

Research report - Team Android:

An Android Application Documentation

Smart Mobile Specialization.
November 2019
SM Team Android
Duo Research Julian & Hussam

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Introduction:

In this report Team Android is addressing a major problem facing Fontys students, the problem was presented by Mr.Kisjes on Nov 15th 2019 in the form of an assignment for the smart mobile Course.

The presentation focused on the relation between students and their smartphones mainly on the negative impact smartphones have on students' lives .

The main assignment is to make an app that will monitor smartphone activities and usage time the present it to students in order to raise awareness of their phone's impact on them.

Mr.Kisjes mentioned several negative points caused by smartphones in the presentation such as sleeping quality , social life , ability to focus and many more.

Main Question:

Since our client had an assignment with a clear Idea about the product “phone application monitoring and presenting data to raise awareness “ the team decided to research how to bring this idea to life and achieve the client's goal , so the team came out with the main question :

”How to raise awareness of smartphone impact on students' lives? ”

In order to answer that the team created a group of sub questions and split into three groups to answer them .

1. What can we learn from other similar apps that have the same concept as our app?
2. What is considered crucial data to collect?
3. What data are we able to collect?
4. How to present the data to help raise awareness?

Duo research

This document will research in depth the following subquestions:

- What can we learn from other similar apps that have the same concept as our app?
- What is considered crucial data to collect?

There are two main goals for this research:

- To study in depth and compare existing apps , select useful features that could help make our app.
- To determine which data is considered crucial to collect to create an app that will help reaching the main goal.

To answer the aforementioned question the duo created a group of subquestions :

What can we learn from other similar apps that have the same concept as our app?

- What are the main features other apps have?
- What data do other apps collect?
- How do competitive apps present their data?
- What kind of features can we implement in our app?

What is considered crucial data to collect?

How does a student spend his time using a smartphone? Field interview

- What is considered productive or negative usage? **Brainstorm expert**
- How is it possible to reduce the usage of a smartphone? **Field interview**
- How can a student have a smartphone free day? **Field interview**

What is the average use time of smart mobile and social media?

- which are the most popular social media apps? **Field survey**
- What is the most used app? **Field survey**
- What is considered acceptable/good usage time of social media? **brainstorm**

What negative impact does smart mobile have on students?

- What is smart mobile impact on sleeping quality? **Expert**
- What is smart mobile impact on concentration? **Expert**
- What is smart mobile impact on general health? **Expert**
- What is smart mobile impact on social life? **Field interview expert**
- What is smart mobile impact on study progress? **Field interview expert**

Hypothesis:

We expect that the following information is important to collect :

- Social media active time.
- Sleep time.
- Usage time before sleep.

Delineation:

No sketches designs or prototype are included in this report , mainly charts and statistics are used to present the results.

Competitive analysis & Available product analysis:

This research topic is done using two methods of the “Library” research strategy . more information about the research methods available at: <http://ictresearchmethods.nl/Methods>.

Three similar apps were compared. “Social Fever”, “MyAddictometer” and “Offtime”. In order to answer **What can we learn from other similar apps that have the same concept as our app?**

Starting with “Social Fever”:

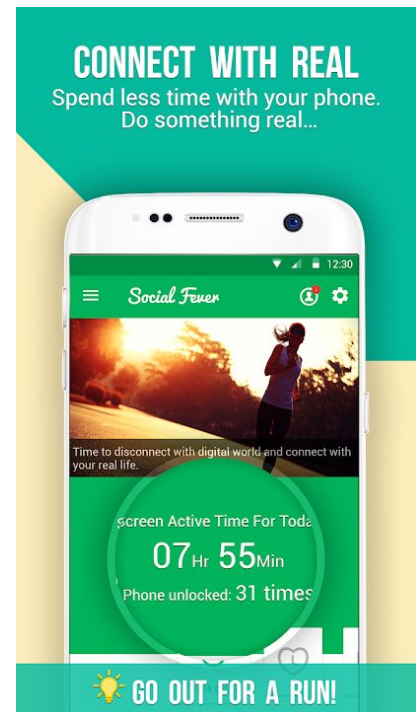
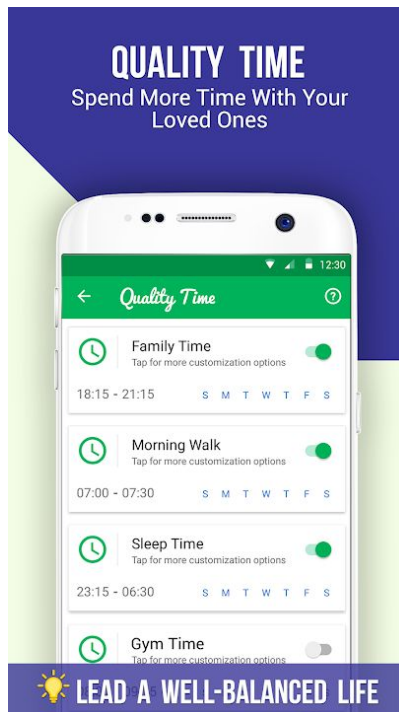
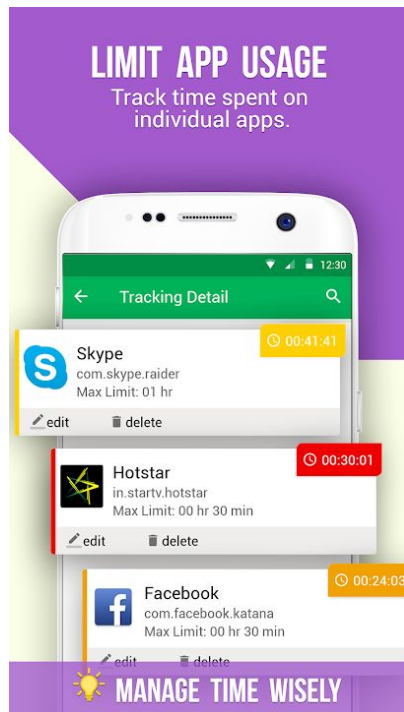
This app has an all in 1 package. They offer you all kinds of things to manage your time better, help your smartphone addiction.

Best features of this app:

- Keeps track of your app usage
- Shows an alert message if you look at your screen for 30 minutes or more
- Shows an alert message if you listen to music for more than 30 minutes
- Water reminder
- You can set reminders to do something. Like going to the gym, or go for a morning walk
- Shows a live timer in the app you are using. For example if you have WhatsApp open, you will see a little timer in the right end corner
- Set goals on how long you want to be active on a certain app.
- Has a summary page that shows the following:



- o Phone unlock
- o Screen on time



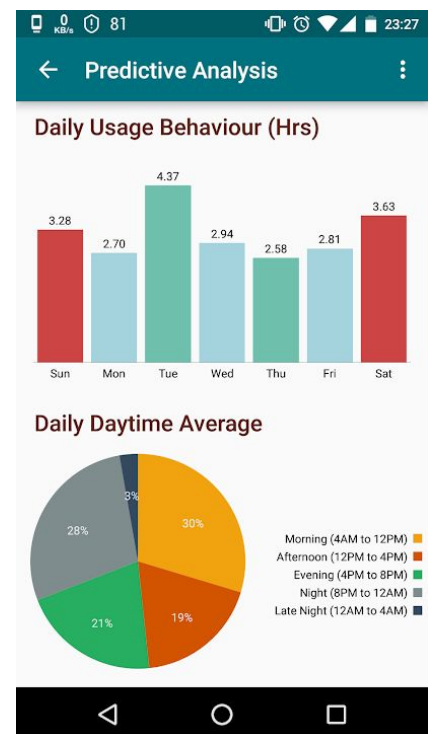
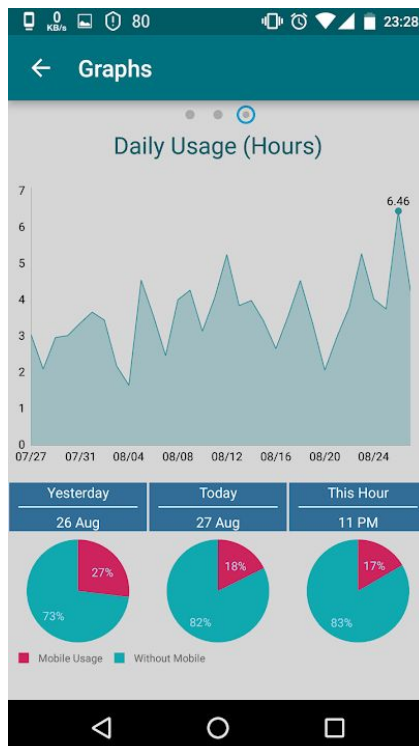
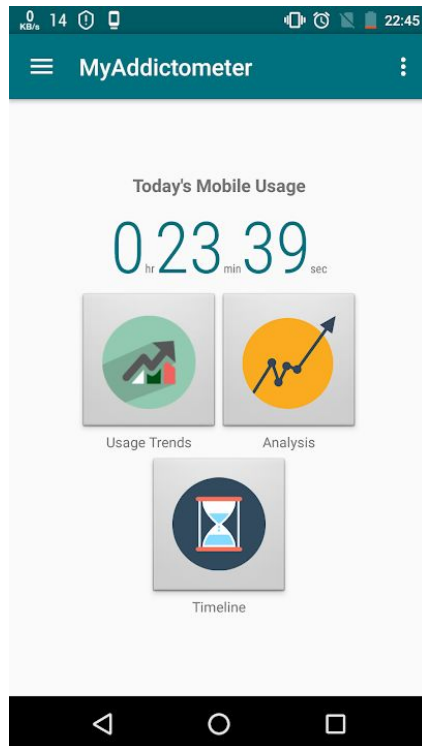
Next is “MyAddictometer”

My Addictometer is phone monitoring app that helps you track time on the phone. It is a good tool to check how much time you spent on your smartphone. It helps you deal with mobile addiction. The data collected by the app will help understand the level of addiction.

This app uses a lot of different graphs to show your time usage on your phone.

Best features of this app:

- Mobile Unlock Pattern - Unconsciously we keep checking our phones from time to time without any specific reason. The more we lock - unlock our smartphones the more we are addicted to our smartphones. It is very crucial to see how many times we unlock our cell phones and what is the trend
- Usage level at daytime level – Shows you how much time you are spending on your phone a day.
- Weekday level usage details – Shows you on which days of the week you are spending your time on your phone.
- Timeline - All the locks and unlocks are shown to help us see how much time we have spent from start of the day till the end of the day
- App level usage details – Shows you which apps are consuming most of your time



Last app is Offtime:

OffTime is an app that helps you track time spent on phone. It enables you to create profiles with which you can block calls, texts, notifications. You can also restrict your app usage to limit your smartphone use.

This app mainly focusses on limit your phone usage.

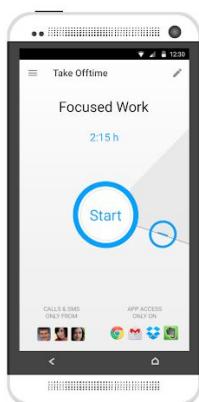
Best features of this app:

- Block calls, text and notifications
 - Send custom auto-replies
- Restrict your access to apps and internet
 - Gives notification if you cross the limit
- Set reminders that alarm when using an app for too long
- See on screen time per app



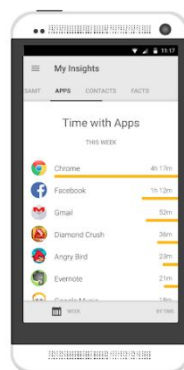
(OFFTIME)

Take time off from
constant connectivity



(OFFTIME)

Find out what apps are keeping
you from peace and productivity



(OFFTIME)

Get details on your usage



Some key features other apps have are:

- Unlock count
- Screen on time
- Usage time per day

One of the apps has a feature to block calls, text messages and notifications. They give you an option to setup an automatic reply.

The main feature the other apps have is the unlock count, screen on time and usage time per day. All the apps we compared has at least one of those features.

The apps we compared collect a lot of data. The first app even collects the most random data you could ever imagine. The app even collects how long you have listened to music! They track your daily usage time, your daily unlock count, your usage time per app and they give a weekly report of your statistics.

Data Presentation methods:

Data can be presented in a lot of different ways. It can be visual or it can be presented as text. Most of the apps we compared present their data in different visual graphs. It is much easier for the user to see their statistics with visual graphs compared to a paragraph with text.

The other apps use visual graphs to present their data. We are going to present our data in the form of a character. The character will have an emotion. The emotion depends on your usage time of your phone.

Useful features for our apps:

Some of the features can be implemented in our application. The screen on time per app is an important feature to implement.

After comparing three different apps and checking their features.

Screen on time per app and the unlock count are useful features that can be implemented in the team's app. These two features are crucial for our app to work. These are crucial because we want to calculate the sleep time of an user. In order to give our character different emotions we have to know the user's screen on time per app.

One feature all three applications misses is an overlay feature. The possibility to set an overlay so you can't use your phone. This is an extra feature we are going to implement in our app.

Crucial data to collect:

This research topic is done using multiple methods of the “Library” , “Field” and “Workshop” research strategy . more information about the research methods available at:

<http://ictresearchmethods.nl/Methods>.

The goal is to determine the most popular apps , average usage time , target group users opinions , and finally the impact of smartphone on users life.

To determine the most popular social media platforms and the most use platform the group researched online for reliable information below in fig1 a study by “**Statista**” of social media platforms ranked by number of active users in millions .

According to the study, Facebook was ranked number 1 on the list of most used social media platforms Youtube was second followed by whatsapp facebook messenger and instagram.

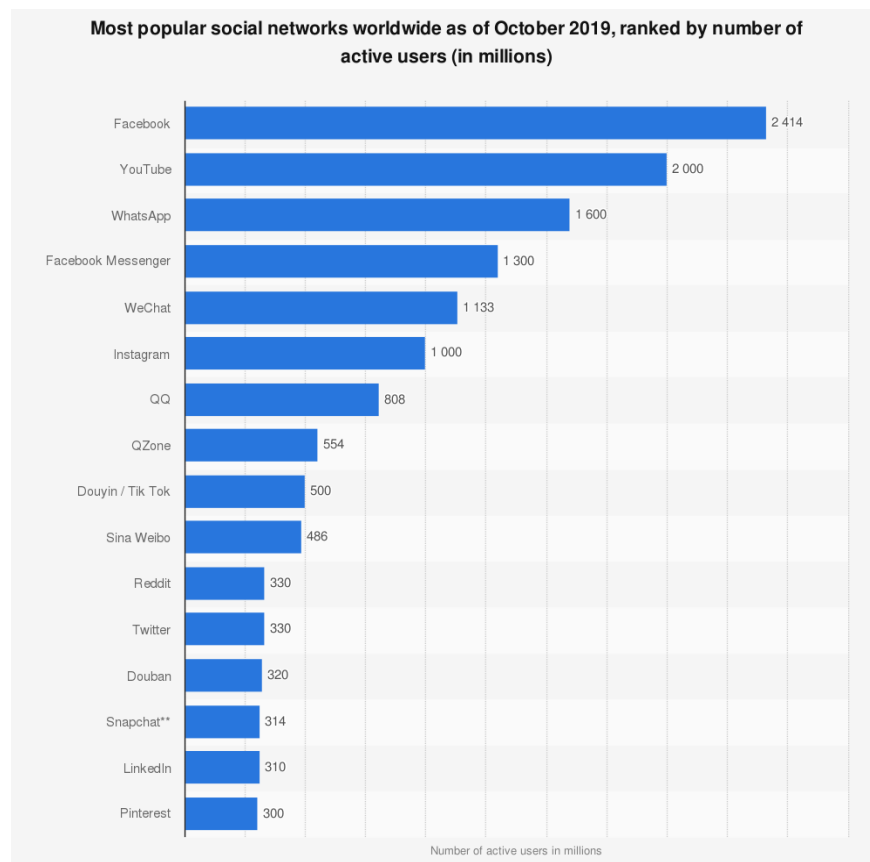


Fig 1- Most popular social networks worldwide

A study done by : Stichting Kijkonderzoek; Stichting Nationaal Luister Onderzoek; Sociaal Cultureel Planbureau ; Nationaal Onderzoek Multimedia (HOI); PMA Platform Media-Adviesbureaus was used to determine the average Time spent on media activities in the Netherlands per day.

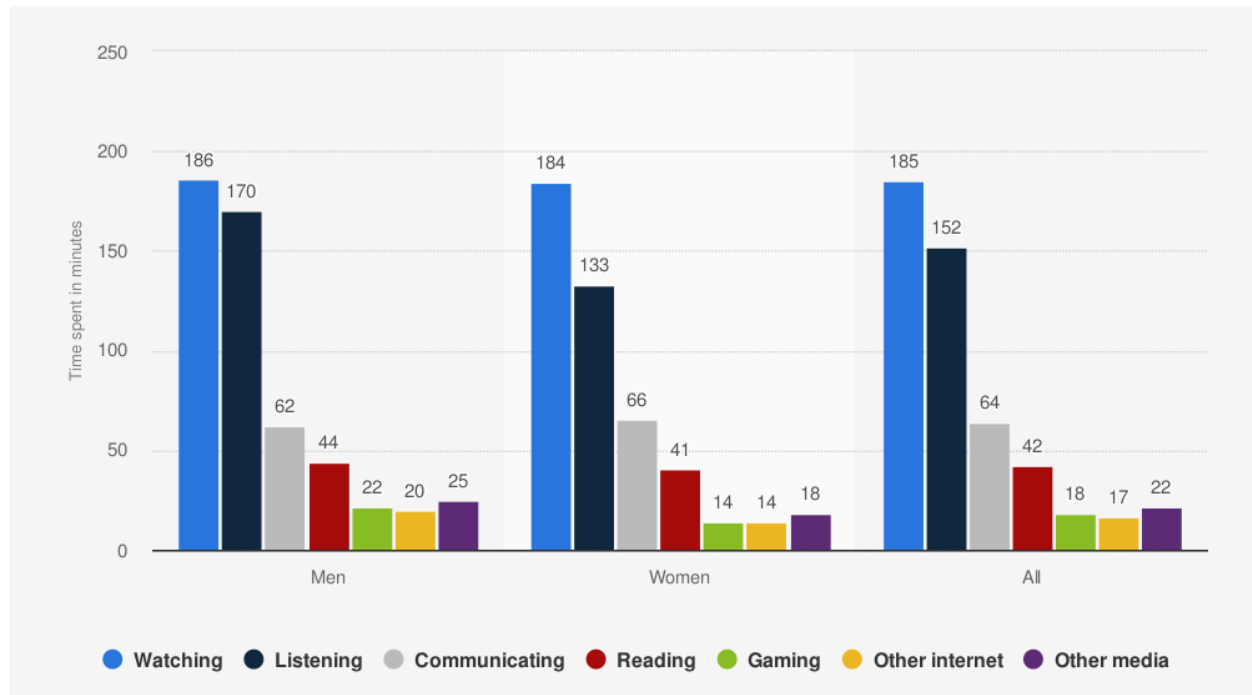


Fig 2 - shows the results of the study

Looking at fig 2 shows the average time spent on multiple activities :

- 185min spent on watching online content .
- 152min spent on listening to music.
- 64min on communication.
- 42min reading.

In order to determine the average use time of social media per day to set a standard which the application will consider acceptable spent time or not,the group calculated the average based on multiple statistics of reliable sources found online since Social media companies don't release information about the daily average time people spend on those networks.

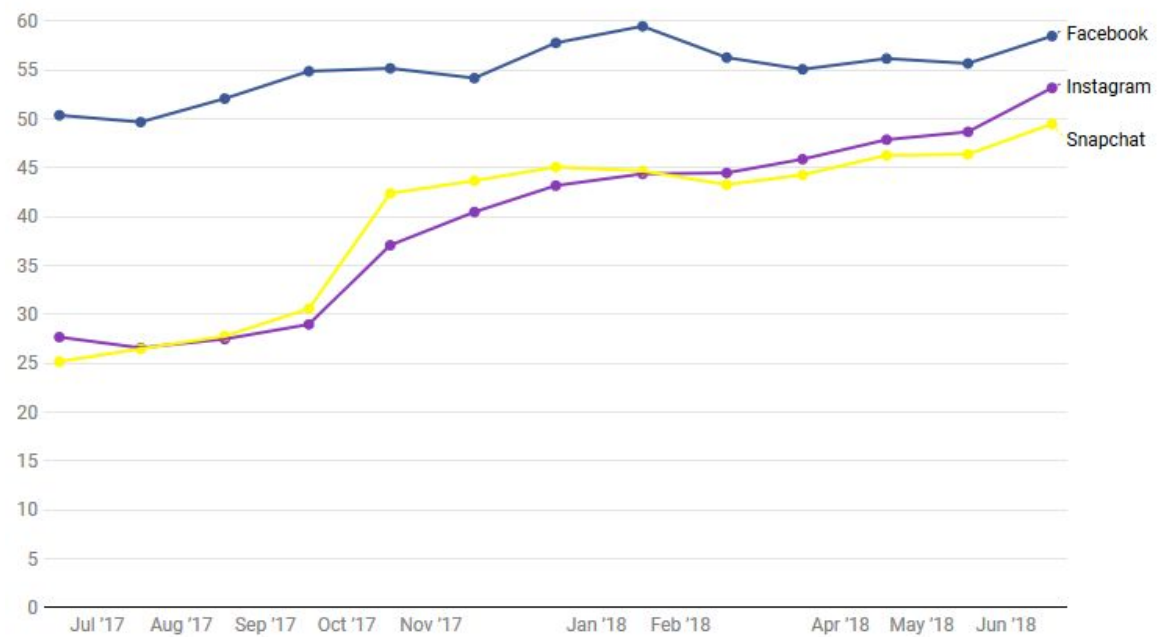
Fig 3 a study by similar web , US.android users

Fig 3 shows time spent on different kinds of social media. The study results into the following average time :

- Facebook 85min
- Youtube 40min ,
- Instagram 53min
- Whatsapp 28min
- Snapchat 49min
- Pinterest 14min

Fig 4 shows the daily time used of different apps

By U.S. Android users



Source: SimilarWeb

recode

Fig 3 - Facebook Instagram Snapchat

Daily Time of 153Min

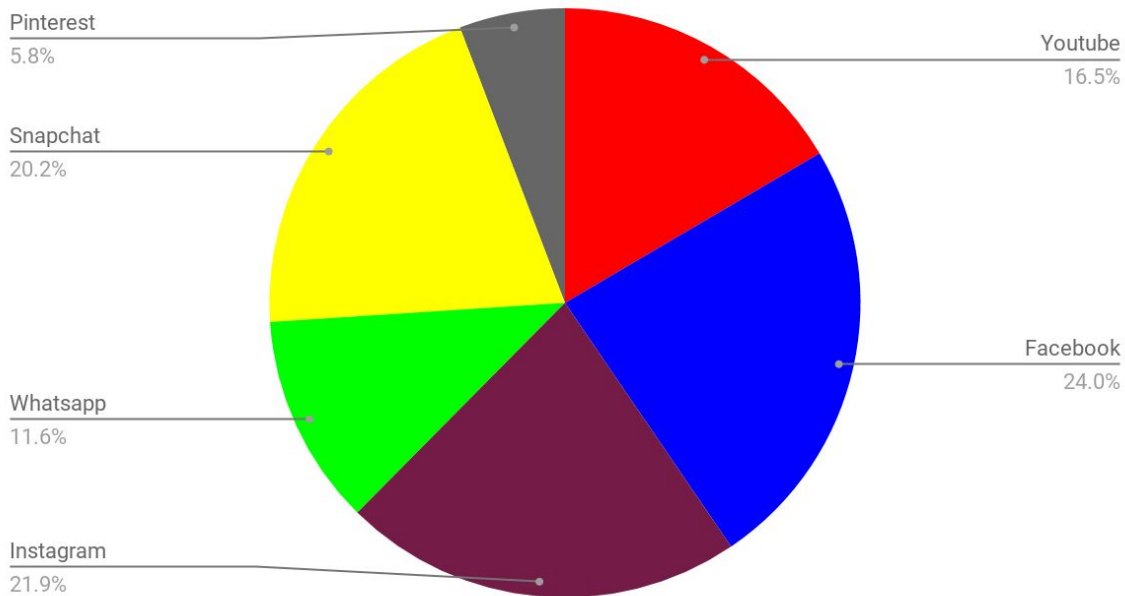


Fig 4 - Daily time spent per app

The average time spent on social media of the above studies per day is around 153 minutes in a study at the University of Pennsylvania on 143 students the researchers monitored the participants' social media use for a week across three platforms — Facebook, Instagram and Snapchat — to get a baseline.

Then researchers gauged the students' mental health based on seven different factors: social support, fear of missing out, loneliness, self-acceptance, self-esteem, anxiety, and depression.

Students were separated into two groups One group was told to keep using social media as usual; another group was tasked with limiting social media use to 10 minutes per platform a day.

When study volunteers cut down their social media use to 30 minutes per day total, they experienced a "significant improvement in well-being," exhibiting reduced loneliness and depression, Anxiety and FOMO decreased in both groups, which researchers said could be due to increased self-monitoring during the experiment portion of the study.

We reached an average to consider acceptable usage time per day for students which set to 90 minutes.

Target group interviews:

The group conducted interviews with 25 Fontys students to answer a group of the sub questions focused mainly on how students describe their relation with their phones and the main effect those phones have on their general health concentration levels sleeping qualities and study progress.

Students were handed a survey to fill during the interviews and the results listed below show the collected data:

Fig5 shows what impact students believe smartphone and social media have on their life.

Smart Phone Usage

Fontys Students

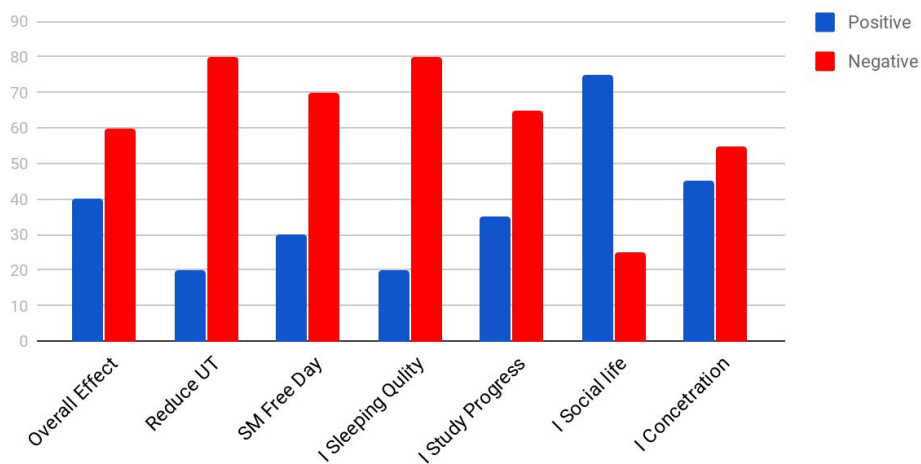
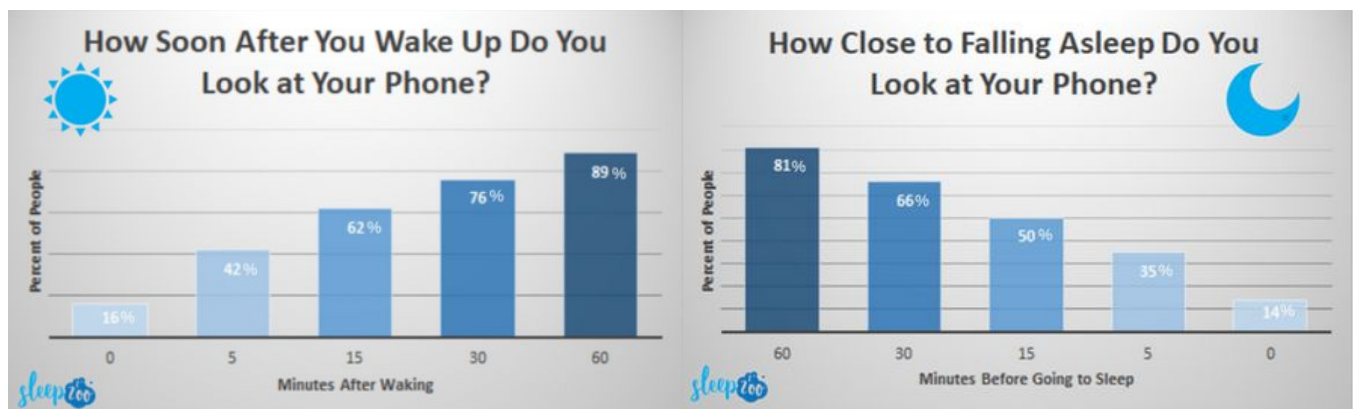


Fig 5 - Fontys students and their opinion

The group made use of already filled surveys to see the effect of certain negative effects on students below is a survey of 2000 people done by Sleep Zoo shows how long people look at their phone before sleep and after waking up.



Impact of smart mobile:

Some research has found that smartphone use may contribute to sleep issues and depression. We know that sleep is an important function for our bodies and has a huge impact on mental and physical health. During our sleep, the brain forms new pathways to help us learn and remember, solve problems, make decisions and be creative.

If you are going to bed and start doing the things you would normally do when you are awake, such as browsing the internet or scrolling through instagram, you send mixed messages to your brain. The brain stops associating the bedroom with sleeping. This will make it more difficult for you to sleep.

Smartphone emit blue light. This is a type of light the brain interprets as daylight. This light suppresses melatonin. Your brain will feel stimulated.

Lastly when your phone is in your bedroom, any ringing or beeping from text and calls can have a negative affect on your brain.

Smart mobile does not only affect your sleep. It also has some effects on your general health. It can impact our psychological health and physical health.

Psychological health

- Starting with psychological health. It demotes our social interactions. If you are using your phone in a group setting, the smartphone steals away your attention from the people around you.
- A smartphone is a very good tool to capture the best and memorable moments in our life, but they also can be the culprit of memory loss. These days we are reliant on technology to remember things for us. We stop bothering remember things by ourselves.

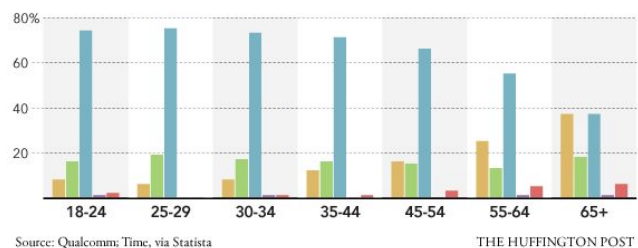
Mental and psychological health are not the only things that are affected by the use of a smartphone. Our physical health is deteriorating too.

Physical health

- Smartphone use can lead to excessive weight gain. The phone lets us access our favourite movies, games and apps digitally. We can do whatever we want in just a few clicks. Duo to this behavior we lack of physical activity.
- Smartphone use can lead to less sleep. The blue light confuses the brain to think that it is daylight. This will affect our sleep and makes it harder for you to fall asleep.

Where Our Phones Sleep

Nearly three-quarters of young people fall asleep each night with their phones within reach. That number tapers off in middle-age and decreases in the 65+ category, where people are equally likely to sleep with their phone in another room. Using a phone before bed has been shown to interfere with length and quality of sleep.



- Looking down at your phone can cause neck pain.

Not only your health plays a role in smart mobile. Your concentration is one of the other things it can have an impact on. For example, your concentration. Texting and doing your homework is what a lot of students do these days. It is something most of the students do, and most parents have also been known to check their phones at their desk. If we are being honest, most of us have their smartphone within arm's reach and we will glance at it from time to time. How bad could it really be?

A study found that the presence of a smartphone reduces a person's ability to focus. In a study, undergraduates asked to leave their phones in a different room did better on tests than those who were asked to silence their phones and leave them face down. The distraction is happening on an unconscious level.

"Having multiple sources of technology at your fingertips and available at all times probably is almost a guarantee of a reduction in performance and productivity,"

The concentration problems can of course affect your study. As mentioned above, a study shows that even the presence of a smartphone in a study space can lower your learning, logical reasoning, abstract thinking, problem solving, and creative abilities.

Nearly all students in the experiment reported not being distracted but the results told a different story. The students who kept their phones at the desk had the worst results, followed by the people who had their phones in their pockets.

The usage of smartphones have a bad impact on the concentration of people. Even if you don't use your smartphone it will decrease your concentration. If you can't concentrate on what you are doing, it will have a negative impact when you are studying.

Your social life..

Last but not least, how can it affect your social life? The usage of your smartphone can affect multiple points on your social life. When you are on a date, the person may be looking at his or her phone more than you. Scrolling through Instagram or Facebook to check if you have received likes or comments is a common thing that most people do. People nowadays care more about their social status than in real life. They care about the amount of followers, likes and comments they got in a certain picture.

Smartphones disconnect us from our social life.

However... smartphones can bring us together as well. For example, I can chat with my family members that do not live in the same country as me. I could connect through video chatting or whatsapp.

Using your phone in the evening can stimulate your brain in a negative way. Doing the standard things you usually do in your bedroom also makes it more difficult to sleep. If you use your phone at night (sleep time) it will have a negative impact on your sleep quality. It does not only affect your sleep but can also have negative effects on your psychological and physical health. Of Course the phone doesn't only have negative impact on your health. There are apps out there to track you health (i.e weight, check your steps). It all depends on how you use your phone and what your goal is.

How does the smartphone affect our concentration? Having a smartphone close to you reduces your concentration for sure. Even if you put your phone on silent and not looking at your phone it secretly reduces your concentration. The results of the study even says you lose concentration if you have your phone in your room!

This will of course have a big impact your study but it depends on how you use it. If you get distracted every 10 minutes because you get a notification, you have a hard time focussing on your studies. This will have a negative impact on your study. However, if you use your smartphone for educational videos, it can have a positive effect on your study.

So the use of a smartphone can both have a negative effect but also a positive effect on people. It depends on how you deal with it and what you do with it.

Brainstorm session:

We did a brainstorm session with the project group and figured out a few things. We want to have the following things in our app.

1. How long is an application used per day
2. How often did the user unlock the phone per day
3. How long did the user use their phone before sleep time
4. What is the total screen on time per day

Requirements prioritization:

If we have more time we would like to take a look at how many steps a person took a day and a heartbeat sensor.

Conclusion and recommendations:

We recommend further research in both smart mobile use effect over sleeping quality and smart mobile addiction we think those are important topics because of the surprising results we had from our meetings with students.

We found out that the following is considered crucial data to collect in order to present information to raise awareness :

- How long is each application used per day
- How often did the user unlock the phone per day

- How long did the user use their phone before sleep time
- What is the total screen on time per day

Reflection on the research:

The research went pretty well in our opinion. We found a lot of resources online, different studies, and did an interview with many Fontys students. We gained much data than we expected to get from the research. The data we collect will be very useful.

Source references:

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