**Project description**

Do you receive numerous messages on WhatsApp every day? How often have you found yourself searching for a specific message, trying to recall an appointment you scheduled, or attempting to remember a message you sent or received? It's not uncommon to encounter situations where WhatsApp, in its current form, seems inadequate for today's digital age. Messages are simply displayed in chronological order by conversation. If there are additional calls, earlier and potentially important conversations are pushed down the list.

Our project introduces an innovative solution to create a new display format for WhatsApp messages.

The server retrieves the user’s messages from WhatsApp and, by interfacing with a third-party AI API, identifies the most important and relevant messages. These selected messages are then presented to the user on a specially designed screen, where priority is given to displaying the most significant and pertinent information.

On the technical side, the server architecture utilizes a combination of technologies including Middleware, RabbitMQ, TypeScript, MongoDB, Node.js, Third-Party-AI-API, Docker, and Microsoft Azure. The client interface is developed using Flutter and Dart, with Figma for Flutter enhancing the design process. State management solutions in Dart, modular Dart packages, API integration, and cross-platform development principles are also integral to the client-side development.

This approach revolutionizes how users interact with their messages, ensuring that important communications are easily accessible, thereby enhancing the overall messaging experience on WhatsApp.

**1. What is the problem you are trying to solve?**

**2. Describe briefly, in high level your presumed solution**

**3. Are there other approaches?**

**4. Who are the expected users of the application?**

**5. What will be the main features and flows of the (different) user(s)?**

**6. Are there any external dependencies?**

**1. What is the problem you are trying to solve?**

The core issue we aim to tackle stems from the growing inefficiencies in managing messages within WhatsApp. As WhatsApp continues to dominate as a global messaging platform, users are bombarded with an overwhelming volume of messages daily. This deluge makes it exceedingly difficult for individuals to pinpoint specific pieces of information or revisit particular conversations amidst their extensive chat history. The challenge is compounded by WhatsApp's limited organizational capabilities, which fall short of providing users with effective tools to manage their communication efficiently. This deficiency leads to significant time wastage and frustration as users laboriously navigate through a sea of messages to locate their desired content. The problem is further exacerbated for users who rely on WhatsApp for professional communications, where the inability to quickly access important messages can impede productivity and responsiveness. Therefore, the overarching issue is the dire need for an innovative solution capable of revolutionizing how users manage, prioritize, and access their messages within the WhatsApp ecosystem, thereby significantly enhancing user experience and productivity.

**2. Describe briefly, in high level your presumed solution**

Our solution envisions the creation of an advanced message management system that harnesses the power of artificial intelligence to revolutionize the way WhatsApp messages are handled. By integrating with cutting-edge third-party AI APIs, our system will utilize sophisticated machine learning algorithms to analyze, categorize, and prioritize messages based on a myriad of factors including content significance, sender importance, and contextual relevance. This intelligent prioritization mechanism empowers users to tailor their messaging experience according to their unique preferences and needs, ensuring that critical communications are promptly highlighted and accessible. The solution will feature a meticulously designed interface that showcases prioritized messages, thereby eliminating the need for users to wade through irrelevant conversations. Moreover, the system will offer robust integration capabilities with calendar and scheduling applications, enabling users to effortlessly convert messages into actionable items and appointments. This holistic approach not only streamlines message management but also significantly augments user productivity by providing a seamless, efficient, and personalized messaging experience.

**3. Are there other approaches?**

While our proposed solution offers a comprehensive strategy for enhancing WhatsApp message management, there exist alternative methodologies worth considering. One such approach could involve the development of supplementary plugins or extensions for the existing WhatsApp interface. These enhancements could incorporate AI-driven features to automatically sort and categorize messages based on user-defined parameters, thereby improving organizational efficiency within the app itself. Furthermore, the integration of advanced search functionalities directly within WhatsApp could significantly ease the process of locating specific messages or conversations. Nevertheless, our proposed solution distinguishes itself by offering a standalone platform that operates independently from WhatsApp, affording users unparalleled flexibility, extensive customization options, and the ability to seamlessly integrate with a wide array of third-party services and applications.

**4. Who are the expected users of the application?**

Our application is designed to cater to a broad spectrum of users, encompassing various demographics, professional backgrounds, and everyday use cases. Key target user groups include professionals aiming to optimize their business communications, students organizing academic collaborations, entrepreneurs engaging with clients, and social circles planning events or get-togethers. Essentially, anyone juggling a busy schedule or managing multiple communication channels will find our solution to be an indispensable tool in navigating their messaging landscape more effectively. By addressing the diverse needs of these user segments, our application aims to deliver a universally beneficial solution that enhances the messaging experience for a wide audience.

**5. What will be the main features and flows of the (different) user(s)?**

* **AI-Powered Prioritization:** Leveraging third-party AI algorithms, the system analyzes messages to identify important conversations and categorize messages based on relevance, sender importance, and content context.
* **Customizable Filters:** Users can set preferences for message prioritization based on criteria such as sender, keywords, or message type, ensuring personalized message management tailored to their specific needs and preferences.
* **Dedicated Interface:** Prioritized messages are presented in a separate interface for easy access and navigation, eliminating the need to sift through cluttered chat logs. Users are greeted with a personalized dashboard showcasing the most relevant and important conversations, streamlining the message retrieval process.
* **Efficient Search:** Robust search functionality enables users to quickly find specific messages or conversations using advanced search algorithms. Users can filter search results by date, sender, or keywords, facilitating efficient message retrieval and reference.

**6. Are there any external dependencies?**

The realization of our project hinges on a network of external dependencies, crucial for delivering a robust, efficient, and scalable solution. This ecosystem includes access to premier third-party AI APIs for the intelligent analysis and prioritization of messages. Cloud-based services are essential for hosting our server infrastructure, ensuring reliability and scalability. Integration with WhatsApp's API is paramount for fetching and processing user messages. To foster a collaborative development environment, we rely on state-of-the-art collaboration tools and project management platforms. User feedback mechanisms are instrumental in refining our application, ensuring it evolves in alignment with user expectations and technological advancements. Regular software updates and maintenance are committed to sustaining the application's relevance and efficiency in an ever-changing digital landscape.