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College of Engineering and Architecture Project Proposal Bachelor of Science in Software and Network Engineering Muwaqqit: An Elegant, iOS-based Calendar Manager Group Project Submission Student IDs Student Names YAZED ALKHALAF SAIMAN TAKLAS AFFAN MOHAMMAD ALI BA WAZIR Submission Date: 19 Sep 2024 Supervised By: Dr. Inaya Allah 202211123 202021400 202211086 202211018 First Semester 2024–2025 Contents 1 Background of the Project 2 Problem Statement 3 Objectives of the Project 4 Significance of the Project 5 Scope of the Project 6 Limitations of the Project 7 Project Plan 8 Literature Review 9 Technology and Outcomes 10 Conclusion 1 1 2 2 3 4 4 5 6 6 1 1 Background of the Project As the world is moving towards globalizing, effective time management is becoming very important. Considering how everything seems to be rushing in today's world, there is a high requirement for an effective user-friendly time management tool. Paper- based calendars have been used for addressing the complexities of managing multiple schedules across various aspects of life such as work, school, and personal commit- ments. However, they often fall short in providing a comprehensive solution to modern scheduling challenges. The introduction of the digital calendar has somewhat solved this problem but still, users face a lot of issues in keeping their calendars up-to-date and synchronized. There are still few people that manually input events into their calendars. This could be really tiring,

especially when dealing with multiple calendars. Moreover, the rise of
instant messaging platforms like WhatsApp has changed the way we
communicate and plan events. Mostly, important dates and appointments are
discussed informally leading to a disconnect between where the information
is initially shared and where it needs to be recorded for effective
time management. To address these challenges, we are planning an
application called Muwaqqit, which aims to revolutionize how people manage
their time and schedules in the digital age. 2 Problem Statement Users
often face challenges in keeping their calendars up-to-date, particularly
when dealing with information from various sources, including informal
communication medi- ums like WhatsApp. The process of manually adding
events to the calendar is both time-consuming and prone to errors.
Additionally, managing multiple calendars—such as those for work, school,
and personal life—creates further complexity and increases the risk of
scheduling conflicts. The lack of seamless integration with popular commu-
nication platforms exacerbates the problem, leading to a higher likelihood
of missing 1 important events due to the scattered distribution of
information across different calen- dars and data sources. 3 Objectives of
the Project The main objectives of Muwaqqit are: 4
• • • • • Todevelopanintelligentcalendarmanagementsystemthatautomaticallyextracts even
ts from the communication channels and adds them to the user's main

calen- dar. To create a user friendly interface that allows users to automatically add events to the calendar. To implement smart resolution system that notifies users of scheduling conflicts and provides easy options for resolution. TointegrateallthecalendarsintoMuwaqqit' ssinglecalendarviewtomakeview- ing and managing all the events easy. To prioritize and automatically schedule daily routines such as waking time, sleeping time and prayer time. To significantly reduce the time users spend on manual calendar management. Significance of the Project Muwaqqit endeavours to solve problems and its significance can be summarized in the following: 1. TimeisMoney:Timeistheonlyassetyoucan'tgetmoreof,itisbeingconsumed til the last day of your life. 2. PrayerFirstCalendar:Prayertimescomefirst,thenyourdailyscheduleditems. 2 5 3. 4. 5. 6. 7. Streamlined Time Management: By automatically extracting events from vari- ous communication channels, Muwaqqit significantly reduces the time and effort required for manual calendar management, allowing users to focus on more pro- ductive tasks. Reduced Human Error: Automated event extraction and addition to calendars minimize the risk of missing important events or appointments due to manual input errors or forgetfulness. Integrated Communication and Scheduling: By bridging the gap between in- formal communication (e.g., WhatsApp) and formal scheduling, Muwaqqit ad- dresses a critical pain point in modern time management.

Conflict Resolution: The smart resolution system helps users identify and re- solve scheduling conflicts efficiently, reducing stress and improving overall time management. Holistic View of Commitments: By integrating multiple calendars into a single view, Muwaqqit provides users with a comprehensive overview of their com- mitments across various aspects of life, facilitating better decision-making and work-life balance. Scope of the Project Muwaqqit is not just another calendar application; it's a comprehensive time manage- ment tool designed to aggregate and optimize your existing calendars and data sources. The scope of the project includes: • Development of an iOS application as the primary platform . • Integration with calendars using CalDAV. • WhatsApp message parsing for event extraction (subject to technical feasibility). 3 6 • Targe t audience: Busy professionals, students, and anyone juggling multiple schedules. • User testing phase to ensure ease of use and effectiveness . Our testing methods will include: • Beta testing with a diverse grou p of users. • Analytics to track user behavior and app performance . Limitations of the Project Nothing is perfect, and our project is not a outlier. The limitations we have figured out about • • • • • • 7 Our project plan can be illustrated in the following gantt chart, Figure 1. it are as follows: WhatsApp integration allows the app to read the users messages, so it would be hard to prove privacy hasn't been

breached. WhatsApp integration might not always be there, they are a third-party. Learning new technologies for iOS development might require more time than anticipated.

Accuracyofouralgorithmstodetectkeywordsindicatinganeventagreementhas happened, especially for languages other than English. Time and manpower constraints may limit the number of features we can imple- ment. Dependency on third-party calendar APIs and their limitations. Project Plan 4 Figure 1: Project Gantt Chart 8 Literature Review In developing Muwaqqit, we have drawn inspiration from and built upon existing re- search and products in the field of intelligent calendar management. Some key refer- ences include:

• Clockwise (https://www.getclockwise.com/): A smart calendar assistant th at optimizes schedules and manages team coordination [Clockwise, 2024]. Clock- wise's approach to intelligent time blocking and meeting optimization provides valuable insights for Muwaqqit's automated scheduling features. • Motion(https://www.usemotion.com/):Motion'sIntelligentCalendartakesyo ur meetings, your tasks, your to-do list, your activities, and creates one perfect, op- timized schedule to get it all done [Motion, 2024].

• ReclaimAI(https://reclaim.ai/):Anintelligenttimemanagementtoolthathelps optimi ze schedules and automate tasks [Reclaim, 2024]. • Calendi (https://calendi. ai/): Calendi describes itself as: "Calendi is an AI cal- endar system. Use it for scheduling tasks, automating meetings, and witness the future of calendar." [Calendi, 2024] 5 9 Figure 2: Feature Comparison Table Technology and Outcomes • An Exploratory Study of Calendar Use: "Prospective remembering is the use of memory for remembering to do things in the future, as different from retro- spective memory functions such as recalling past events." [Tungare et al., 2008] • WhatsApp Integration: Our research indicates that direct WhatsAp p integra- tion for event extraction has not been widely implemented in existing calendar applications, making this a unique feature of Muwaqqit. The final product of this project will be: • An iOS application develope d using Swift programming language.

• Backendservicestohandledataprocessingandintegrationwiththird-partyAPIs. We will asses

s the feasibility of calendar integration and WhatsApp parsing through-
out the development process, adjusting our approach as necessary to ensure
the best possible user experience. 10 Conclusion Muwaqqit aims to
revolutionize personal time management by providing an intelligent, integrated
solution to the challenges of modern scheduling. By leveraging seamless 6
integration with communication platforms, we hope to significantly reduce
the time and effort required for effective calendar management. 7 References [Calendi,
2024] Calendi (2024). Calendi: Ai calendar system. Accessed: 2024-09-18.
[Clockwise, 2024] Clockwise (2024). Clockwise: Smart calendar assistant.
Accessed: 2024-09-18. [Motion, 2024] Motion (2024). Motion: Intelligent
calendar. Accessed: 2024-09-18. [Reclaim, 2024] Reclaim (2024). Reclaim ai:
Intelligent time management. Accessed: 2024-09-18. [Tungare et al., 2008]
Tungare, M., Perez-Quinones, M., and Sams, A. (2008). An exploratory study of calendar use. 8