

How do we choose our apps?

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Abstract: Mobile phones and applications are affecting almost every aspect of our lives including the way we think about our health and fitness. There are countless applications helping us keeping or tracing a healthier diet, helping us during workouts and tracking our sleeps. But how do we choose the apps we download? Do we consider design, functions or anything else? Do we consider safety as well? This article seeks the answers to these questions and the motives behind the usage of health and fitness apps based on focus group interviews.

1. Introduction, the era of mobile apps

Nowadays we can't imagine life without our smart phones and internet connection. Just looking at the statistics around us we can get an idea of how deeply the world is affected by this phenomenon. According to KSH, 89% of the Hungarian population used internet daily and there were 120 mobile subscriptions per 100 Hungarians in 2016. (KSH.hu, 2017) These numbers aren't different from the European Union's average, although if we consider the total population of the world, there are only 101 subscriptions per 100 people. (Worldometers, 2017) (Worldbank, 2017) These show that mobile technologies are important parts of our lives and can make a difference to them. Mobile phones can affect almost every aspect of our lives through apps. Apple's famous ad, „There's an app for that” describes this situation well. There are apps for almost every topic, problem of life. In 2017, March Android users were able to browse between 2.8 million apps, while Apple users could choose between 2.2 million apps. (Statista.com, 2017)

In 2016 there were more than 25 billion apps downloaded by iOS users and 90 billion by Android users, the total number of downloads is 149 billion, if we consider the rest of the app stores too. Forecasts show that we can expect a further jump in these numbers. Although we must note that studies show that users tend to delete those apps which they don't use daily (and there are a limited number of

maximum 10 of these), so they probably delete a lot of these downloaded apps. (Dogtiev, 2017)

Considering popularity, in the App Store, lifestyle apps were the 4. most popular category with more than 8% share, health and fitness category reached only 3% in the 9. place on a 20-place list in 2017 October. (Statista.com, 2017) According to another study, Health and fitness apps reached 23% of the global Android mobile users this summer. The most popular categories, which reached most of the users were for example communication (99.4%), video players (96.7%) and social (95.2%). Lifestyle got 39.8%, sports 30.9%. (Statista.com, 2017) Before that by the end of 2015 according to a study, 15% of the global internet users accessed health and fitness apps monthly. (Statista.com, 2017) Health and fitness apps and sport related apps are among the fastest growing app categories, by 2016 the first increased by 18%, the latter by 43% compared to 2015. (Statista.com, 2017)

2. Health and fitness apps

What are these health and fitness apps that are so popular and still show growth? These are apps which aim to help users get fitter, loose, gain or maintain weight, stay motivated, keep track of their progress, diet, sport activity and get reminders too, so in short, they try to make users' lives easier and sometimes change their behavior too. (Although according to surveys most of these apps lose their users before they can have a long term impact on their lives. (Research2guidance, 2017)) There are apps also for more serious healthcare related topics, for example diabetes, which could help to make classic healthcare easier, more convenient and less expensive. The reason behind the popularity of these kind of apps nowadays is that there is a new segment of users which are concerned about healthy lifestyle and sustainability. There is also a trend of changing platforms, a few years ago this segment could be reached by written media and now they can be targeted through mobile devices too. (Reicher & Racz, 2012)

Let's have a closer look at the mHealth apps. In 2014, for example, among mHealth apps, fitness is the biggest category with a 30.9% share, medical reference is the second with 16.6%, wellness is the third with 15.5%, nutrition is the fourth with 7.4%. 28% of the users are people interested in health and fitness. (Research2guidance, 2017)

These apps are for different groups of customers. In 2016, the main users were chronically ill people (56%), and the health and fitness interested people (33%). The health app is getting crowded as well, there are more than 259000 apps which are available on the major app stores. The total downloads were 3.2 billion in 2016. 13% of the developers are small startups with 1-2 people which can also lead to a decline in quality. (research2guidance, 2016)

As the downloading growth is slowing from year to year (research2guidance, 2016) and as the quantity of the available apps grow, as we could already see, attracting customer's attention is key to success. How can we reach this? How customers choose from the vast amount of health and fitness apps, or in general, any apps? In the following sections we try to answer these questions.

3. How do we choose our apps? Focus group interviews

How do people choose an app to download? My assumption was that we choose considering four main factors, design, ratings, functions and permission requests. Naturally, users have some goal with the app they want to find, they have priorities and expectations but there are several things that can influence their decision too. There are top lists online or even in the app stores, there are reviews or recommendations from professionals, bloggers, users or from friends, colleagues of the users but we can get information also from currently used apps, websites or blogs too. Entering the app stores, we can also see ratings, reviews, screenshots and descriptions of the functions of certain apps we find.

To find answers to these questions and find out more about people from Y generation's attitude towards apps and health and fitness apps, we conducted a focus group survey concentrating on the assumptions (the above mentioned four main features). This is a qualitative method which gives the participants opportunity to reveal their deepest motives and thoughts about a certain topic. We selected three main categories and examined how they influence user's choice.

The total number of participants was 28, they were questioned in smaller groups. There were 6 women and 22 men which is an interesting split considering the kind of apps we were showing to them. In my opinion men are not the main target group for these apps, but this was it was easier to get unbiased opinions about their decision making this way, so this has its advantage too. The majority of the participants were in their 20s, which meant they are familiar with today's technology. From a previous study, we found out that these people are more likely to use apps and share data about themselves without concerns. (Szucs & Reicher, 2017)

As I mentioned, during the survey, we examined the effect of three main categories, the first one was design, looks and ratings, the second was functions and the third was permission requests the app is requesting. We chose 8 apps for the experiment, all of them are health and fitness related, 6 of them are good for diets and 2 of them are better for sport activities. These apps were chosen randomly, but the most populars in the stores and on blogs were amongst them. We only considered free apps and free functions as we assumed that the majority

of users don't want to pay for their apps. (Later during the discussion, it turned out that there was only 1 participant who said that he would pay for an app if it offered better functions than a free app. The rest of the participants were all for free apps and said they wouldn't have considered buying applications.) At first, we had a conversation about the general app usage habits and the opinion about the health and fitness apps. As a second step, we showed the groups the 8 chosen apps, 3 screenshots per each and 2 ratings (for Android and iOS) and asked the participants to share which they would have chosen and why. After this, we showed them the functions of the apps and asked them again to choose one and give us an explanation. As a third step, we showed the requested permissions by the apps and asked them for a third time to choose one. The aim of asking the participants to choose 3 times was to identify the main influencer of their decision and to see if this decision is changed during the experiment. Some of the participants chose more than 1 app at a time, as they were not able to decide and we allowed this if they had reasons. (So sometimes the sum of the numbers won't match the number of participants.)

The presented apps were the following:

1. MyFitnessPal
2. Lose it! (See Picture 3.)
3. FatSecret
4. Yazio
5. MyNetDiary
6. Lifesum (See Picture 2.)
7. Endomondo (See Picture 1.)
8. Record (by Under Armour).

To keep the article easily readable and easy to take in, I will only include the screenshots of the apps which were chosen during the survey and will just describe the rest of the choices.

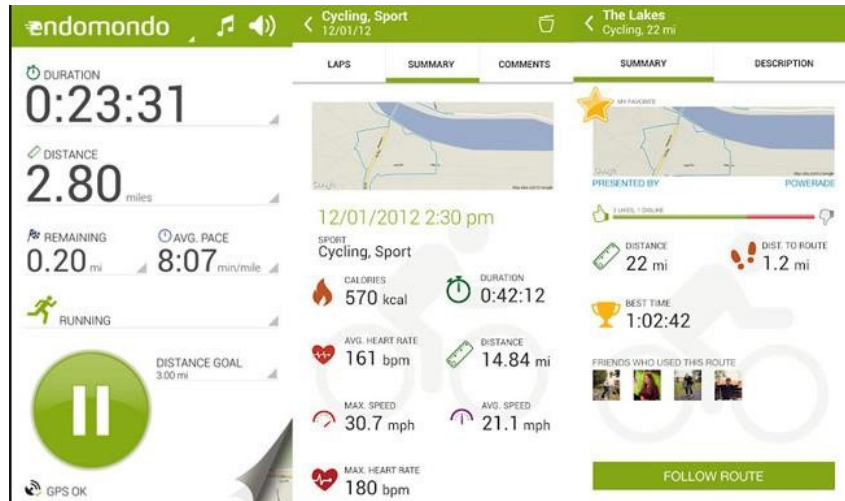
During the general discussion we found out that, of course, everybody is using mobile applications on a daily basis. The most popular reason was that the participants are using these for communication (for example WhatsApp, Viber or Messenger) and getting information, either by using Google, maps applications or by reading the news. As we asked them about the health and fitness apps, we found that not everybody is familiar with the term. Just asking them about the topic revealed that some of the respondents don't know these kind of apps, but after we gave a short explanation to them about the topic, it turned out that they actually use some of these without knowing that they belong to this category.

Let's have a look at the most popular app choices of the 8 for the first question when participants were asked to decide based on design and ratings. The table below shows the name (and number) of the app and the number of participants who chose them. (3 of the participants chose 2 apps for the first question.) We can see that the most popular ones were Endomondo, Lifesum and Lose it!. The pictures of these apps what were shown to the participants are also below. The ratings won't be shared because participants didn't consider these as influencers. They confirmed that they use recommendations and reviews but the ratings only matter when they are visibly not good and these apps were rated in both major app stores above 4 stars (out of 5).

Table 1.
Answers based on design and rating

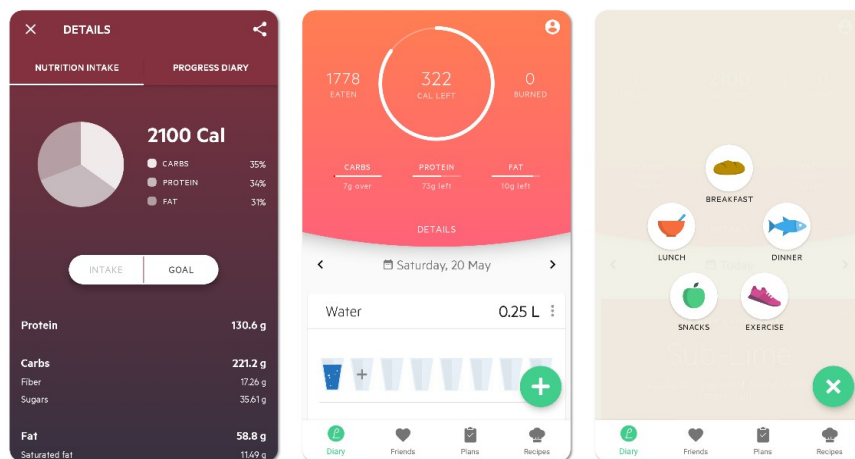
7. Endomondo	12
6. Lifesum	9
2. Lose it!	6
1. MyFitnessPal	1
4. Yazio	1
5. MyNetDiary	1
8. Record (by Under Armour)	1
3. FatSecret	0

The main arguments for Endomondo, the most popular app in this experiment, was that most of the participants know this app and are satisfied with it. (This shows that many people like to choose something they are already familiar with against new things.) They also highlighted that they can easily see the most important information on the screenshots and that it is easy to use based on them. The convincing green color and the design was also mentioned. According to many sources, green color reminds people of health, trust and nature, and because of this, it's a good choice of color for a sport activity tracker too in my opinion.

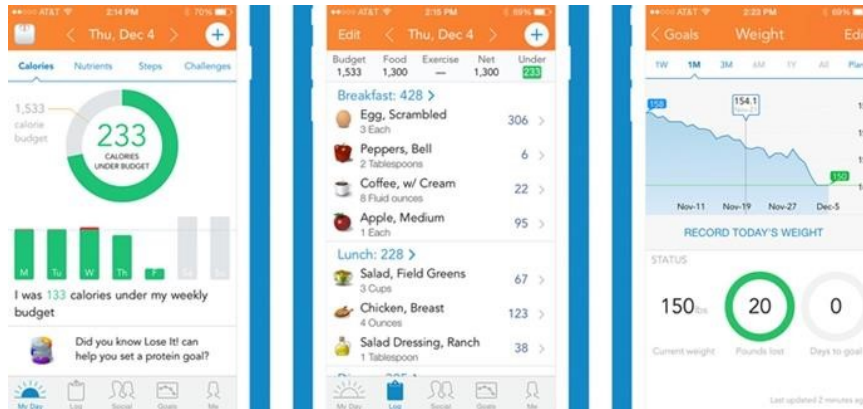


Picture 1 Screenshots from Endomondo app

In the case of the second most popular app, Lifesum, the elegant, minimalist and clean design was mentioned. The visibility of the most important information and that the app looks easy to use were also likeable. The purple color suggests elegance and quality, white suggests purity, balance and peace. These are also good choices for a lifestyle app. Loose it! app won participants with the graphs and diagrams, so in short data visualization. The colors weren't mentioned this time, the clearly visible information was the key factor. The rest of the apps were chosen with the same reasons, (just by less participants), clearly visible data, easy to navigate and a known logo.



Picture 2 Screenshots from Lifesum apps



Picture 3 Screenshots from Lose it! app

In summary, we can see that design is important when we are trying to win a user. Customers like clean designs, pleasant colors, easily visible information and visualized data (graphs). As I already mentioned, participants reported that they didn't consider ratings during the focus group interviews.

At the second phase, participants were shown a table describing the free functions of the apps (for example see Table 2).

Table 2.
Table of functions

	Lose it!	Lifesum	Endomondo
Calorie need, goal setting	x	x	with MyFitnessPal
Calorie intake tracking	x	x	with MyFitnessPal
Macronutrients tracking		x	with MyFitnessPal
Tracking exercise, sport	x	x	x
Barcode scanner	x	?	with MyFitnessPal
Tracking progress	x	x	x
Sharing status	x	x	x
Blog with useful articles		x	with MyFitnessPal
Tracking water intake		x	with MyFitnessPal
Recipes		x	with MyFitnessPal
Reminders	x	x	x
Friends	x	x	x
Connection with other apps	x	x	x
General wellbeing tracker		x	
Challenges			x
Exercise materials			x
Sleep tracking			
Premium	x	x	x

Based on this, there were 2 winners, Lifesum and Endomondo, which were already popular based on design, Lose it! is also was the top 3, but with less votes. If we have a look at the entire table of functions, we can easily compare the apps and see that these have generally more functions than the rest. Now because the

table is too big, I only include the top 3's here. I would highlight two factors, when considering Lifesum. One is that participants thought that this app covers more segments of life (sleep, exercise, water), so they liked when the app offered a holistic picture of their wellbeing, the other factor is that they like when one app can provide the functions and they don't have to download additional apps. Regarding Endomondo, participants mentioned again that they know the app and they like it, but apart from this, good functions were also brought up. They specially liked the GPS function and the many type of sport they could choose in the app. Participants who use this app said that they wouldn't mind downloading another apps for the missing functions (nutrition or sleep for example). Regarding Lose it! App, it was chosen by participants mainly because they thought it doesn't have unnecessary functions (which shows that quality is more important for them than quantity). Challenge function was also mentioned as a popular feature as a kind of motivational tool.

Table 3.
Answers based on functions

6. Lifesum	10
7. Endomondo	10
2. Lose it!	4
8. Record (by Under Armour)	3
1. MyFitnessPal	1
4. Yazio	1
3. FatSecret	0
5. MyNetDiary	0

I would like to mention that it's possible that the table itself influenced participants' decision as it shows a comparison. Most people like when they can get more for their "money", so they might have chosen apps which have more functions compared to others, even if they wouldn't need those if they had to search for apps to download for themselves in the first place. Another observation is that only 5 of the 28 participants changed their decision in the second phase, which means that once they saw the design, they were convinced and when the functions matched their expectations, they were confirmed in their decisions. The reasons behind the decision changes were either the realization that other apps have more functions which the respondent found useful or that they have less functions than expected.

Table 4.
Answers based on permission requests

7. Endomondo	10
6. Lifesum	6
3. FatSecret	5
2. Lose it!	3
8. Record (by Under Armour)	2
1. MyFitnessPal	1
4. Yazio	1
5. MyNetDiary	1

In the third phase, we showed participants the permissions the app is requesting when they are downloading or using them. (See Table 5.) The most popular apps in this round were Endomondo, Lifesum and FatSecret. The first two are not really surprising, some of the participants remained with their choice and weren't influenced by the permissions, they shared that they think these are understandable needs from the apps (so they can function better), so most of them don't mind these. Some of them didn't understand every request, they thought that for example sharing their media files or call logs seemed a bit risky. Others said that they weren't influenced by the requests because they can always say no to them, using only those functions of the app which they want to. The surprise of this round was FatSecret which had 0 votes in the first 2 rounds, which shows us that respondents were definitely biased by the table of comparison this time. The reasons behind these decisions were that this app requires the fewest permissions compared to other apps and this made respondents realize that they don't want to trade their personal data for functions. Some of the participants confirmed that if they download an app in real life, they also can be stopped by the permissions, but the majority of them shared that they didn't mind either accepting these permissions so they can use the apps' full potential or saying no to permissions they didn't agree with.

Table 5.
Permission requests of the apps

	FatSecret	Lifesum	Endomondo
In-App purchases			X
Contacts		X	X
Location (GPS)			X
Photos, media, files (read and write)	X	X	X
Camera		X	
Internet, Wifi	X	X	X
Bluetooth		X	

In summary, 10 of the 28 participants changed their mind during the interviews, which shows that each category plays an important role while providers try to win customers for their apps.

- Five participants chose the same app for question 1 and 2, then changed their decisions because of the permissions, which shows that they are more protective about their personal data and they would refuse to grant permissions for each function.

- Three participants chose 1 app based on design, then for them, functions were more important than looks so they chose another app and stayed with their decisions when they saw the permission request phase too.
- Two participants changed their mind in every round. In my opinion they were influenced by the experiment, choosing always the best app for them from the options.

The rest of the respondents stayed with their first decisions till the end of the experiment and they considered their decisions confirmed with every feature revealed.

Participants mentioned that they usually use their built-in health and fitness functions on their mobiles and seemed to think that those don't access their personal data (for example contacts and media files which were the major concerns amongst them). Opinions in general about these apps were mixed, some of the participants said that they think these apps are useful and can help them reaching their goals (if they already have the motivation) or track their progress easily, others thought they are a waste of time and reported that they would never use them.

4. Summary, findings

The main findings of the experiment were the following:

- Participants don't rely on ratings, they usually read the reviews and ask for opinions, they also like to experiment with the apps they download, they confirmed that they easily delete and download another apps they don't meet their expectations.
- Previous knowledge and existing good reputation can obviously also influence decisions and can convince people to download an app.
- Design and well-chosen screenshots are important when we are trying to convince a user. If data visualization (graphs, easily distinguishable information) and pleasant colors (suggesting the theme or the quality of the app) are visible, they are likely to win users.
- Functions play a great part in influencing customers when it comes to apps too, but they are tricky. Too many functions can be just as unattractive for users as not sufficient number of functions.
- Permission requests for the majority of the participants are not influencing factors, in many cases they were influenced because they

were asked to consider this aspect too, but they reported that in real life, they don't mind these (they sometimes say no to them though). Few of the participants however confirmed that they consider this aspect too when choosing an app.

- Users like to try apps and they delete them easily if their expectations aren't met.

In summary, with this experiment, we now understand better how users choose between apps and what are their main concerns during the decision making. We would like to continue searching these motives in the future, perhaps in smaller groups so we can monitor the decision making more closely. It would be also interesting to research this topic from a behavioural perspective, many applications in this field as well, are trying to win customers with months of free trials which is also a way to convince them to download these apps.

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