Does greater customization in a self-tracking app improve usability and market fit?

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Abstract

Self-tracking apps are too rigid, they are not flexible enough to fit into a user's needs, or fully flexible self-tracking solutions are too complex. Is there an opportunity for a self-tracking app with greater customization that could solve this problem? Theory warns of the flexibility-usability trade-off, whether greater flexibility helps or hurts usability and market fit.

A market and competitor analysis was done. 29 apps in the space of self-tracking were analyzed to locate the unmet niche.

A minimal-viable product has been built that utilizes user-defined trackers and progressive disclosure of advanced options. With this MVP user testing was done, combining task-based observations, the System Usability Scale (SUS) and follow-up market-fit questions. The prototype achieved an average SUS score of 76.67, indicating good perceived usability. Participants valued the freedom to customize the trackers to their needs, to track what they find relevant in a way that fits for them, and envisaged various use-cases. While extra flexibility lengthened the initial learning phase, guided onboarding and sensible defaults seem to offset this cost.

These findings suggest that a privacy-first, subscription-light app aimed at moderately technical users can occupy a viable market niche, provided design principles such as progressive disclosure and contextual help are employed.

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1 Introduction

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1.1 Motivation

This thesis explores the impact of greater customization on usability and market fit. Does greater customization improve usability? Under what conditions may this be the case? What kind of users look for greater customization? Is there a market need for such a solution? What kind of business strategies are to be applied for such a solution?

Self-tracking is popular. Habit trackers, journaling apps, and tools for insights into our health are increasing in popularity and are found on most phones in some form these days [32]. People are benefiting from tracking and analyzing their personal health, habits, and behavior.

Tools for self-tracking are also growing in popularity. The digital fitness and well-being market is growing and is projected to reach US$65.73 billion revenue globally in 2025 and US$83.43 by 2029 [13].
Habit tracker apps also show high usage data. Apps such as *Loop Habit Tracker*, *HabitNow* and *Habitica* all show downloads above 5 million each on Google Play alone [30, 21, 20].

Self-tracking has been shown to be an effective tool for improving health [4, 10, 16]. People are interested in quality habit tracker solutions. Journaling has been an important practice for a long time. However, options are limited. Many self-tracking tools in this space do not respect data privacy, impose strong restrictions on what can be tracked, lack in usability or have other shortcomings.

This thesis aims to explore this space to provide insights on the relation between greater customization in self-tracking apps and usability and market fit which will ultimately be used to build a satisfying self-tracking app with high usability allowing users to freely track what matters to them with minimal restrictions while respecting their privacy and autonomy.

1.2 Research question and scope

The research question for this thesis is: "Does greater customization in a self-tracking app improve usability and market fit?".

This thesis explores the impact of customization on usability and market fit in self-tracking apps. The research will combine an analysis of existing self-tracking apps and qualitative research on usability with a self-developed prototype.

Potential gaps in the market will be explored, spaces where users' needs are unmet and a market opportunity may exist.

User needs with regards to self-tracking will be assessed. What unfulfilled user needs are there? Insights gained will be used to explore the concept of greater customization.

Self-tracking can be of greater benefit to our well-being and improvement to our quality of life. Why focus on the "customization" part of these apps?

Customization, allowing the users to adjust an app to their specific needs, would in theory make such a tool more beneficial to the user, since they can more specifically target their problem with the app. Since the users' needs and problems evolve over time it would allow them to use the app for a longer period of time.

But there are also problems that come with greater customization. Greater customization introduces complexity, complexity for the users and for the development and design of the app. Giving more options, making the potential use-case broader, may also mean that the app becomes weaker at solving one specific problem. This design principle, increased flexibility decreases usability, is known as the flexibility-usability trade-off [18].

This is why this thesis explores this complex relation between greater customization and usability, to explore to what extent this relation exists, potential approaches to providing greater customization and flexibility without compromising usability, and under which conditions this may be of benefit or of detriment to the user.

Why include market fit?

To make such an app exist and offer it long-term it needs business perspectives. There are many potential strategies to drive the creation of such an app, which may fit the best? Which fits well for greater customization? What kind of business model would be effective with regards to the target audience? Does an self-tracking app with greater customization even have market fit? How do the approaches explored, which balance customization and usability, affect market fit?

With these considerations it is very relevant to see how they relate and what they mean for the creation of an impactful app. By exploring these fields this thesis aims to give valuable insights into building a digital product that fills a user's needs and can exist as a product that generates profits for long-term sustainability.

This thesis will focus on self-tracking apps where information is entered manually by the user, as larger apps that integrate with various physical devices and other product ecosystems are outside the scope of what can be built and tested against in this thesis.

1.3 Definitions

App

An app is an application. This may refer to a mobile native app, as is commonly understood by most mobile users. The term "app" may also refer to web applications, also called web apps. An application is a computer program designed for a particular purpose [2].

Self-tracking

Self-tracking, also known as life-logging or self-logging, describes the process of logging aspects of daily life. This may be done with activity trackers, cameras, or physical and digital documents. The process can be automated or done manually [29].

Common methods of self-tracking include the automated step trackers found on many modern mobile phones, as well as journaling practices.

Customization

Customization refers to the action of a buyer or user changing a system according to their needs [11]. In customization, the change is actively made by the user. The user intentionally alters the system they are interacting with. Examples of customization include light and dark modes on websites or adjusting font sizes.

A concept closely related to customization is personalization. While both involve adapting a system to the users' preferences, personalization refers to a system being adjusted automatically based on user behavior, without active input. Examples of personalization include shopping recommendations in online stores based on previous

interactions or social media algorithms that show content the user is more likely to enjoy and engage with [12].

Usability

Usability is a sub-category of user experience (UX). It describes the extent to which a system can be used to achieve specific goals effectively, efficiently, and satisfactorily. Definitions of usability may vary and will be further examined in the chapter on usability [25].

Market Fit

Market Fit, often referred to as Product-Market Fit, is the point at which a product successfully meets the demands and needs of its target market. The goal of Market Fit is to align a product's value proposition with the needs of the target audience, ideally resulting in sustained demand and growth [40, 35].

What Market Fit more concretely entails and its implications will be explored in a later chapter.

1.4 Customization: Definition and rationale

Many popular self-tracking apps are rigid, they only let you track predefined metrics. Users often experience that the app they chose cannot track the exact data they are interested in or cannot accommodate for a change in goals [28].

A different research project on an app called Omnitrack mentions as well that existing solutions fail to provide complete or feature-rich solutions to people looking for a self-tracking solutions, e.g. understanding habits on food consumption or impact of the environment on food preferences in addition to common food tracking e.g. for calorie tracking [26, pp. 3–4].

How does greater customization help here?

Customization refers to the ability of users to modify, personalize and tailor an application's features, interface and functionality to better suit their individual preferences and needs [39]. Within the context of self-tracking applications, customization may specifically refer to the option for user interface (UI) adjustments, goal or tracker setting flexibility, data input customization, data handling and integration adjustments into other systems such as notifications and reminders.

The benefit to this from a users perspective is that they are able to better adjust the app for their use-case, integrate it into their preferred workflow and better solve their problems.

With options for greater customization the user is given greater autonomy, by allowing a user to shape the app exactly to their needs the daily user experience and how the system integrates into their daily life may be improved. Users who value autonomy respond positively to customization features, as they feel a greater sense of control [6]. Greater customization allows the app to adapt to a users' needs changing over time, whether these are to what extent they want to use the app, what they want to track or what specific measurements they want to use.
This may result in keeping the user longer on the platform and improve their experience. Changes in a users' needs and preferences over time can be expected, as interests, values, health condition and similar will definitely change over an extended period of time for any user.

The concept of deep customization is more appealing to technically skilled users, quantified self enthusiasts or patients with specific needs, as they have a reason to utilize this aspect more. This may indicate that such a solution has a more niche audience, as a general and broader audience are not actively seeking this greater customization and may feel overwhelmed in an app that offers this.
However, there may be effective solutions to bridge this gap, such as Notion or Obsidian who both have complex note-taking functionality, but are still accessible to a broader audience by not overwhelming the user in the beginning, yet still offering these complex features to the user when they are inclined to look for them [33, 34]. Another example of such an app is Fitbit, which targets mass users and also allows for personalization [17].

An app can balance these two aspects, providing seamless on-boarding and a simple UI for users with less technical skills and interest in all the features, while at the same time providing these to user who value them. To what degree this is possible and under which conditions this works well will be explored at a later chapter by doing usability tests with a developed MVP.

OmniTrack is one example of a self-tracking app that is customizable. It lets users choose what they want to track and how they want to track these aspects. This app, which is not available on the market and instead a research project, was used for a 3-week deployment study that assessed if people can capitalize on such a customization feature. Potential trackers ranged from mood- to daily activity tracking. This project noticed a positive relation between greater customization in a self-tracking app and user engagement [26].

Another example of such an app is Trackly, a research prototype for people with multiple sclerosis, a chronic illness [4]. Trackly used a customizable and pictorial tracking approach. In this app users were able to define their health parameter in their own words and track their symptoms by coloring visual body shapes.

The Trackly paper mentions: "Participants utilized the agency supportive aspects of Trackly by adapting trackers to their individual needs: in particular, they engaged in reflective thinking when defining trackers based on their individual self-care intentions and described the reuse and adaptation of trackers as an on-going learning process. They particularly valued being able to retrospectively color in trackers and intentionally engaged in and paused self-tracking in response to their changing priorities in everyday life."[4, p. 4]
Users reported a strong sense of ownership over their data, felt the app better reflected their identity and context, gained self-awareness and mindfulness about their condition, and overall felt more in control. [4]

Part of the conclusion states: "However, we identify experiences of agency as perceived benefits of customizable and pictorial self-tracking and exemplify how self-tracking tools could support the agentive capacities of people living with a complex chronic condition in documenting, understanding, and articulating personally meaningful aspects of their health and wellbeing. Our study demonstrates the importance of supporting people's subjective needs and creative capacities to foster mindful and personally meaningful experiences with their personal health and well-being data" [4, p. 10]. This supports the idea that customizable self-tracking tools can enhance a users' sense of control by allowing them to document and interpret their health in a personally meaningful way, allowing greater mindfulness and deeper engagement.

A market available app for Android and iOS that allows for greater customizable self-tracking is Chrono.me [9]. According to public reviews on Google Play one very satisfied user uses the app for tracking health metrics, such as weight, blood test results and medication intake, and mentions the apps adaptability to truly track whatever they need. Another satisfied user uses the app to track their health and habits. Another satisfied user uses the app to track their asthma. Another user mentions their satisfaction with being able to use that app to replace all of their other trackers.
Users generally complain about bad UX, bad UI, broken features and updates changing or destroying their existing content and workflows. Users also complain that the full feature set is only available behind a subscription, but are pleased that exporting data to CSV is available and free.

1.5 Self-tracking use-cases

Is self-tracking useful for the person doing so? Self-tracking may provide several benefits. This chapter only aims to provide a brief overview of the potential impact of self-tracking practices without analyzing these in depth to gain an understanding of what users may be looking for in a self-tracking app, what needs they have and what functionality they may be looking as well as what concepts may provide useful to incorporate into the self-tracking app, and what risks to consider and reduce.

1. Improved self-awareness and health management

By self-tracking an individual may gain a deeper understanding of their habits, symptoms and health condition [4]. This data may also be used for better interactions with health professionals [48].

2. Encouraging behavior change

Some studies show that self-tracking can increase motivation and engagement by making progress visible [16].

3. Psychological benefits and emotional awareness

Self-tracking can also positively impact mental health. Some users report improvements when tracking mood, stress levels, sleep patterns and doing reflecting practices [4, pp. 7–9]. These practices may also help in mindful self-reflection.

4. Data-driven decision making

By collecting data through self-tracking long-term individuals and healthcare providers can make better informed decisions. For example, self-tracking data has been used in research studies to analyze behavioral trends and personalize healthcare recommendations [48].

5. Social and support system

Self-tracking apps can integrate social aspects. These can be used to create social communities. This social aspects can also enhance accountability and motivation [16].

Overall, self-tracking can be a powerful tool for health, behavior change, and self-improvement.

Self-tracking also has some potential risks and concerns to consider.

Self-tracking can lead to stress or obsession. There are privacy risks that have to be considered when collecting large amounts of personal data. Self-tracking may also be overwhelming and collected data can be misinterpreted.

The design of a self-tracking app has to consider these risks and try to mitigate these downsides.

With the background of these insights people with particular background may profit greatly from self-tracking solutions.

This includes people dealing with health conditions.
Individuals suffering from depression may greatly benefit from mindful reflection, monitoring mood fluctuations and aspects relevant in their daily life for better understanding and management of their condition. Regular tracking can assist in identifying triggers and evaluating the effectiveness of different treatments.

Individuals with ADHD can benefit from self-tracking by organizing tasks, setting reminders, monitoring focus periods, improving time management and productivity.

People suffering from food intolerance and digestion problems benefit from self-tracking by gaining a better understanding of which foods they tolerate and how to deal with their condition in their daily life.

2 Prototype development

As part of this thesis a self-tracking app that allows for greater customization has been created. This app has been built into an MVP, minimum viable product, state which will be used for usability testing.

2.1 Current app state

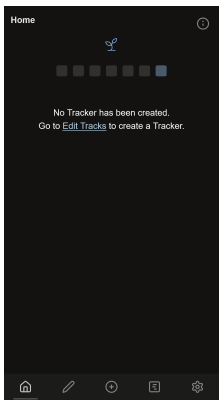
The MVP developed for this thesis includes the following features:

1. Data input
2. Data insights
3. Define trackers

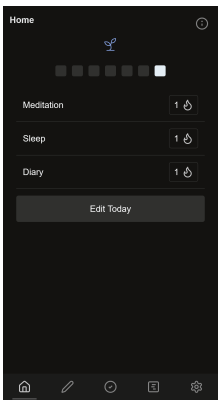
The app's layout is split into five main views:

1. **Home** - Contains the most relevant elements and references to the other tabs.
2. **Edit** - The view to adjust and create trackers.
3. **Entry** - The view to enter data as defined by the created trackers.
4. **Insights** - Visualization options for data that has been entered.
5. **Settings** - Settings to adjust aspects of the app.

The home view provides a simplified overview of information found on the respective other views.



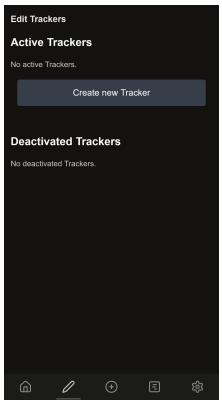
(a) Home view without trackers



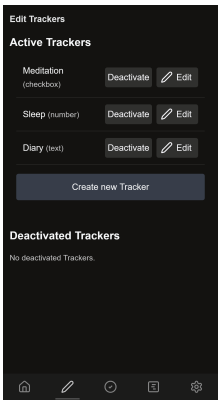
(b) Home view with trackers

Figure 2.1: App screenshots of home view

The edit view is used to edit trackers, such as activating and deactivating them, as well as creating new trackers.



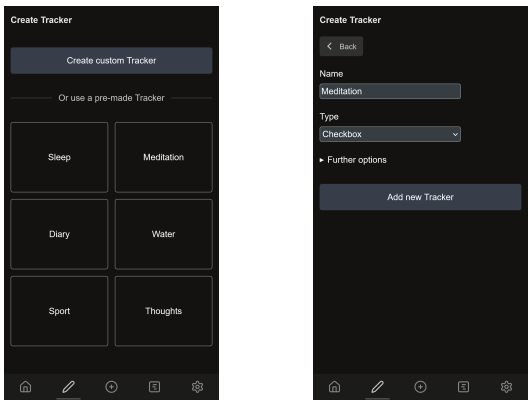
(a) Edit view without trackers



(b) Edit view with trackers

Figure 2.2: App screenshots of edit view

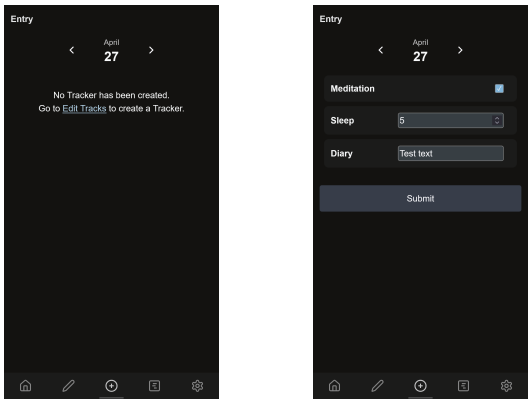
The process of creating a new tracker starts with a screen that allows the user to select whether they want to create a fully customizable tracker or if they want to use a preset, selecting a preset enters all the relevant values in the respective fields, currently this consists of name and data type.



(a) First screen (b) Seconds screen

Figure 2.3: App screenshots of tracker creation process

The entry view is used to enter information. It presents one input element per active tracker.



(a) Entry view without active trackers (b) Entry view with active trackers

Figure 2.4: App screenshot of entry view

The info view is used to display the information that has been entered, the entries based on each tracker. It currently consists of three tabs, one that displays information in a list approach, one graph chart, and one that just states that its functionality has not been implemented yet.

(a) List tab without any entries

(b) List tab with one day of entries

(c) Graph tab with one tracker selected

Figure 2.5: App screenshots of info view

The settings view is mostly empty, it consists only of a bright red button with the text "Delete All" that deletes all trackers and all entries.

So the MVP is capable of creating trackers for text, number and checkbox values, which translate to String, number and a boolean values in JavaScript respectively. Future plans are to add more data types for trackers, such as longer text, number range, item collection, photo, audio, and more.
These trackers can be deleted individually. These trackers can also be activated and deactivated, only activated trackers show up on the home and entry screen.

The entry screen can save the user's inputs. The trackers and daily entries are saved in the browsers LocalStorage. The content of the saved entries can be displayed in a list, separated by the respective days. The entry view displays already entered information, e.g. when navigating through past days the information for that day, if it exists, is already displayed in that field. The info view can also display numbers in a graph chart view. Boolean values can also be displayed there, but they are translated as either 0 or 1. The element on the home view displays an overview on whether an entry has been done for each day of the current week.

The apps interface changes depending on whether trackers have been created, whether an entry has been done and if a entry today has already been done. These changes affect the color and text of buttons, as well as additional text explaining the user what to do, and helping them understand the interface.

2.2 Technology stack

This section outlines the technologies used to build the current MVP.

2.2.1 Current technology stack

This app now consists of the following technology stack (tech-stack):

- SvelteKit [1]
- CapacitorJS [2]
- Tauri [3]

SvelteKit is a web framework used to develop web applications using Svelte. Svelte is a frontend framework for building interactive web interfaces. SvelteKit is similar to Next.js or Nuxt.js, as it provides routing, server-side rendering, and static site generation. Svelte is similar to React, Vue, Angular or Solid.

A web framework can also be used to build a native-like mobile app that runs offline. Tools such as Capacitor wrap the web code in a native shell that is downloadable from app stores.

This web technology can be used to build an app for multiple devices, even though a website, web app, and mobile native app may seem very different from each other. There are also Progressive Web Apps (PWA), which are still less familiar to many end-users. A PWA is an app that is built using web platform technologies but provides an experience similar to that of a platform-specific app. PWAs run on multiple platforms from a single codebase, can be installed on the device and operate while offline, run in the background, and integrate with the device and with other installed apps [43]. The main problem with PWAs is that they can not access as many device features as native apps on certain devices and that they do not have the additional discoverability that apps on the Google's Play Store and Apple's App Store have. Since a PWA is the website version of an app which is then added to the device through the browser they will be grouped into one category in the following.

The main difference between web apps and mobile native apps is that web apps are accessed online through the browser and that native apps are installed on the device instead. Native apps have better access to on-device functionality. Native apps can be optimised to be more performant, but the general performance benefit is negligible

[1] Svelte website: `https://svelte.dev/`
[2] Capacitor website: `https://capacitorjs.com/`
[3] Tauri website: `https://v2.tauri.app/`

for the majority of apps. A great drawback of "truly" native apps is the additional cost to development, they require more resources to be developed and they require constant updates, they have to be actively maintained since updates to the operating system mean that changes to the app itself also have to be made.
This is what makes CapacitorJS and Tauri such valuable tools.

CapacitorJS (Capacitor) is a tool that turns a web app into a native app. The project describes itself as a cross-platform runtime for web applications [8]. With Capacitor it is possible to create an Android and iOS version from one codebase. Mobile native functionality, core Native APIs, can be accessed through plugin integrations.

Tauri is very similar to Capacitor, but it also allows building to Windows, macOS, and Linux. Its capabilities of building to mobile platforms in a stable build of Tauri was introduced at the end of 2024. [51]

This means that it is possible to be available on the web, PWA, Android, iOS, Windows, macOS, and Linux just from one codebase without strong limitations to performance or functionality, and with lower development costs.

SvelteKit was selected for multiple reasons. SvelteKit is highly performant. It is based on HTML, CSS and JS and makes its syntax similar to these underlying technologies. This shortened the development time for this project. SvelteKit has a lot of built-in functionality, this decreases the amount of external dependencies to third party providers that may need to get added otherwise, which reduces risks.

2.2.2 Past technology stack iterations

This selection of the current tech-stack was based on previous iterations of different approaches.

The first iteration used React Native. React Native also allows one codebase to be built to multiple different platforms, including Android, iOS, Windows, macOS and the web [46]. Development with React Native was very slow, React Native's syntax differs from standard React for the web. React Native apps also need ongoing maintenance. Frequent OS updates require native-module updates, increasing long-term effort. The combination of these reasons led to a change in which technologies to use.

The second iteration used Ionic React with CapacitorJS. CapacitorJS has already been described above. Ionic is a UI toolkit to make web apps look like native applications. Ionic and CapacitorJS are run by the same company. React is a framework like Svelte. Progress with this tech-stack was faster, but working with Ionic constrained the layout to Ionic components. Ionic also only integrates well with React, Vue and Angular. By instead doing the styling with just CSS, which gives more freedom and better

performance, one would not be tied to one of these frameworks. Thus by not using Ionic a framework which fits better into this case could be selected.

With this background the current MVP now uses SvelteKit with CapacitorJS.

2.3 Future technical possibilities

This section outlines data-input and data-analysis possibilities that are feasible today or plausible in the near future.

Since self-tracking, and self-tracking apps, revolve around the data that they collect, this chapter is split into possibilities for data input and data analysis.

2.3.1 Data input possibilities now and future

There is already a large market of self-tracking devices, and a large percentage of the population in high-income countries already uses them. Very common are step trackers on our mobile devices that keep track of how many steps we take in a day. Then there are trackers for health conditions, such as blood sugar monitors. Tools to track sleep metrics such as sleep quality and length, and heart rate have become popular as well. These functions are integrated into many smartwatches or finger rings [37, 3, 15, 14].

For example the Oura ring can measure the following [37]:

- Sleep length and estimated quality
- Heart rate
- Step count
- Body temperature
- Estimated stress levels
- Women's fertility based on period cycles calculated through temperature

The majority of the options available are proprietary and limited to a specific product ecosystem or platform.

As gadgets are getting smaller, more capable and more efficient their abilities in what they can track also improve.

Emerging options include sweat analysis and flexible ultrasound imaging. Wearable sensors may be able to analyze sweat to monitor biomarkers such as glucose, vitamins and drugs [27]. Wearable bioadhesive stretchable ultrasound imaging patch for real-time imaging of internal organs is another example of such technology. [59].

2.3.2 Data analysis now and future

With current advancements in artificial intelligence (AI) and large language models (LLM) personal tracked data can already be sufficiently analyzed [24].

Artificial intelligence can provide enhanced data analysis, identify patterns, notice health trends, and provide relevant user feedback in a large variety of possible use-cases. AI can provide valuable feedback to the topic of interest of the user, whether this may be health, habit, or journaling related.

Data recorded through self-tracking also has potential to be integrated much better into healthcare services. A doctor may be able to make better decisions when data on their patient is available to them.

3 Market analysis and opportunity

3.1 Market size

Self-tracking apps includes a broad range of digital tools that enable individuals to monitor and improve aspects of their life.

The global market for self-tracking apps has expanded rapidly over the past decade, due to rising health awareness, smartphone adoption and consumer interest in personal analytics.

The market of digital fitness and well-being is experiencing growth and is project to reach US$65.73 billion revenue globally in 2025 and US$83.43 billion by 2029 [13]. These numbers include fitness trackers and health and wellness coaching, apps for health and fitness as well as gadgets for tracking count towards this number. Gadgets included are smartwatches, wristwear, smart scales, fitness apps, nutrition apps, meditation apps and mindfulness apps [13].

User penetration for the digital fitness and well-being space will be around 16,22% in 2025 and 18,64 by 2029 [13]. Major brand shares in this space are Fitbit with 13%, Apple with 7%, Garmin with 7%, Samsung with 3%, Huawai with 2%, MyFitnessPal with 2% and Withings with 2% [13].

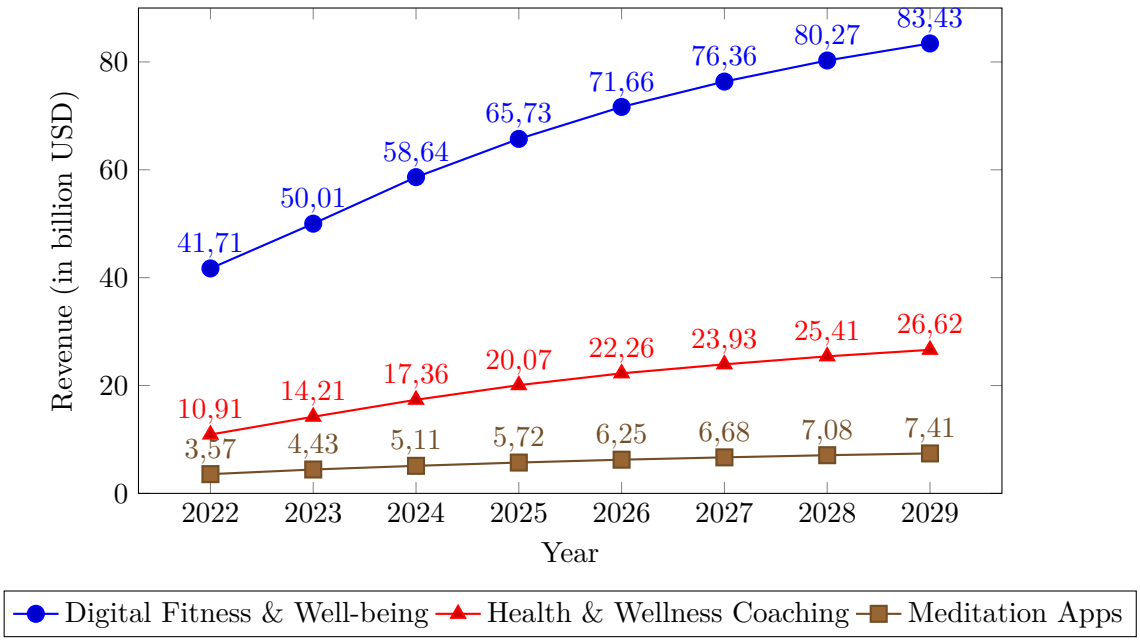


Figure 3.1: Financial forecasts for digital fitness and well-being, health and wellness coaching, and meditation apps markets [13, 22, 31].

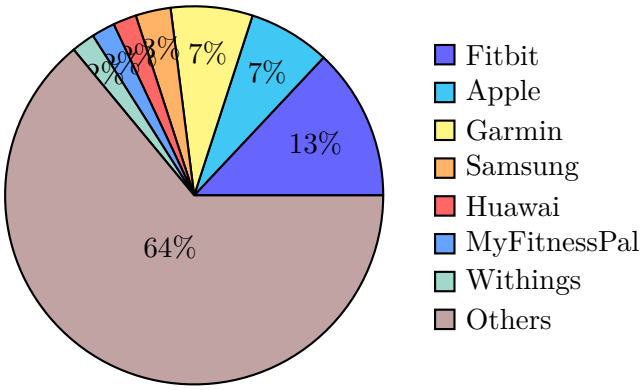


Figure 3.2: Market share of major brands in the digital fitness and well-being market [13].

Health and wellness coaching is experiencing growth as well. This market is expected to reach US$20.07 billion in 2025 and US$26.62 billion by 2029. These numbers include fitness apps used for detecting, tracking, analyzing and sharing vitality and

fitness achievements [22]. These numbers also include diet apps used for the purpose of improving eating patterns, health and nutrition choice. The last segment included are meditation and mindfulness apps, this includes apps used for the purpose of staying calm, controlling emotions and concentrating on present moments [22].
User penetration is expected to be at 14.35% in 2025 and 15.79% by 2029 [22].
Major brands in this space are Strava with 11%, Fitbit with 7%, Calm with 5%, MyFitnessPal with 5%, FitCoach with 5% and Muscle Booster Workout Planner with 4%.

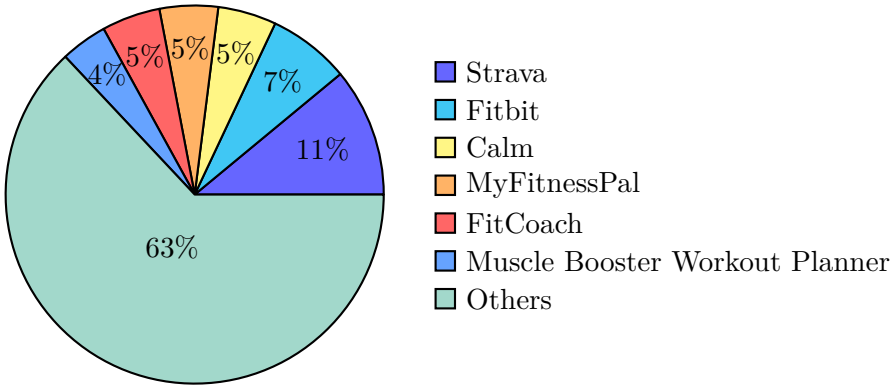


Figure 3.3: Market share of major brands in the health and wellness coaching market [22].

Meditation apps, a subsegment of health and wellness coaching, is also showing strong market growth. The Meditation Apps market includes apps designed to help users keep calm, manage emotions during stressful periods, and concentrate on the present moment. Revenue in this market is projected to reach US$5.72 billion globally in 2025 and US$7.41 billion by 2029, reflecting an annual growth rate (CAGR 2025-2029) of 6.69% [31].
Major brands dominating this space are Calm with 31%, Headspace with 12%, Daily Yoga with 9%, Meditopia with 7%, Fabulous with 3%, and Hallow with 2%. The remaining 36% of the market is shared among other smaller players [31].

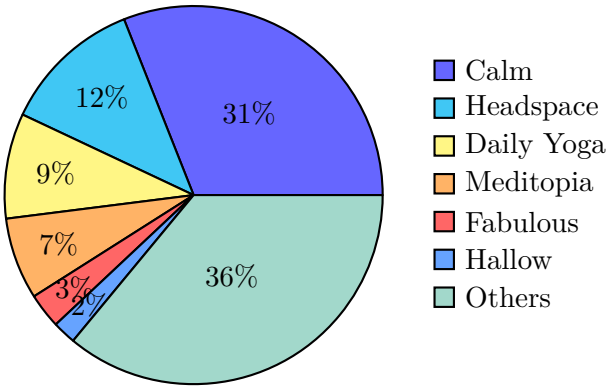


Figure 3.4: Market share of major brands in the meditation apps market [31].

Mobile apps and fitness tracking devices are widely used across different age groups globally. As of 2016, approximately 33% of the global population used such technologies to track their health. Usage varies significantly by age group, with individuals aged 30-39 showing the highest adoption rate at 41%, closely followed by those aged 20-29 at 39%. Usage tends to decrease with age, as 28% of individuals aged 40-49, 25% aged 50-59, and only 21% of those aged 60 and older utilized health-tracking apps or devices. Younger users, specifically those aged 15-19, showed relatively moderate adoption at 26% [38].

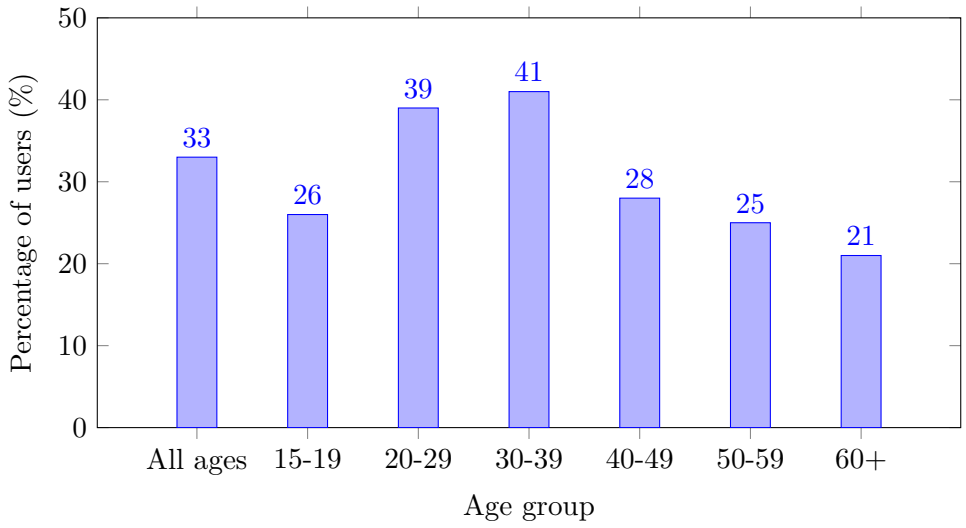


Figure 3.5: Global percentage of population using mobile apps or fitness tracking devices to track health by age group in 2016 [38].

Analyzing the popularity of individual apps within the health and meditation space provides further insights into consumer preferences. In January 2025 the app with the highest global download volume was SleepSounds, reaching approximately 1.16 million downloads. Following closely behind was Calm, with around 888 thousand downloads. Other leading apps included RISE Sleep Tracker with approximately 621 thousand downloads, ShutEye with about 611 thousand downloads, and BetterSleep with around 520 thousand downloads [53].

Revenue figures paint a somewhat different picture of consumer willingness to pay and perceived value among health and meditation apps. Calm led significantly, generating approximately US$7.94 million in revenue globally in January 2025 alone, highlighting its strong market presence and effective monetization strategies. Headspace and Pokémon Sleep were close competitors, each earning roughly US$3.96 million in the same period. Insight Timer-Meditate & Sleep and Sleep Cycle trailed behind, earning approximately US$1.90 million and US$1.80 million, respectively [54].

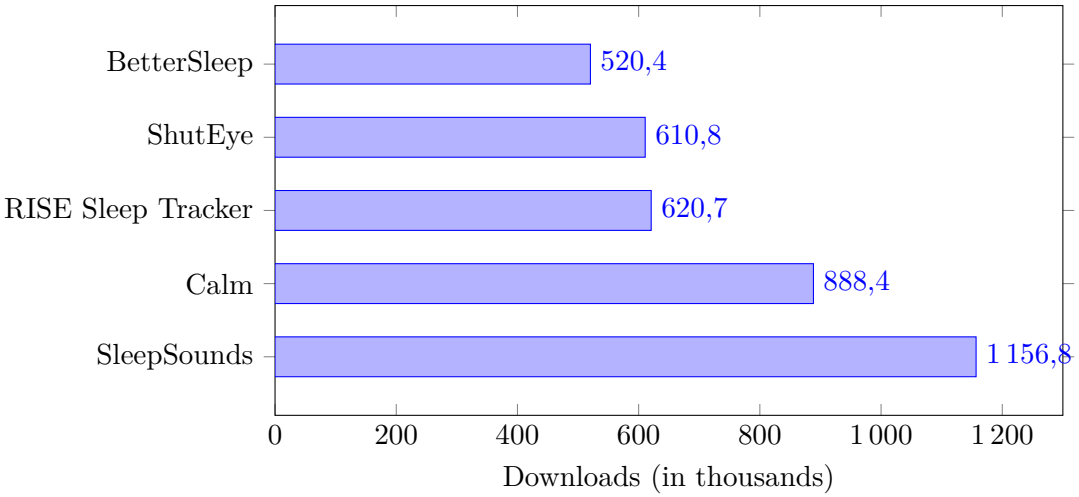


Figure 3.6: Leading health and meditation apps worldwide by downloads in January 2025 [53].

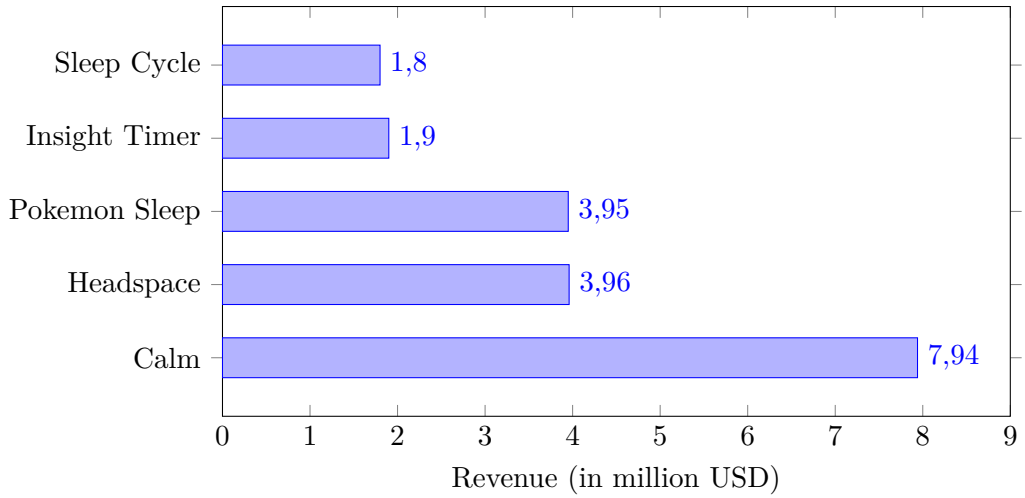


Figure 3.7: Leading health and meditation apps worldwide by revenue in January 2025 [54].

3.2 Retention strategies in existing apps

Beyond finding market fit, how do current apps keep users? This chapter looks at how apps in general keep users on their platform.

Apps currently available on the market deploy a variety of strategies to keep users using their app. Common retention strategies include:

- Gamification
- Personalization and customization
- Push Notifications
- Seamless onboarding
- Regular updates
- A / B testing

To make users return to the app and keep user engagement high gamification elements such as daily rewards and daily streaks are commonly used. Daily usage of the app such as keeping daily streaks can be frequently found in apps. Another common approach which is also found in self-tracking apps is visualizing the users data in some form and make it look more visually appealing when the app has been used daily, further motivating users to return to the app daily.

Personalization and customization elements are also used by apps to keep the user. They optimize the app towards the specific user, making the app more relevant or engaging. Personalization can be frequently found in online shops that give recommendations based on products bought or looked at. Also popular social media platforms use complex algorithms to display content to user is likely to enjoy. Customization has been described in further detail in past chapters.

Push notifications can make users return to the app. They may remind the users of the apps value and prompt re-engagement. Excessive notifications however lead to user fatigue and uninstalls. E-mail notifications also exist and have similar characteristics to push notifications.

A user-friendly onboarding helps new users understand the app. The first interactions with the app itself are of major importance, during that time the user decides whether using the app is worth for them or not. An effective seamless onboarding introduces the user to the apps main features and benefits, and conveys the value the app can bring to their life.

Regular updates show that an app is actively maintained. Users value that an app is alive, as that means other people also deem it worth to use in the current age and that they can trust to use the app to exist now and in the future. Updates can also bring valuable features and improvements. This can make the user experience for existing users better, but it can also make previous users return or convince users of different competing apps to join. A risk of continues updates are bloat and creating discomfort in existing users. Additional features may slow down the app, making the experience worse for users that did not need the new functionality added. Additional features may also make the existing UI worse and storage requirements higher, or introduce new requirements regarding what software and hardware is needed. More features may also result in more complexity, making the onboarding for new users worse, leading to fewer users joining. Changes may also break existing workflows users have, or force changes on them which did they not want, making their experience worse as well.

A / B testing is a strategy where a change is only rolled out to a certain part of users, results in the different versions is then compared. The change that leads to more desired results according to the data collected is then rolled out to all users. Usually this is done in an iterative process and requires enough available resources to do so.

3.3 Current apps available

The market of available self-tracking apps is large. The barrier to creating a simple habit tracker or journaling app is low while at the same time it is a field of interest to many people, resulting in many available options.

Tools for self-tracking includes more than just apps, but this thesis will not further analyse these.

By understanding and analyzing the currently available self-tracking apps and solutions on the market it is possible to identify a potential market gap and gain insights on how these are designed.
This comparison focuses on each app's use case focus, degree of customization especially in regards in flexibility on what can be tracked and how that information can be entered and monetization approach.
Analyzing these aspects helped identify common limitations, such as restricted customization options or rigid tracking structures, which may hinder long-term engagement or fail to support diverse user needs. The process and insights gained from this analysis are useful not only to reveal a potential market gap for a more flexible tracking app, but also to inform the design of such a solution.

As a minimum requirement the app had to be available as a website or on Android. The app also needs to have the option for self-tracking in some form, this includes habit trackers, mood trackers, journaling and diary apps, note taking applications, fitness trackers and similar.

As part of this thesis the following 29 apps have been analyzed:

1. ATracker: Time management tracker
2. Bearable: Symptom, mood and health focused self-tracker
3. Beaverhabit: Daily habit tracker
4. Bluck - Challenge Tracker: Daily habit tracker
5. Chrono.me: Customizable self-tracking
6. Daily actions tracker: Daily habit tracker
7. DailyBean: Journal, image journal and mood tracker
8. Daylio: Daily mood, habits, journal and image journal tracker
9. Daytum: Track countable things
10. Fabulous: Habit building and wellness coaching app

11. Google Fit: Automatic fitness, activity and health data tracker
12. Google Sheets: Manual and flexible tracking of anything
13. Habitica: Gamified habit and task tracker
14. Habitify: Habit tracker
15. HabitKit: Simple daily habit tracker
16. HabitNow: Task and habit manager with scheduling
17. HabitTrove: Habit tracker focused on countable things
18. Health Tracker: Track health-related metrics
19. Lifesum: Food journal and nutrition focused tracking
20. LogSeq: Journal and note-taking app
21. Loop Habit Tracker: Customizable daily habit tracker
22. Momentum: Habit tracker for countable things
23. Mood Tracker: UNHINGED: Journal and mood tracker
24. Moodpress: Journal and mood tracker
25. Motivated: Habit Tracker: Habit tracker
26. Notion: Note-taking app with advanced table features
27. Obsidian: Note-taking app that supports community plugins and custom scripts
28. RoutineFlow: Schedule and time-based habit tracking app focused on routines
29. WellLog: Customizable habit tracker

A greater focus in this analysis was the general value and features they bring to the user, to what extent they allow customization and the user to track what they want to, and which monetization approach they utilize.

Focus area is the use-case the app can be used for, what use-case the app focuses on. Customization level refers to the degree of which customization can be done, with a greater focus on what can be tracked and how this information can be entered.
Monetization model represents the monetization model used by the app, how the app finances itself. Free means the app can be used fully for free. Freemium means that part of the app can be used for free, but that this version is time-limited or feature-limited. A paid full version is sold as a subscription or one-time payment.

Table 3.1: Overview of selected self-tracking apps by focus, customization, and monetization

App Name	Focus Area	Customization Level	Monetization Model
ATracker	Time Management	Low	Freemium
Bearable	Mood, Health Symptoms	Moderate	Freemium, subscription
Beaverhabit	Habits	Low	Free with optional donation
Bluck - Challenge Tracker	Habits	Low	Free
Chrono.me	Custom Self-Tracking	High	Freemium
Daily actions tracker	Habits	Low	Free
DailyBean	Mood, Journaling	Low	Freemium
Daylio	Mood, Journaling	Low	Freemium
Daytum	Quantified Self (Counts)	Low	Free
Fabulous	Habits, Coaching	Moderate	Subscription
Google Fit	Fitness, Health	Low	Free
Google Sheets	Custom Tracking	High	Free
Habitica	Habits, Productivity	Moderate	Free with in-app purchases
Habitify	Habits	Moderate	Freemium, subscription or one-time purchase
HabitKit	Habits	Low	Freemium, subscription or one-time purchase
HabitNow	Habits, Productivity	Low-Moderate	Freemium (Pro version)
HabitTrove	Habits (Countable)	Low	Free
Health Tracker	Health Metrics	Moderate	Ads, Freemium
Lifesum	Nutrition, Food Tracking	Moderate	Subscription

Continued on next page

App Name	Focus Area	Customization Level	Monetization Model
LogSeq	Journaling, Notes	High	Free (open source)
Loop Habit Tracker	Habits	Moderate	Free
Momentum	Habits (Countable)	Low	Free
Mood Tracker: UNHINGED	Mood, Journaling	Low	Freemium
Moodpress	Mood, Journaling	Low	Free with ads
Motivated: Habit Tracker	Habits	Low	Free
Notion	Notes, Tables, Custom Tracking	High	Freemium
Obsidian	Notes, Custom Tracking	High	Free / Freemium
RoutineFlow	Habits, Routines	Moderate	Freemium
WellLog	Wellness, Daily Logs	Moderate	Freemium, one-time purchase, ads

Habit tracker apps are usually limited in what can be tracked. The simplest form of them allow to just track if a certain thing has been done or not, so a yes or false statement. Often this is found in addition for the option to count a certain thing, e.g. if a certain activity has been done at least a certain amount of times, e.g. 3 or whatever the user choose.
The app HabitKit allows exactly these kind of trackers. But where it allows more customization is for defining streak goals. The user can select if the streak counter should increment if the activity has been done a certain amount of times within a day, week or month.
WellLog is one of the habit tracking apps with a higher degree of customization as it not only allows for a true or false statement and a measurable count, but also text entries.

Entering information is possible efficiently and fast for majority of habit tracking apps.

Health apps such as Bearable allow users to track various health related metrics such as sleep quality, symptoms, energy levels and more, allowing some customization. The overall experience is somewhat guided, and customization needs to fit into the

approach already laid out within the app, limiting the user in doing things their way. The app also limits local features behind a subscription. It gives options for analyzing the entered data, even providing insights into corelation between two.
Apps such as Google Fit instead focus on automated self-tracking and integrate into a larger ecosystem of physical devices such as smartwatches that can automatically track certain health metrics such as heart rate and steps taken within a day.

Journaling and health tracking apps are closely related, often overlapping in features they provide.
Less related are apps focused on note-taking as well, such as Obsidian, Notion or Logseq. Logseq or Obsidian give the built-in option for creating daily notes, making text based journaling straightforward. But do they not offer built in analytics of content entered. Since Obsidian and Logseq use markdown files it would be possible for users to create their own scripts to analyze this content, but this requires a high degree of technical skills.

Out of the 29 apps analyzed only 4 have a high degree of customization allow its users to be flexible in what they can track. Out of these 4 only 1 is tailored towards self-tracking explicitly. That app is Chrono.me.

Worth mentioning as well are Loop Habit Tracker, Habitify and Wellog as they all also allow for at least moderate customization and target similar customers.

3.4 The identified market opportunity

Although there are various habit trackers available, they are limited to what type of data can be entered daily. Further customizations, such as how the habit tracker may motivate the user, e.g. whether to display or hide goal progress or streaks based on different patterns, are commonly not provided.

While apps like Bearable offer a range of tracking modules and allow users to toggle which are active, their customization is limited to what the designers have pre-implemented. This restricts users with niche or evolving tracking needs.

Note-taking apps such as Notion or Obsidian, and spreadsheets options such as Google Sheets allow for great freedom in what can be entered, but are lacking in general UX and usability. Using such a tool for self-tracking is highly complex, maybe even requiring programming knowledge, and does not offer a seamless experience. Entering information daily is not fast or enjoyable. Data visualization is also not provided or requires deeper technical knowledge.

In contrast, apps such as Chrono.me, or previously mentioned research projects such as Trackly or OmniTrack, offer a more guided and seamless experience, while at the same time supporting user-defined trackers and input formats, offering a significantly higher degree of customization and perceived control.
But these apps are either not market available, or are lacking in general UX.

This suggest that a potential gap in the market may be a self-tracking app which offers greater customization than majority of existing solutions but with better usability than note-taking or spreadsheet tools for self-tracking. Insights suggest that such an app may aim for fair monetization, free of subscriptions for features that do not require ongoing costs, and a local first approach to be more appealing to users who value such flexibility and autonomy. The local-first approach may be especially valuable to users concerned with privacy and autonomy, due to many apps requiring the user to store their own sensitive data on the app's server, and not just their own system or server. Important as well can be the flexibility in which platforms can be used, by making the app available on operating systems used by the majority of desktop, laptop, tablet, and mobile devices users it is ensured that the user do not feel locked into a specific ecosystem.

3.5 Target customer

The target customer for such an app is someone looking to do to self-tracking, either through habit tracking, health logging or journaling and who wants a solution that can adapt to their specific needs, a tool that has higher flexibility but at the same time is more efficient and easier to use than fully custom solutions such as using a spreadsheet or note-taking app. It is likely that such an app is more appealing to users with at least moderate technical knowledge and a higher need for autonomy.

Persona A

- Name: Anna M.
- Age: 25
- Location: Berlin, Germany
- Occupation: UX Designer at a tech company
- Tech proficiency: High
- Goals:

  - Understand patterns in sleep, mood, productivity and fitness
  - Continuously improve health and habits based on self-identified metrics
  - Maintain a sense of ownership over her personal data
- Frustrations:
  - Feels limited by rigid tracking structures
  - Dislikes having to jump between different apps for health, journaling, and habits
  - Concerned about data privacy and being forced to use cloud-based storage
- Needs and behaviors:
  - Wants to define her own trackers (e.g. sleep quality, emotional state after yoga)
  - Familiar with note-taking tools such as Notion or spreadsheet solutions
  - Prefers apps that do not overwhelm with options upfront but allow deeper customization over time
  - Occasionally shares insights with her therapist or doctor

Persona B

- Name: Jonas L.
- Age: 33
- Location: Hamburg, Germany
- Occupation: Freelancer (copywriter and blogger)
- Tech proficiency: Moderate
- Goals:
  - Better manage his chronic condition (Crohn's disease) by identifying health and lifestyle patterns
  - Understand the connections between flare-ups, stress levels, food intake and diet choices, abdominal pain, mood changes and overall well-being
  - Understand effects of new medication
- Frustrations:

  - Existing apps do not let him track the specific metrics he finds meaningful
  - Feels boxed in by apps with rigid templates or forced tracking categories
  - Actively avoids apps that require subscriptions for basic functionality
  - Finds journaling apps lack structure, and structured apps lack flexibility
  - Is overwhelmed by spreadsheet-based solutions that require formulas or scripting
- Needs and behaviors:
  - Needs the flexibility to combine structured tracking with daily observations or symptom notes
  - Prefers intuitive, distraction-free apps that respect his time and attention (e.g. ad-free)
  - Occasionally wants to use part of his logs to discuss findings with his doctor or to reflect on personal progress

The personas Anna M. and Jonas L. represent two relevant types of users that may benefit from a self-tracking app with greater customization. Anna is a tech-savvy user interested in understanding and improving her well-being through flexible and privacy-respecting tools. She reflects the needs of users who are looking for a unified solution instead of switching between multiple apps. Jonas brings in the perspective of someone managing a chronic health condition. He highlights the need for more control over what is tracked and how, without being overwhelmed by complex tools or forced into rigid templates. These two personas help illustrate the user needs and motivations that guided design decisions during the development of the prototype.

4 Usability

Usability is a subset of user experience.

The following will first define usability and explore concepts and definitions of usability. Then methods to evaluate usability will be explored.

4.1 What is usability?

Usability is defined the following on Wikipedia: "Usability can be described as the capacity of a system to provide a condition for its users to perform the tasks safely, effectively, and efficiently while enjoying the experience." [55]

The International Organization for Standardization's ISO 9241-11 defines usability as: "The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use." [55]

Jakob Nielsen refers to usability as a quality attribute that asses how easy to use user interfaces are [57].

These definitions communicate the same concept of usability being part of a system that describes the users experience and relation to aspects that effect how well the user is able to interact with the system given a specific goal.

What these components of usability are can differ depending on the framework used to evaluate usability.

The System Usability Scale (SUS) method by John Brooke breaks usability down into three components [7, 50]:

1. **Effectiveness**: Can users complete their tasks and achieve their goal?
2. **Efficiency**: How many resources are expended to achieve these goals?
3. **Satisfaction**: How comfortable is it to achieve these goals?

Jakob Nielsen breaks down usability into five components [57]:

1. **Learnability**: How easy is it for users to accomplish basic tasks the first time they encounter the design?

2. **Efficiency**: Once users have learned the design, how quickly can they perform tasks?
3. **Satisfaction**: How pleasant is it to use the design?
4. **Memorability**: When users return to system after a period of not using it, how easily can they reestablish proficiency?
5. **Errors**: How many errors do users make, how severe are these errors, and how easily can they recover from the errors?

These breakdowns overlap in multiple areas. "Satisfaction" is present in both breakdowns and conveys the same concept. Jakob Nielsen's approach adds the dimension of a users learning growth to his breakdown but both focus on how well a user is able to achieve their goals within a system.

The key aspects of usability are also well expressed by looking at the 10 Usability Heuristics defined by the Nielson Norman Group. They show well what makes a interface usable in practice [1]. These ten heuristic rules are general rules and not specific guidelines. They will be further explained in the following chapter on evaluating usability.

4.2 Evaluating usability

There are multiple approaches for evaluating usability. Both quantitative and qualitative research approaches can help to evaluate usability. These include:

- Usability testing / user observations
- Standardized usability questionnaires
- Heuristic evaluation / expert reviews
- User interviews and qualitative feedback

4.2.1 Usability testing and user observations

User testing and user observations involves watching representative users attempt real tasks with the app. This approach helps in discovering problems in the design, discovering opportunities to improve the design and understand behavior and preferences of the target user [56].

Representative users are users who are representative of people who would use the app in a real-world scenario, this includes factors such as their knowledge in the specific

domain, their pre-existing exposure to the product, and demographic factors. These representative users should be the target audience of the product [56].

The tasks given during user testing should be realistic tasks, tasks a user in a real-world scenario may have. These tasks should be relevant in regards to the value proposition of the product. Tasks may be specific or open-ended.

During the observation time the test facilitators should limit the interaction with the test participant and not provide additional information that a real-world user might not have or skew their opinion towards a specific outcome to prevent bias. In general the facilitator gives instruction and guides the session, they may also ask follow up questions to the participant. The participant should be encouraged to give feedback and share their thoughts, even to think out loud.

Usability testing can be either qualitative or quantitative, but qualitative is more common [44].
Qualitative usability testing focuses on insights and findings on how people use a product.
Quantitative usability testing focuses on collecting metrics that describe the user experience, common metrics include task success, time on task and error rate.

The Nielsen Norman Group recommends to test with 5 users [60].

4.2.2 Standardized usability questionnaires

Standardized usability questionnaires are a set of questions used to evaluate usability of a system. By using standardized tests it is possible to compare different systems.

There are a variety of user experience questionnaires, including questionnaires with different foci and domain specialization [19].

Commonly questionnaires to measure usability include:

1. The System Usability Scale (SUS) by John Brooke [7].
2. The User Experience Questionnaire (UEQ) [47].

Then there are also more domain and situation specific user experience and usability questionnaires such as:

1. The Mobile Application Rating Scale (MARS) for evaluating the quality of mobile health apps [52].
2. The mHealth App Usability Questionnaire (MAUQ) to evaluate the usability of mobile health apps [61].

3. The Single Ease Question (SEQ), used in usability tests at the end of every task in a test session [5].

A valid approach to evaluating usability is combining user testing with a questionnaire. The Nielsen Norman Group mentions that it can also make sense to combine post-task and post-test questionnaires [5].

The SUS questionnaire uses a Likert-type scale which measures agreement with different statements. The Likert scales are vulnerable to acquiescence bias and social-desirability bias [45].

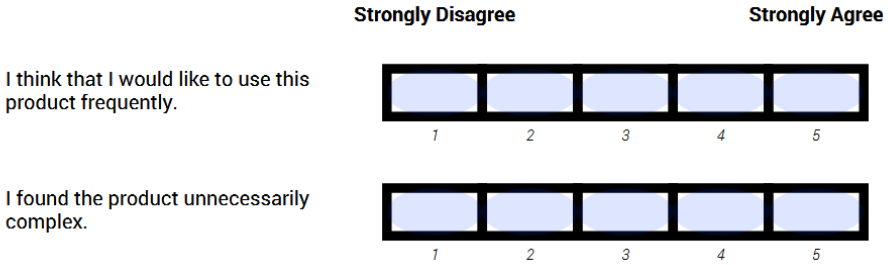


Figure 4.1: Example of the first two questions found in the SUS questionnaire

There exist multiple limitations with these questionnaire approaches. They may be unreliable as they can only contain self-reported data. They measure a subjective user perception, not an objective performance. They inform about a user's satisfaction level, but do not provide further information on explicit weaknesses or strengths of the experience. Users may also have different interpretation of what a rating such as "5 out of 7" may mean. Questionnaire also require more participants than user testing for meaningful insights [5].

4.2.3 Heuristic evaluation

Heuristic evaluation is a method for finding usability problems in a design by applying known principles of usability design [23].

The 10 Heuristic Usability principles as defined by the Nielson Norman Group are [1]:

1. **Visibility of system status**: The state the system is currently in should be communicated clearly to the user.
2. **Match between the system and the real world**: The design should speak in the same language as the user, using concepts and conventions the user is used to and that feel natural to them.

3. **User control and freedom**: Users frequently perform actions by mistake; they need a simple way to undo and leave the unwanted action.
4. **Consistency and standards**: Follow platform and industry conventions to reduce cognitive load. Users are expected to have expectations formed by previous systems.
5. **Error prevention**: The design should prevent problems from occurring, or check for them and present users with a confirmation option before they commit to an action.
6. **Recognition rather than recall**: Make elements, actions, and options visible, allowing users to recognize information in the interface and receive context-specific help.
7. **Flexibility and efficiency of use**: Shortcuts, hidden from inexperienced users, may speed up interaction for expert users. Common examples include keyboard shortcuts, customization, and personalization options.
8. **Aesthetic and minimalist design**: Interfaces should not contain irrelevant information. Visual elements should support the user's primary goals.
9. **Help users recognize, diagnose, and recover from errors**: Error messages should be expressed in plain language, indicate the problem, and suggest a solution.
10. **Help and documentation**: A system should not require additional explanation. However, when documentation is necessary, it should be relevant to the user's context, easy to search, and provide concrete steps.

As mentioned previously, these are not clear guidelines but instead general rules that apply to a wide range of user interfaces. There may exist rare exceptions to some of these principles.

To undergo a heuristic evaluation the Nielson Norman Group recommends a team of three to five people who evaluate the design independently and then share their evaluations with each other. They should walk walk through the application with a real-world user's task and simulate the process of going through the app with the eye's of a real-world user, noting down when the principles of heuristics are broken. Then consolidate with the other people who did the same and come to conclusion on which problems they agree or disagree on. which issues are the most problematic, where further user research may be valuable and which next steps to take [23].

4.2.4 User interviews

A user interview is a UX research method often used in the discovery phase of a product or service.

In a user interview a research asks the participants questions about a topic, listens to their responses and asks follow up questions [58].

User interviews provide deep insight into who a product's target customers are. User interviews provides information on the user's overall experience, pain point during the experience, how users think or feel about a topic, what users care about, their mental model and users' motivations.

Before conducting a user interview the researcher should define specific research goals or research questions. The interview should use bias free open-ended questions. User interview may also be combined with other research methods [58].

User interviews may be negatively effected by people recalling events incorrectly or missing relevant details. Social-desirability bias may also negatively effect information obtained.

4.3 Impact of customization to usability

As the potential for customization increases and the flexibility becomes higher usability may decrease. This design principle is known as the "Flexibility-usability tradeoff" [18]. Additional customization can increase the complexity of the interface which can make an app harder to learn or navigate, especially for new users. This trade-off was also noted in research project's such as for the OmniTrack app which stated: "Designing flexible tools naturally involves tradeoff between flexibility and usability. In designing the user interface, we decided to cut off several functions and detailed configuration options to keep the interface easy to use for lay individuals (G1) while making the authoring process feasible on a mobile device (G4)." [26, p. 28]

An app rich in customization may suffer in learnability. New users can feel lost if too many choices or novel concepts are shown to them.

At the same time greater customization can bring great benefits to usability as it can allow the user to optimize the app to their needs and also make the app more powerful.

This negative effect on learnability and increased complexity for newer users can be improved by providing simple workflows and smart default so that new users can ignore the added complexity added through great customization until they need it.

Well-implemented customization can greatly enhance user satisfaction and long-term usability as the app can adapt to the specific user's needs and changes in needs over a longer period of time. By providing this additional flexibility when the user needs it user satisfaction and perceived usefulness is higher [26]. Advanced users or users with niche needs are less frustrated as they can adjust the app to work for them.

Studies also suggest that a lack of flexibility can be a reason for users to abandon self-tracking tools. Research showed that people often quit using self-tracking apps when the app does not track what the user wants or does not fit into their workflow [28, p. 17].

This shows value in the earlier mentioned trade-off, greater customization and thus flexibility can enhance usability especially for tools used long-term and improve user loyalty, even it it introduces additional complexity up front.

Techniques to balance these factors may include wizards [1] or templates for common setups, and providing sensible defaults so that casual users do not need to configure their setup. The concept of progressive disclosure is also relevant here. Nielsen defines progressive disclosure as a technique that defers advanced or rarely used features to a second screen [42, 41]. This concept is commonly found in many applications, application that use buttons with labels such as "Show more" are making use of the progressive disclosure technique.

Greater customization affects usability, it can increase complexity and hinder usability, but with design approaches to mitigate this it may be able increase the app's utility and user satisfaction by better accommodating individual needs. To test this hypothesis and gain a finer understanding of the elements relevant user testing with the developed self-tracking app will be done.

These hypothesis will be further evaluated in a user testing.

[1] https://en.wikipedia.org/wiki/Wizard_(software)

5 Product-market fit

A product can only be successful if it finds a market in which it can succeed.

5.1 What is market fit

Market fit, also known as "Product-Market Fit", refers to the alignment between a product and the needs of its target market [40]. Product-market fit occurs when a product meets real customer needs and does so better than alternatives in the market [35, pp. 3–4].

The Product-Market Fit Pyramid is a framework by Dan Olsen used to achieve product-market fit. It decomposes product-market into five key components [35, pp. 4–5].

The underlying "Target Customer" and "Underserved Needs" layers belong to the market. The market consists of all existing and potential customers that share a particular customer need or set of related needs [35, p. 5]. The market size can be described through total numbers of customers or total revenue by these customers. To find product-market fit it can be worthwhile to analyse the market share of each competing product within that market segment. New markets can also emerge through product innovation.

The most bottom layer of the Product-Market Fit pyramid are the target customers. The second layer focuses on the needs of these target customers. These needs are what is relevant for finding product-market fit [35, pp. 5–6].
A product should create value for customers while at the same time finding an opportunity in the market. Providing a value to a customer who is already perfectly satisfied with existing solutions in that market would not provide product-market fit. This is described within the second layer of the product-market fit pyramid labeled "Underserved Needs".

Don Olsen describes a product as a "specific offering intended to meet a set of customer needs" [35, p. 6]. Thus the concept of product-market fit applies to services as well as product. With modern developments the lines between product and services have

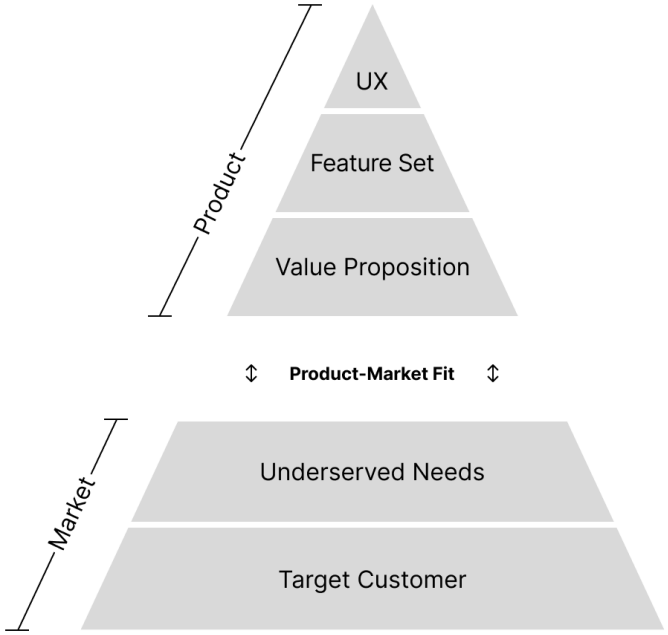


Figure 5.1: Product-market fit pyramid as described by Dan Olsen

become more blended as well, making it difficult to clearly put modern offerings into one category or the other.

UX is the top layer of the pyramid. Olsen describes it as "The real-world manifestation of software products that customers see and use is the user experience (UX)," [35, p. 6].

The functionality a product provides consists of multiple features which are built to meet a customer need. Together they form a product's feature set. Feature set is the fourth layer of the product-market fit pyramid [35, pp. 6–7].

Identifying the specific customer needs that the product should address is necessary to decide which relevant features to build. This should also include defining how the product differs from existing offerings in the market. These sets of needs that the product aims to meet form the value proposition.

Together the three layers of value proposition, feature set and UX define the product.

To achieve product-market fit a product should meet underserved needs better than the competition of the same market.

5.2 Business model canvas

A business model describes the rationale of how an organization creates, delivers and captures value [36]. The business model canvas consists of 9 building blocks:

1. Customer Segments
2. Value Proposition
3. Channels
4. Customer Relationships
5. Revenue Streams
6. Key Resources
7. Key Activities
8. Key Partnerships
9. Cost Structure

Customer segments define the different groups of people a company aims to serve [36, pp. 19–20]. Here customers are grouped into segments based on their common needs, behavior or other attributes.

The value proposition describes the bundle of products that cater to the requirements of a specific customer segment [36, pp. 22–25].

Channels describe how a company communicates with and reach its customer segments to deliver the value proposition [36, pp. 26–27].

Customer relationships describes the types of relationships the company aims to establish the specific customer segments [36, pp. 28–29].

Revenue Streams describe for what values each customer segment is paying for and which pricing mechanism is used [36, pp. 30–33].

Key resources describes the most important assets required for the company to operate. Key resources can be physical, financial, intellectual or human [36, pp. 34–35].

Key activities describe the major activities a company engages in to operate. Key activities may include software development, supply chain management, business consulting and similar [36, pp. 36–37].

Key partnerships describe the network of suppliers and partners needed for business operation [36, pp. 38–39].

Cost structure describes the costs incurred to operate the business [36, pp. 40–41].

What could a business model canvas for a business that sells the beforementioned greater self-tracking app described earlier in addition with the insights gained from the usability tests and market comparison look like?

5.2.1 Customer Segments

The target customers may be split into multiple segments based on demographic, psychographic, behavioral and needs-based aspects [35, pp. 26–27].

The product of a self-tracking app that allows for greater customization can divide its customer segments into the following:

1. **Health and wellness enthusiasts**: Users focused on tracking fitness, nutrition, sleep, and other health-related metrics to improve their well-being.
2. **Chronic condition patients**: Individuals managing a chronic illness such as diabetes, multiple sclerosis, irritable bowel syndrome, heart conditions, or similar.
3. **Mental health well-being**: Those looking to monitor mood, stress, or cognitive health parameters, as well as options for text or photo journaling to aid self-reflection.
4. **Productivity and habit builders**: Users focused on personal development, goal tracking, and habit formation.
5. **Quantified self and data enthusiasts**: Users who track personal data for insights and optimization.
6. **Researchers and experimenters**: People conducting personal health or lifestyle experiments, requiring a flexible tool to log and analyze their findings.

These customer segments can be further differentiated based on technical proficiency. Some users may have a clear idea of the exact metrics they want to track, while others prefer a straightforward guided experience. Additionally, privacy consciousness and

a desire for autonomy, including independence from corporate control, are potential further differentiations.

5.2.2 Value Proposition

For all:

- Insight on data entered
- Data privacy
- Multiple devices, flexible and fast way to enter

Core value proposition applicable to all user segments:

- Custom tracking and insight: Users can track what matters to them and have full control over what kind of trackers they select to use, with tools available to analyse the data they have entered.
- Data privacy and ownership: Users can keep their data local only and use open file formats such as CSV and Markdown.
- Multiple devices and fast entry: Users can use the device of their preference, change the device they want to use, and always have the option to quickly enter the information they find relevant.

Health and wellness enthusiasts:

- Gain an overview of personal health trends to improve fitness, diet, nutrition, and sleep.
- Use data-driven insights to prevent illness and optimize well-being.

Chronic condition patients:

- Better understand condition triggers and trends for more informed self-care.
- Improve communication with healthcare providers by logging symptoms and treatment responses.
- Track medications, lifestyle adjustments, and external influences to optimize management strategies.

Mental health well-being:

- Monitor mood, stress, and emotional triggers to identify patterns and coping strategies.

- Adaptive journaling options to reflect and better deal with certain events and mental states.
- Gain insights on improving mental resilience and adapting behavioral strategies.

Productivity and habit builders:

- Track habits, routines, and performance.
- Review progress over time, identifying blocks and ways to optimize workflow and personal growth.
- Maintain motivation to further grow towards desired goals.

Quantified self and data enthusiasts:

- Fast options to enter relevant data.
- Advanced visualization and trend analysis without reliance on third-party solutions.
- Support for third-party integrations.

Researchers and experimenters:

- Flexible options to track parameters of their choosing.
- Export options to CSV for analysis in external tools.

5.2.3 Channels

Channels for this endeavor include digital spaces such as social media and websites, including a main landing page and community forums to reach customers belonging into one or multiple of the before-mentioned customer segments.

The app will be distributed through app stores such as Google Play and the Apple App Store.

Online communities that would appreciate this greater customization more should be users with greater technical knowledge such as communities like HackerNews or Reddit communities for web development or self-hosting may also be worthwhile channels. To reach a broader audience traditional social media spaces such as Facebook, Instagram and Twitter-likes should also prove useful.

The main place to reference would be the landing page of the product, as that can best convey all the benefits of the app and provide further introduction for the user. It can also provide links to all supported platforms and offer additional content such

as a e-mail newsletter to create closer customer relations.
The website may also include or reference a community forum utilizing a tool such as Discourse.

5.2.4 Customer Relationships

The customer relation a product like this wants to form can range from self-service to community and co-creation. A user may choose to not interact with the company or other users and just use the provided app without additional interaction.
Providing community aspects should also increase traffic, provide better experiences to users as they can help each other and provide development feedback, but also provide enjoyable experiences and a improved image of the company and associated product. A future plan is to allow for community made styling, plugins or other content., This may include aspects such as allowing users to write their own custom CSS to style the app, which they then may also share with other users. Plugins written by users may also be used to introduce additional functionality within the app. These aspects would fall under a co-creation relation.

5.2.5 Revenue Streams

The app will not lock offline features relevant for usability, including exporting of data into different formats, behind a paywall. The users should be able to use the full spectrum of offline features available to them and may use their own server for functionality that requires a server, such as back-ups and synchronisation between multiple devices. This should lead to a better user experience and more satisfied user. This should also allow the product to reach a larger audience and build strong trust.
A straightforward way to synchronise between multiple devices will be sold as a subscription. Styling may be monetized to some degree, but it shall not limit a non-paying users needs accessibility, e.g. color contrasts, font sizes, light- and dark mode or font needs.
Styling options beyond these, such as different avatars or special stylized styles, may be sold as a one-time purchase.

Additional revenue may be generated through sponsors, both by users and companies.

5.2.6 Key Resources

Key resources to operate this company include human resources for technical development and marketing.

Additional resources include the codebase of the web itself and user research insights.

5.2.7 Key Activities

Key activities include development of the app and marketing efforts.

Under development falls costs for maintaining, updating and implementing new features on the app itself.

Marketing efforts include community engagement, social media content creation, marketing strategy planning, promotion, and further communication work.

5.2.8 Key Partnerships

Key partnerships include technical providers for the tech-stack of the app. Additional partnerships exist with companies relevant for distribution of the app, such as Google who operate the Google Play Store and Apple who operate the Apple App Store.

Potential further partners may include health and wellness professionals.

5.2.9 Cost Structure

Costs incurred will include costs for development and marketing.

Additional costs will be incurred for hosting and distribution.

5.3 Impact of customization on market fit

What is the impact of greater customization on market fit?

Greater customization can significantly influence the adoption and engagement of a self-tracking app by broadening its appeal and making it more adaptable to individual user needs.

Customization may expand the addressable market. When users are limited to a predefined set of trackers or metrics, the app can only serve a narrow group of people.

By allowing users to define what they track, the app becomes useful to a wider range of users with different goals, habits, or contexts. This flexibility increases the chance that potential users will find the app suitable for their specific needs.

Greater customization may also increase user retention and reduce churn, as user are able to adjust the app to their needs, including when these needs change over-time, making the app still usable for them.

This aspect of greater customization is also important for competitive differentiation, major players in this space do not allow for greater customization. Apps made for health logging or habit tracking limit the users in what they can track about themselves, making the app not a viable option for all the use cases a user might need it for. Apps that allow for full control of what to self-track, such as note-taking or spreadsheet tools, do not provide a fast, intuitive and enjoyable user experience.

From a strategic standpoint, customization offers competitive differentiation. Major players in this market enforce fixed structures, which limits what users can track. On the other hand, tools that allow for full customization, like spreadsheets or note-taking apps, may offer flexibility but often at the cost of usability, intuitiveness, or enjoyment. A well-designed self-tracking app that combines flexibility with ease of use could therefore stand out.

Customization can create stronger user engagement and community growth. When users are able to shape the app to fit their own workflows or personalities, they are more likely to form a connection with it, share how they use it, and even inspire others by showcasing their setups and progress.

However, increased flexibility comes with trade-offs. One key risk is a weaker focus on specific user groups, making it harder to communicate the app's value clearly or to optimize the experience for particular personas. The product might become too generic, which can dilute its appeal and effectiveness for anyone.
Another risk of introducing more flexibility is making the app more complex, complex system generally target more niche user groups as more complexity adds more friction.

To gain insights into these aspects and to find confirmation or disproof of the previous statements additional questions during the user testing will be asked. These questions will be asked to find out if a market opportunity may exist, if there is a user need for such a solution and if the MVP provides, or suggests to provide these values.

6 Usability and market-fit evaluation

User testing will be done to evaluate the usability of the app. Additionally some question to gain further insights into market fit will be included.

6.1 Approach

Usability testing will be done with the developed MVP that has been described in an earlier chapter.

This user testing will be done to evaluate the usability of the MVP to get further insights into the overall usability as well as which specific sections might have great or poor usability. In addition to user observation the SUS questionnaire will be used. To make usability comparable to other systems and possible future iterations of the MVP the SUS questionnaire was selected as this is what it excels at [7]. A slightly adjusted version of the original SUS questionnaire will be used. This adjusted SUS questionnaire replaces the word "cumbersome" with "awkward", improving comprehension for the participants [49].

The SUS questionnaire uses the following then questions which are all rated on a scale of one to five, one being strongly disagree and five being strongly agree:

1. I think that I would like to use this product frequently.
2. I found the product unnecessarily complex.
3. I thought this product was easy to use.
4. I think that I would need the support of a technical person to be able to use this product.
5. I found the various functions in this product were well integrated.
6. I thought there was too much inconsistency in this product.
7. I would imagine that most people would learn to use this product very quickly.
8. I found this product very awkward to use.

9. I felt very confident using this product.
10. I needed to learn a lot of things before I could get going with this product.

In addition to observing the user and conducting the SUS questionnaire the participants will be asked questions relevant for market fit. This approach will give insight into how the selected approaches to keep usability high while introducing flexibility works for a possible real-world user.

This user testing will include the following tasks:

1. Create any tracker.
2. Create a tracker to track how many hours you sleep.
3. Enter data for today.
4. Enter data for yesterday.
5. Look at the data you have entered.
6. Disable one of your trackers.
7. Delete everything.

These tasks will make the participant use all fundamental elements of the MVP and make them engage with all views that have been included as well.

Before starting the testing the participants will be informed why this test will be done, as well as how their data will be used, and if they agree to these conditions. A two sentence introduction of what this app is, that it is a app for self-tracking with the differentiator of being more customizable, will also be verbally provided. Testing will be done on a provided Android phone using the Firefox web browser. The user will be observed trying to complete each task. After all tasks are completed the SUS questionnaire is held. Then three further questions will be asked. In addition to testing with users to evaluate usability questions to gain insights into market fit will also be included.

The following question will be asked:

1. How likely are you to download the app in the future for your personal interest? Rate it on a scale of one to five, with one being not at all and five being very highly.
2. If above 1, for what would you use the app?
3. Are you currently using any similar app?

a) How satisfied are you with that app?

b) What are problems you have with that app?

These questions start with the intent to adopt, which is at the core of market fit, then digs into users need fit and specific use cases, and then compares solutions with current habits to identify market gaps and differentiators.

6.2 Results

A total of 6 participants did the user testing. The people that participated were aged between 19 to 28. Majority of participants were male and residents in Germany. The app interface, as well as the questionnaire were in English, while verbal communication was done in German for German participants. None of the participants felt uncomfortable in their English ability and did not feel limited for this user testing in any way by their English language ability.

The results from the SUS questionnaire include varied results. The SUS results look the following:

Question	**P-1**	**P-2**	**P-3**	**P-4**	**P-5**	**P-6**
1. Use frequently	3	2	2	1	5	5
2. Unnecessarily complex	1	4	2	2	1	2
3. Easy to use	4	4	4	4	4	4
4. Need technical support	1	1	1	1	1	1
5. Functions well integrated	5	3	3	4	4	5
6. Too much inconsistency	1	4	2	2	1	1
7. Learn quickly	3	5	4	4	5	4
8. Awkward to use	2	1	1	1	1	1
9. Confidence using product	3	4	2	4	4	3
10. Need to learn a lot	2	1	4	1	1	2
SUS Score	77.5	67.5	62.5	75	92.5	85

Table 6.1: SUS questionnaire results with calculated SUS scores

Each participant's SUS score was calculated the following, as is intended for this questionnaire. For positively worded questions, question 1, 3, 5, 7, and 9, one was subtracted from the response, and for negatively worded questions, question 2, 4, 6, 8, and 10, the response was subtracted from five. These adjusted values were summed and multiplied by 2.5. This method results in a final SUS score between 0 and 100, where higher scores indicate better perceived usability.

The average SUS score was 76.67.

The results from the three questions for market fit look the following.

For question one, how likely the participants is to download this app in the future for the personal use, the results are varied as well. With two participants answering highly likely, score of five, one participants answering with a four, two participants answered with two and one answered with one, not at all. This concludes an scoring of 3.17.

Question two results represents potential use-cases they are interested in for such an app. Potential use cases included dream diary, building meditation habit, habit tracking for exercises for back health, medicine intake and text entries on health problem, general exercising habit, walk habit as well as length amount, reading habit, amount of work done on different jobs and protein intake.

Question three, which similar apps users may already be using, included apps with very different foci. Participants reported using apps such as Caliber for exercise plans and a workout history, BeReal for photo journaling, a whiteboard at home, so no technical app solution, or Apple Notes. One participant reported not using any app or tool for self-tracking.

Participant	**Likelihood (1-5)**
P-1	4
P-2	5
P-3	2
P-4	1
P-5	5
P-6	2

Table 6.2: Likelihood of future app usage (1: Not at all; 5: Very highly)

Participant 1 (P-1)

- SUS Score: 77.5
- Future use likelihood: 4
- Potential use cases: Dream diary, meditation habit
- Similar apps:

Participant 1 expressed being content with their current app for fitness related self-tracking, Caliber [1]. They showed interest in a self-tracking solution for writing a dream journal and building a meditation habit.

Participant 1 found the split between the different views, home view, edit view, entry view, info view and settings view, a bit confusing in the beginning. In the beginning the shortly struggled to understand the difference between the home, edit and entry view. They wanted to click elements on the home view to navigate to these. They expressed interest in the future possibility to do so. They expressed concern that if they were to use this app for text entries that they would be unable to find them again, to discover these entries again. They showed slight confusion in what the icons represent, and understood generally what they represented but thought that they could use some slight adjustments to be clearer in what they mean.
They ran into the problem during task 4 that in the number field they created that is was not possible to enter a decimal number, currently this field only accepts whole numbers without any additional characters, resulting in confusion on why their value was not being saved.

Participant 2 (P-2)

- SUS Score: 67.5
- Future use likelihood: 5
- Potential use cases: Back exercises habit
- Similar apps: None

Participant 2 thought of a specific use-case they would have for such a self-tracking app during the questions for market fit, which resulted in potential difference in what the SUS scoring would be if it had been repeated. This participant is curious about self-tracking, but not highly interested, they are content with currently not self-tracking aspects of their life. They did not have previous experience with self-tracking solutions. They did express great interest in a habit tracking app to remind and motivate them to do exercises for their back and lower back, as they have medical problems with it that they could improve by doing such exercises daily at home, as recommended by their doctor.

Participant 2 also showed early confusion with the general layout of the different views. They did not understand what activating and deactivating trackers actually

[1] Caliber website: https://caliberstrong.com/ Caliber Google Play page: https://play.google.com/store/apps/details?id=com.caliberfitness.app

did, even though they were able to find the option quickly. They were confused about the missing confirmation upon pressing the "Delete All" button on the settings view as part of the last task. They expressed a missing understanding of what the top middle element on the home view represented. One aspect that negatively effected the SUS score, but could have been prevented by better conducting the user testing, was that the participant did not notice the bottom navigation bar, and first thought that it belonged to the system of the device, not the app itself, since the user was not used to the operating system the test was done on.

Participant 3 (P-3)

- SUS Score: 62.5
- Future use likelihood: 3
- Potential use cases: Medicine intake and general notes on health condition
- Similar apps: None

Participant 3 also realized towards the end of the testing a potential use-case for them, which would have improved the previous scoring if they had thought of that earlier. During the user testing they did not understand the potential value the app could provide to them, although their general interest and problem is a great fit for what the app is offering.
Participant 3 is interested in self-tracking regarding their medical condition, a medical problem with their thyroid. They tried multiple self-tracking apps, but were frustrated by trying to find an app that fits their criteria, as well as the time required to testing out multiple apps to even see if a specific app can fulfill these criteria. That experience has left them unsatisfied, they were unable to find an app to tracking their medicine intake and taking health related notes in a way that they would like. They were looking for an app customizable enough to track the things that they find relevant in a way that fits their approach. They also expressed privacy concerns with majority of apps they tried, that were not privacy respecting enough, such as storing the user's data online, thus they would prefer an app where they would be in control of their own data.

Participant did not fully understand the concept of the app during the testing period. Showed early confusion about what different views represent.

Participant 4 (P-4)

- SUS Score: 75
- Future use likelihood: 1
- Potential use cases: None
- Similar apps: BeReal

Is not interested in self-tracking aspects of their life. Is satisfied with using BeReal as a photo journal for their life, and enjoys the social aspects of that app [2].

Participant 4 displayed usability problems not seen with previous participants. They often and repeatedly tapped elements that were not clickable and had no action when pressed. They also had problems with inputting data for the previous day. They expressed the need for a better UI element to select dates further in the past. The current MVP would require a user to click a button seven times to go one week back. The participant also would have liked explanations for what the possible data types of the different trackers are. User also stated a preference for a more colorful interface, also would appreciate more animations.

Participant 5 (P-5)

- SUS Score: 92.5
- Future use likelihood: 5
- Potential use cases: Exercise habit, walks habit and duration, reading habit, working times for job and entrepreneurial endeavour
- Similar apps: Whiteboard (no app)

Is open to using app for self-tracking, sees potential better workflow than using their whiteboard. Has not encountered an app that fits their criteria, is highly interested in an app that would be as customizable as a whiteboard would be. Wants tool for self-tracking aspects that can lead to a positive behaviour change. Is also interested in a tool for tracking length of time spent working, both for their job and their entrepreneurial endeavour.

[2] BeReal website: https://bereal.com/ BeReal Google Play page: https://play.google.com/store/apps/details?id=com.bereal.ft

Participant 5 quickly gained an understanding of what the different views represent after a initial exploration phase. They expressed an interest in the option to give different trackers icons or emojis.

Participant 6 (P-6)

- SUS Score: 85
- Future use likelihood: 2
- Potential use cases: Protein intake
- Similar apps: Apple Notes

Satisfied with functionality found in Apple Notes app. Just want to measure if they reach their protein intake goal within a day. Deletes entry at the end of the day, does not need a history of past inputs, just for a single day.

Participant 5 showed confusion about which view to use to create a tracker, as they used the the link shown on the empty entry page that leads to the edit page on the first task which then vanished as a tracker had been created, so they kept navigating to the entry page unable the repeat the process from the first task. They were still able to complete the task without any help, but they did take longer than other participants. This participant also tried to add a unit to their number, and after being unable to use the button to enter the data they correctly saw that that was causing the problem. Participant 5 also expressed a interest in larger text fields, a overall better UI for entering text, rather than just the current small text field that the MVP offered. Overall they were satisfied with their user experience.

6.3 Result interpretation

All participants were able to complete all tasks the the need for additional help or input. Despite initial confusion most participants understood the layout of the app, what the five different views at the bottom navigation bar represent. Almost all participants understood how the app works and what they could use it for. Some participants showed interest in using the app for their personal life.

An average SUS score of 76.67 indicates good usability. The lowest score included 62.5, the highest was 92.5. Participants with a higher need for self-tracking generally gave higher usability scores. Participants with lower need for self-tracking rated the app lower in usability.

The results from the user testing show that the overall usability is good but that there is also room for improvement. Participants showed an understanding of the app's functions and how to complete their tasks, highlighting that the underlying design works for offering the app's value, a more customizable self-tracking experience.

Elements that would further improve usability include better introducing the different views, possible through improving the icons representing them, adding labels to them, including a introductory message that quickly explains what each view is used for. Additionally, making more elements clickable and adding a logical function to these may further improve usability. Offering optional explanations in form of a pop-up controlled through an "i" icon next to that specific element may also positively contribute to usability, e.g. explanations on what different value types for trackers mean.

Participants expressed specific practical use-cases which ranged from journal and diary related aspects, to health and habit. Some participants also stated a strong appreciation for a solution that combines these aspects into one interface. The identified gap was further confirmed by participants, who either explicitly stated that they were unable to find an app that accommodates their needs and that they want better customization, or expressed this through their potential use-cases that they have.

These findings support the hypothesis that well-designed customization can coexist with good usability. Greater customization does not have to significantly reduce usability. The findings suggest a real market opportunity exist for the described product.

7 Discussion

This final section combines the insights gained and focuses on the research question stated at the beginning of the thesis.

How does greater customization effect usability and market fit in a self-tracking app?

7.1 Overall results

The effects of greater customization on usability are complex. The user testing showed that greater customization improves usability for users who have clear self-tracking needs. Greater customization in a self-tracking app has a positive effect on effectiveness and satisfaction. But as demonstrated during the usability testing, efficiency issues appeared early on, as the users had to learn and understand the systems laid out by the app. The overall effect on usability may still be positive overall in this case, considering the initial complexity is later overcome by the user having a system that better fits into their specific needs.

From a usability perspective the prototype's performance was encouraging, as the app scored an average SUS score of 76.67, indicating a good level of usability. Test participants found interest in the prototype and imagined various different use-case, indicating that such a flexible system is in their interest.

Qualitative research also showed that there is interest in a customizable self-tracking app. The user needs for such a tool exist, and participants showed that the design of the app may be able to achieve that.

7.2 Implications for app development

Insights gained and results from the user testing highlight multiple parts in how usability can be improved and which direction to take the app further into.

What aspects would a future variant of this app include? Insights gained from the user testing and competitor analysis helped shape these decisions.

As previously mentioned, elements to improve usability may include better introducing the main navigation elements the the function behind the five main views. This could be achieved through labels, an introductory element such as a pop-up, and improving the icons representing these views. Additionally further optional explanatory elements should be added.

The home view should better indicate its functionality and offer better functions as a home view or dashboard that combines insights from all other views. It should also include more ways to showcase entered data. The top middle element should also better indicate the information it is displaying, e.g. by going into more detail by tapping different parts of it. Generally more elements should be interactable.

On the entry page is element to select a different day is lacking in functionality, tapping it should bring up a calendar that would allow the user to more efficiently enter their desired day.

More functionality for viewing and comparing is also needed to turn the current MVP into an app that can exist as a competitive real-world product. Entered information should be searchable. Ways to filter and generally ways to discover older information should be integrated.

Further possibilities for what information and values trackers can track should be added. Important for this aspects is to keep the balance between simplicity and customization, to continue offering a simpler experience for users who do not need the additional complexity added through deep customization. This can be further achieved by providing sensible defaults and pre-sets or templates.

7.3 Limitations of study

While this study achieved valuable insights, several limitation must be acknowledged.

The sample size and diversity of the user testing was limited. User testing and the additional SUS questionnaire and market fit questions included a small sample of six participants. These individuals did not represent a wide demographic group.

The testing was done with a minimal viable product, a MVP, which, by nature, had limited polish and missing features.

Certain problems noted by participants, such as the inability to enter decimal numbers, or unclear icons, were artifacts of the prototype's incomplete state rather than fundamental flaws in the concept. It is possible that with a fully developed product users would encounter fewer issues and rate the experience even more positively. Some features not yet implemented, for example, more advanced analytics or reminders,

could introduce additional usability considerations when added. Therefore, the results pertain to the prototype in its current form, ongoing development and testing are needed to capture the impact of planned features and improvements.

This study did not include a control group or testing with an alternative version of the app with less customization. Thus it is not possible to definitively isolate the effect of "greater customization" by comparing it to a baseline minimal-customization scenario. The conclusions that customization was beneficial, or in some cases, a source of complexity, are based on user impressions of this single design and theoretical research.

The findings would be strengthened by A/B tests. For example, comparing a customizable app to a similar tracking app with fixed categories instead, to see differences in usability metrics and user preference. Without such a comparison, the results suggest correlation, users liked the app and it was customizable, but not a proven causation that the customization caused the higher usability or better fit. It is possible that other factors, such as overall design quality or the novelty of the prototype, influenced responses. Future research could explicitly test variations of customization levels to more directly answer the research question.

There is also the risk of bias in the feedback received.

This study did also not measure long-term outcomes and its impact on actual user change, e.g. do users actually build a meditation habit by using this app.

8 Conclusion

This thesis set out to answer the question: "Does greater customization improve usability and market fit?". The finding point to a qualified yes, a positive relation in this context, although the relationship is nuanced, customization was generally beneficial. The prototype built for this study achieved an average SUS score of 76.67, signalling good usability, and participants explicitly valued the added flexibility, an advantage also highlighted as a market opportunity in the competitive analysis.

Test users showed that they required time in the beginning to understand the system, the additional complexity added through greater customization suggest participants need more time to learn such a system. The evidence suggests that the negative impact can be contained though guided onboarding, optional depth, sensible defaults, and assistive explanations. Mitigating complexity until the user wants it may be crucial in keeping such a system highly useable.

Market analysis and interview feedback indicate a gap between current available more rigid self-tracking solutions and spreadsheet solutions. A privacy-first, locally stored product that avoids mandatory subscriptions and targets moderately technical users could therefore occupy a viable niche.

User testing, including the SUS questionnaire and further questions for market fit, was done with a limited sample of six people of a limited demographic and cultural background. No control version with minimal customization was tested, so causation cannot be proven conclusively. The MVP was feature constrained and not a market ready product. Future work may include running A/B tests and observing long-term engagement.

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