

OpenOrganizer Project Proposal

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1. Abstract

With the ever-increasing complexity of our day-to-day lives, everyone finds themselves looking for a way to keep events and to-dos organized. Whether this is setting reminders and alarms or simply taking notes, it is a necessity for remembering key information. In this fast-paced digital age there are many choices, however they can become intertwined in bloated systems that come with many caveats that an average user may dislike.

The solution is OpenOrganizer, an open-source application that can simplify this process into a trustworthy package. The goal is to create a user-friendly interface while simultaneously building a powerful tool that can replace most current options through easy setup, intuitive design, and the user's choice to utilize high-performance cloud syncing.

The decision to give the user control over their data is critical to this project, as it is well-known how insecure user data is when in the hands of many of the world's largest companies. While some users care very little about their security, many find it violating for their data, especially private notes and reminders, to be sold to the highest bidder. With OpenOrganizer, users are empowered to make the decision to back up their data to a large provider, or to even run their own server.

Over the next few months, this project will undergo development through a series of specified milestones. These milestones will set a predefined path of expected features and deliverables, as well as give an overall plan of which details need to be prioritized.

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2. Copy of Team Contract

View completed and signed team contract [here](#).

3. Introduction and Motivation For The Project

Oftentimes, when a service is free, you are the product itself. It is no secret that data collection is big business for targeted advertising, consumer trend analysis, and now AI model training; and users are increasingly concerned about it. In 2019, a Pew Research Center survey concluded that “Americans report being concerned about the way their data is being used by companies (79%)” (Auxier et al., p. 1). Many currently available calendar and task organization applications, such as Microsoft Outlook calendar and Google calendar, also face feature bloat, such as intrusive AI integration and excessive email notifications, as a result of being part of an ecosystem with many interconnected services.

These pain points leave a gap in the market for a privacy focused, standalone, and easy to use alternative that places the priority on user control. OpenOrganizer intends to fill this gap as the aforementioned problems are felt by many and warrant a viable solution. Our product will provide users with the ability to easily save calendar reminders and notes into folders and choose between enabling cloud sync with the additional option of self hosting, or only storing their data locally.

OpenOrganizer has the potential to ease privacy concerns and general frustration alongside saving time for its many prospective users. As a free and open source privacy focused alternative to always online calendar applications, OpenOrganizer stands to provide immense value not only to typical users, but also to those with a need for a higher level of data security.

4. Literature Survey

With the ever-increasing reliance on Internet services, users are constantly providing their personal information online. However, this is often without transparency or knowledge of how that data is being used behind the scenes by the third party provider. According to a survey by Winegar and Sunstein (2019) with over 2,400 respondents, over 70% felt somewhat/very concerned about the collection of their personal data online, and only 47% felt that they had a great/decent understanding of how their personal data is collected online. In order to address these issues with data privacy and ownership, OpenOrganizer will give users more autonomy and control over their data compared to similar third party cloud applications like Dropbox, Google Drive, and OneDrive.

The cloud is a network of remote servers that allows the storage and processing of data for other devices. It allows users to share files, back up data, increase storage as needed, and access their data across multiple devices. However, this convenience also comes with data availability risks. O’Gorman (2015) points out that the dependency on third party cloud service providers leaves the user with no control when an outage occurs, which can cause disruption to many of its users by preventing them from accessing their online data. These availability issues are also very common, happening nearly every year, and have been identified to be a difficult challenge even for the top Cloud providers, such as Amazon, Google Gmail, and Microsoft Azure (Li et al., 2013, p. 321). OpenOrganizer can be a solution to this since the application will feature an open source server and database that is not strictly tied to a provider. Users can host their own server, putting the control back in their hands, rather than relying on the provider. In

addition, in the event of an outage, our application offers an offline storage option with the use of the local SQLite database.

Furthermore, O’Gorman (2015) explains that the reliance on a single cloud provider, even with multiple data centers, can still be vulnerable to failure or attack. In the worse case, the provider can go out of business, leaving users to question the fate of their data. Our project handles this issue by giving the users direct ownership over their data.

Another disadvantage of the cloud is the potential security risks. When entrusting personal data to a third party cloud provider, it can be passed around (or even illegitimately sold) to multiple different entities, increasing the risk of malicious actors gaining access to it. Data security breaches like the gmail username and password leak in 2014 and the increased number of APT, brute force, and insider attacks on cloud environments in general raise great concern (O’Gorman, 2015, p. 19; Singh et al., 2016). In a 2016 survey of companies’ chiefs about the use of cloud, 87% of respondents were most concerned about security (Singh et al.). However, despite security risks, most users still use the cloud because of convenience. In a user survey conducted by Sing et al. (2016), 51% of the respondents said that the main reason for use of the cloud is ease of use and convenience, but the respondents of the survey also had no prior experience with, or were unaware of, their data being stolen. This proves that there is even more need to have control and ownership of our data which is one of the main features of OpenOrganizer.

Lastly, there have also been security risks with the integration of AI in cloud environments. Recently, there have been attacks using prompts to LLM-powered applications, like Google’s Gemini in calendar, email, and assistant, that can potentially trigger malicious

actions such as phishing, disinformation, and data exfiltration (Nassi et al., 2025). These AI integrations usually come with the popular providers, often giving the user little to no option to not use them. OpenOrganizer goes back to a simpler set up where users do not have to worry about the risks of AI that are still being discovered.

Despite the security and availability risks, there is still a large appeal for cloud use due to the convenience it provides, with “29% of computer users currently utilising cloud storage for their data” (O’Gorman, 2015, p.14). In addition, according to an article by Gartner, “consumers will store over a third of their digital content in the cloud by 2016” (Gartner, 2012). By OpenOrganizer providing both local and cloud options, with a focus on making data backup easy and reliable at a lower cost, the application appeals to a wider market of both cloud and non-cloud users.

Preexisting cloud applications in the current market are either commercial cloud subscription based or open source alternatives. Commercial cloud subscription based refers to the big providers that charge a monthly subscription fee to access their services, such as Microsoft Azure, Amazon Web Services (AWS), and Google Cloud. In a survey by O’Gorman, respondents expressed uncertainty about the subscription model and how much the actual costs are (O’ Gorman, 2015, p.14). Our application will remedy this by removing the fee barrier/subscription model and confusion on actual costs.

Users are concerned about their data, but the convenience that large, popular providers give makes it difficult to act on their concerns. According to Zenuni et al. (2014), while many of the cloud providers “secure their data...the secrecy of data in the server is not always protected”, and they recommend the “client-side encryption of data before moving to the cloud” which

sometimes the users must do themselves. OpenOrganizer will instead be focusing on an open source alternative that eliminates these concerns and additional steps to keep data safe by giving users more control and choice in their data handling, and less feature bloat, instead emphasizing core features/functionality, coupled with simplicity.

5. Proposed Work

Plan of Work:

The general overview of our scope of work is to design an application for a user to be able to create reminders and notes. Within the application, they will have the ability to organize said events, as well as back up their data to a remote server under their personal account.

Features:

- Installable application with an intuitive User Interface
- Ability to save reminders and notes to the local device
- Viewable calendar for quick visualization of schedule
- Option to place reminders and notes into folders for a simple way to organize events
- Ability to set specific event types (flights, hotels, courses, etc.) for easy viewing of key information
- Choice to sync data with a cloud server
- Authorization of syncing through individual client accounts and secure APIs

Technologies in Use:

Client Device

- Application built using Quasar, composed using TypeScript, SCSS, and HTML
- Local Data Storage managed using SQLite

Cloud Server

- Data Handler written in Golang
- Multi-Schema Database using PostgreSQL, interfaced with using SQL

Target Audience:

This product will target audiences of all demographics. However, it also is tailored to provide extra utility to some specific groups through event types, such as students and travelers.

Everyone has routine events, one-time occasions, and pieces of information they need to save for later, only to be reminded when the time comes to fulfill their commitments. With how chaotic modern life can be for anyone from middle school to retiree, an open-source method to organize our lives can find a way to assist anyone.

6. Product Backlog

Product Backlog Items	Tasks	Task Owner(s)	Priority	Total Effort Hours Estimate
User will be able to schedule a reminder (must have a date and alarm) on the calendar.	<ul style="list-style-type: none"> • Design and create the local SQLite database. • Implement functionality to select a date on the calendar. • Create UI for calendar and list to add and view reminders for a date. • Store reminder data (e.g. title, dates) in the database. • Add functionality to schedule alarms for reminders. • Implement functionality to modify and delete reminders. • Add different event types for reminders. 	Rachel Maria Kevin	High	50
User will be able to take notes.	<ul style="list-style-type: none"> • Create textbox UI element for writing notes. • Create save button UI element to save notes. • Create delete button UI element to delete notes. • Create input validation tests. (Note text must 	Rachel Maria	Medium	20

	<p>not exceed word limit, note is only text.)</p> <ul style="list-style-type: none"> • Create API to save notes in database table attached to the user. • Enable the user to open notes through the filesystem structure. 			
User can organize their reminders and notes into a folder structure.	<ul style="list-style-type: none"> • Create API for retrieving folder structure from local DB. • Design folder structure UI with QTree. 	Kevin Michael	Low	10
User can manually or automatically sync their reminders with the cloud server on app startup.	<ul style="list-style-type: none"> • Design and create server Postgres database. • Design a communication standard for client-server syncing. • Create sync conflict handling functionality. (Keep local changes, cloud changes, or cancel the sync.) 	Michael Kevin	High	80
User will be able to make an account and login to the application.	<ul style="list-style-type: none"> • Create textbox UI elements for entering username and password. (To be used for registration & login.) • Create register and login button UI elements. • Create APIs to communicate login information between client and server. 	Rachel Maria	High	30

	<ul style="list-style-type: none">● Create table schemas for username and password combinations in the server database.● Hash the users password for security.● Create input validation tests (user credentials aren't already taken, password is strong enough).● Generate user authentication token to send with all requests and keep track of login sessions.			
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7. Project Plan

Milestone	Deliverables	Target Date
Milestone 1: End-to-End Functionality	<ul style="list-style-type: none">• Test user can perform an action that communicates to the server to store or retrieve data.• Server receives the message and can update the database or respond with queried data.	(Sunday) September 21st
Milestone 2: APIs and Schemas	<ul style="list-style-type: none">• Client has a consistent set of standard APIs for communicating with server.• Server is able to respond with proper packets.• Both client and server have all tables designed for databases, such as reminders, notes, user accounts, authentication tokens, etc.	October 5th
Milestone 3: User Interface (Layout)	<ul style="list-style-type: none">• Test user can access login and registration pages.• Application can be launched from the system taskbar or tray as a desktop window.• Basic tabs to navigate between pages.• Notes can be created by the user and sent to the local database.	October 12th
Milestone 4: Authorization	<ul style="list-style-type: none">• User will be able to create an account to be securely handled and stored by the server and remote database.	October 19th

	<ul style="list-style-type: none"> • Server can assign and send authentication tokens, which are required in client transmissions for any account-specific access. 	
Milestone 5: Cloud Sync	<ul style="list-style-type: none"> • Modifications are automatically sent to the server. • Client checks server for changes on startup and every X minutes. 	November 2nd
Milestone 6: User Interface (Complete)	<ul style="list-style-type: none"> • User can access the split-view of the filesystem and calendar. Reminders can be attached to the calendar. • User will receive scheduled notifications for their reminders. • Notes and reminders can be organized into folders. • User can tag reminders with event types which display differently depending on set type. 	November 16th
Milestone 7: Buildable and Distributable	<ul style="list-style-type: none"> • All PBIs implemented. • All tests are completed. 	November 23rd

8. GitHub Link of The Project

<https://github.com/MicJagger/OpenOrganizer>

9. References

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10. Signatures



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