

TimeNoder: Turn Each Day Into Simple And Actionable Steps

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Abstract

Planning is an essential part of life. The submitted app for Android and iOS is trying to make the planning process more effective and easier to understand while being flexible. In the development were considered survey results and various time management techniques. The resulting app combines a todo list, calendar, and Pomodoro technique to satisfy multiple users' needs in one application. In addition, it helps with the organization of many tasks using clever sorting to help them prioritize naturally. Unfortunately, the application ended up useful for a small group of users because a huge part of asked people found it too complicated. But the reactions are positive for users with high demand for time organization.

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1. Introduction

Carl Newport, a highly productive professor, comes with the idea of deep work. It's the idea that your brain needs long periods of intense concentration with a very clear goal to enter high productivity levels [1].

Another fascinating figure is David Allen, who proposes storing all responsibilities in one place to live without constant stress: "Your mind is for having ideas, not for holding them [2]."

In high school, Barbara Oakley struggled with math but found tricks to overcome it. Later, she discovered that many leading figures did the same, so she shared her ideas in her book *A Mind For Numbers*. The main idea is understanding two different modes of thinking: diffused and focused [3].

When you intensely focus on a task, the body tries to solve problems rationally, following learned patterns and activating only, but intensely, a tiny brain area. After a moment, a student learning math can get stuck and be frustrated. Barbara proposes to him to take a break and let his mind wander.

This relaxation enables the brain to diffuse and activate other areas of the brain, enabling the student to make better connections with the new material. It can also give him the perspective needed to solve the problem that frustrated the student at first.

The last thing to mention is the Pomodoro technique.

It seems directly connected to Barbara Oakley's findings, as Pomodoro is about enabling high productivity by utilizing cleverly spread breaks. The standard is about working for 25 minutes and then taking 5 minutes break. After four working rounds, a user should take a more extended break of 15 minutes.

2. Solution

This section explains the concrete design the app uses and how its architecture is constructed.

2.1 Design

The app uses Material Components provided by the Flutter framework that follows good design practices and helps build a more user-friendly user interface.

The solution goes with the assumption that having organized duties that result in a clearly defined plan while cleverly utilizing breaks can enhance users' productivity and increase their life satisfaction. Therefore, the application combines todo-list, calendar, and Pomodoro technique to enable the user to achieve it:

2.1.1 Calendar or Timeline

The main focus was on a home page, where the user sees all the created events with events imported from device calendars. It helps to create a plan from previously created tasks. The app identifies free spaces in the user's plan and uses them as elements through

which the user can add events to a plan. A task can have sub-todos to enable the user to break down the problem freely. The user can also add notes to individual events to mark what he did. Adding notes and sub-todos is possible directly from the timeline [Figure 5](#).

Another important feature is support for recurring events. Later on, a user can confirm the event in the timeline [Figure 4](#). If the user wants to create a plan containing multiple events, he can enter a special environment that will suggest the most important tasks. Then he can choose the ones he wants to work on and flexibly manipulate them [Figure 8](#).

2.1.2 Todo List

The todo list enables a user to split his responsibilities into projects, tags, tasks, and blocks (activities). This way, the user can have all duties and ideas in one place stored and organized. In addition, the individual elements are sorted (or can be sorted) using a machine learning algorithm that scores them based on their attributes such as priority, deadline, related project, or labels, and, in that order, recommends them to the user. When we consider that the user, over time, can have many projects and tasks, while he needs to prioritize properly, this becomes very important [Figure 2](#) [Figure 3](#).

2.1.3 Timer

The timer is an independent function that enables tracking in Pomodoro style while showing actual events. It should help user take frequent breaks, thus increasing his productivity [Figure 6](#).

Other features are related to reflection and gamification. For example, using user data, the app shows users how their time splits between projects, blocks, tasks, and labels or their history individually. As is evident from the research, most people try planning applications, but most do not use them regularly, so the main point of these statistics is to motivate them to plan, as it should provide them with a sense of accomplishment [Figure 1](#) [Figure 7](#).

2.2 Architecture

The app uses Flutter to create a cross-platform app for iOS and Android with the option to easily add desktop support in the future while providing a high-speed app. The higher performance is vital as the app works with a lot of data and should not lag. In addition, it utilizes a plugin that enables it to convert events created in the app into calendar events or to show events from selected calendars in the app.

As mentioned before, Flutter provides its implementation of Material Components. But in the addition of making the user interface more understandable, it also helped speed up development as these components combine well and, with a few tweaks, are modified to the app's needs.

The app uses Appwrite, a self-hosted docker container mainly with REST, real-time authentication, and graphql support to backup and synchronize user data across devices. The app uses its self-hosted version. Appwrite was chosen because of its features, high quality, support, and philosophy that hides much of the complexity behind a friendly user interface.

Locally it uses Isar local database that synchronizes with the Appwrite server to load and upload users' data. It downloads updated users' data on the app start and then listens for changes using Appwrite's real-time functionality. This listening should give the user a quick update on a different device while not abusing the server.

The local database is a big part of the app as it uses a lot of queries, watches for changes, and needs to support full-text search to enable the user to have a search function. Isar was chosen thanks to its speed, high-quality API, and its support for full-text search.

3. Conclusions

In conclusion, the application should have been more straightforward, reducing features to make it easier to understand while focusing more on explaining things and seamless usage.

But simultaneously, users working on multiple projects with more experience in planning and a desire to create more detailed plans can benefit from the app.

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References

- [1] Cal Newport. *Deep work: Rules for focused success in a distracted world*. Hachette UK, 2016.
- [2] David Allen. *Getting things done: The art of stress-free productivity*. Penguin, 2015.
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