Help outside the classroom with studying, productivity, and even relaxing
 - Make a digital vacation seem “hip”



Changing Agents: Future prospects and the road ahead

- After a successful rollout to schools, we can begin marketing to businesses
- Convince technology companies such as Apple to have our app installed by default or have our innovative solutions incorporated into the device's settings options



Sources

Image on slide 3:

<http://students.faithoncampus.com/is-your-technology-distracting-you-controlling-you/>

Image on slide 4:

<http://doug-johnson.squarespace.com/blue-skunk-blog/2012/11/10/is-there-a-technical-solution-to-technology-caused-distracti.html>

Slide 18:

https://www.washingtonpost.com/news/grade-point/wp/2018/01/22/to-ban-or-not-to-ban-teachers-cope-with-students-driven-to-distraction-by-technology/?utm_term=.5504fb791364

<https://naeye.net/2435/opinion/technology-temptation-or-teacher/>

<https://bokcenter.harvard.edu/technology-and-student-distraction>

<http://pediatrics.aappublications.org/content/120/5/978>



Citations

Deborah R. Tindell & Robert W. Bohlander (2012) The Use and Abuse of Cell Phones and Text Messaging in the Classroom: A Survey of College Students, *College Teaching*, 60:1, 1-9, DOI: [10.1080/87567555.2011.604802](https://doi.org/10.1080/87567555.2011.604802)

Richard E. Mayer & Roxana Moreno (2003) Nine Ways to Reduce Cognitive Load in Multimedia Learning, *Educational Psychologist*, 38:1, 43-52, DOI: [10.1207/S15326985EP3801_6](https://doi.org/10.1207/S15326985EP3801_6)

Sana, Faria, et al. *Laptop Multitasking Hinders Classroom Learning for Both Users and Nearby Peers* . 2013, ac.els-cdn.com/S0360131512002254/1-s2.0-S0360131512002254-main.pdf?_tid=4830cdb8-4acc-4149-90e6-be46ff0b02ab&acdnat=1541738431_a65465a8eefbb18c4b3f97fc81c20b74.



Citations

Mautz, Scott. "Psychology and Neuroscience Blow-Up The Myth of Effective Multitasking." *Inc.com*, Inc., 11 May 2017,

Stanford University. "Media Multitaskers Pay Mental Price, Stanford Study Shows." *Lack of Brain Protein Causes Sleeping Disorder Narcolepsy in Humans: 9/2000*, 16 Apr. 2016,

Sullivan, Bob. "Students Can't Resist Distraction for Two Minutes ... and Neither Can You." *NBCNews.com*, NBCUniversal News Group, 18 May 2013,

Comments, Criticisms, Conundrums