

A task management tool with PWA, React, and Firebase

Cheng Wang 1/25/2019

1. Background

1.1 The idea of the time management tool

My own way to manage the daily tasks and events is a combination of a todo list and dairy. I see it as the “logger” of life. But it's more flexible because the material is a plain-text page. It won't ask you to settle everything in detail like GTD or give specific start time and end time in the way you organize the events in the calendar. You can list the stuff you want to do in the morning or review the things you have done today in the evening. The only goal is to write down the things day by day. But the recording part itself is not enough, I want to review the time distribution every month and every year. So I hope I can categorize the events easily. The logger should have the ability to generate a monthly and year-to-end summary.

1.2 Why the software or tools on the market are not good enough for me

I have been using this kind of logger for years and I benefit from it a lot. But I am always not satisfied with software(tool) I'm using. There are a lot of fancy softwares on the market, like Things, OmniFocus, they are just too heavy. I tried some naive software like workflowy, notes on iOS, google sheet. They are simple and straightforward but sometimes I need to do additional work to make the categorization happen. Currently, I am using a google sheet. I will show an example on my presentation.

1.3 Main Functionalities

- The application I am going to develop is a tool where I can take record of my daily life by listing the work I've done. they all can be easily categorized.
- Every day it should show me a plain page with the current date on it so I can start typing in the things that really matter without worrying about the format.

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- I also want it to support exporting the contents to a google sheet file as a backup solution.
- I should be able to access the tool on any major platform.
- Last but not least, the design should be simple but elegant.

2.Tech

2.1 PWA

In order to make the application accessible on all the platforms, the web application is my choice. However, sometimes using a browser on the mobile device is not a good experience and it misses some key features like offline support and notification. I find PWA a very promising technology to enable a single website to act like a native app on all the platforms. Some companies, like Spotify, Twitter, Pinterest, have already transferred their websites to PWA and they look pretty cool on mobile devices. Google pushes PWA heavily and Microsoft seems to see PWA as a UWP replacement.

2.2 React

I select React as the front-end framework because I like the idea of the components and react is a popular one based on this idea. The components can change state in real time and won't affect other components on the same page so it can work perfectly with Firebase. I want to put pages and category pickers on the same page and they can interact with each other in real time, components seems a good fit in this application.

2.3 Firebase

I choose Firebase due to several reasons. First, it's a Google service so I'd like to have a try. Second, it's easy to connect and use. In this application, my final goal is to develop a web application that can be really used by people and I want to focus on the PWA and website design. Firebase can make the backend work a little bit easier(hopefully), including authentication and hosting. Also, the firebase can interact with user's Google account as I know, so it may expose the API to google sheet which makes it possible to back up the content as I mentioned in the first part.