DPPL-6969

SOFTWARE DESIGN DESCRIPTION

On Time!

for:

RPLGDC Laboratory

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1. Introduction

1.1 Document Purpose

The purpose of this document is to present a detailed description of our application called “On Time!”. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, and the constraints under which the system must operate. This document is intended to be used as a reference for developing the initial version of the On time! application for the development team.

1.2 Document Conventions

Bold text - Signifies important content or keywords.
italic text - signifies terms.

1.3 Product Scope

On time! is a reminder app with a mobile application method. It will allow users to set a reminder of an event and will be notified by a ringtone. So, that the users will not miss any event that has been marked in this application.

In this era the most used this kind of reminder application is google calendar. In Google calendar we can mark as many events as we want. In On time! the user will be able to connect to another social media and the users will easily mark any kind of event from the social media. There is no further installment for this kind of feature and with the purpose of multi-platform.

1.4 Reference

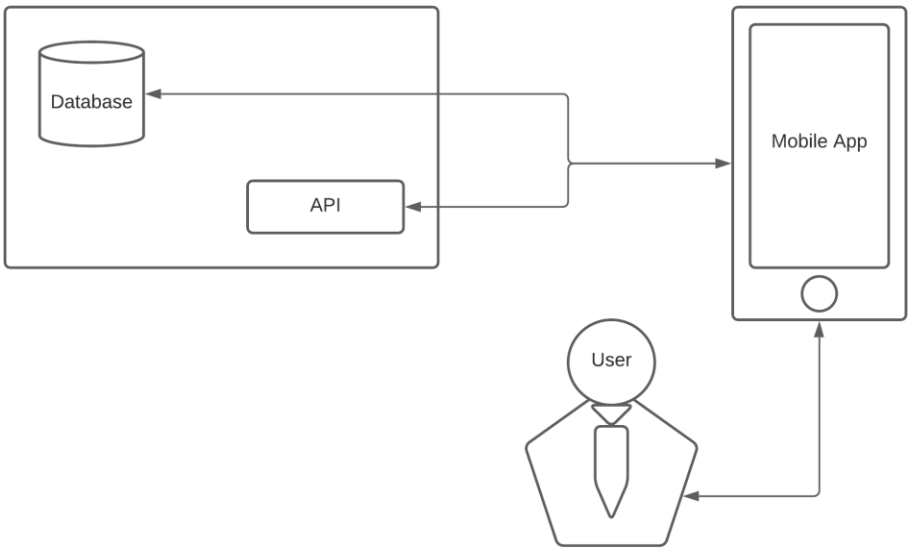
- React Native Documentation: https://reactnative.dev/docs/getting-started.
- Google Location API: https://developers.google.com/places/web-service/overview
- Android Platform Documentation: https://developer.android.com/docs

2. Overall Description

2.1 Product Perspective

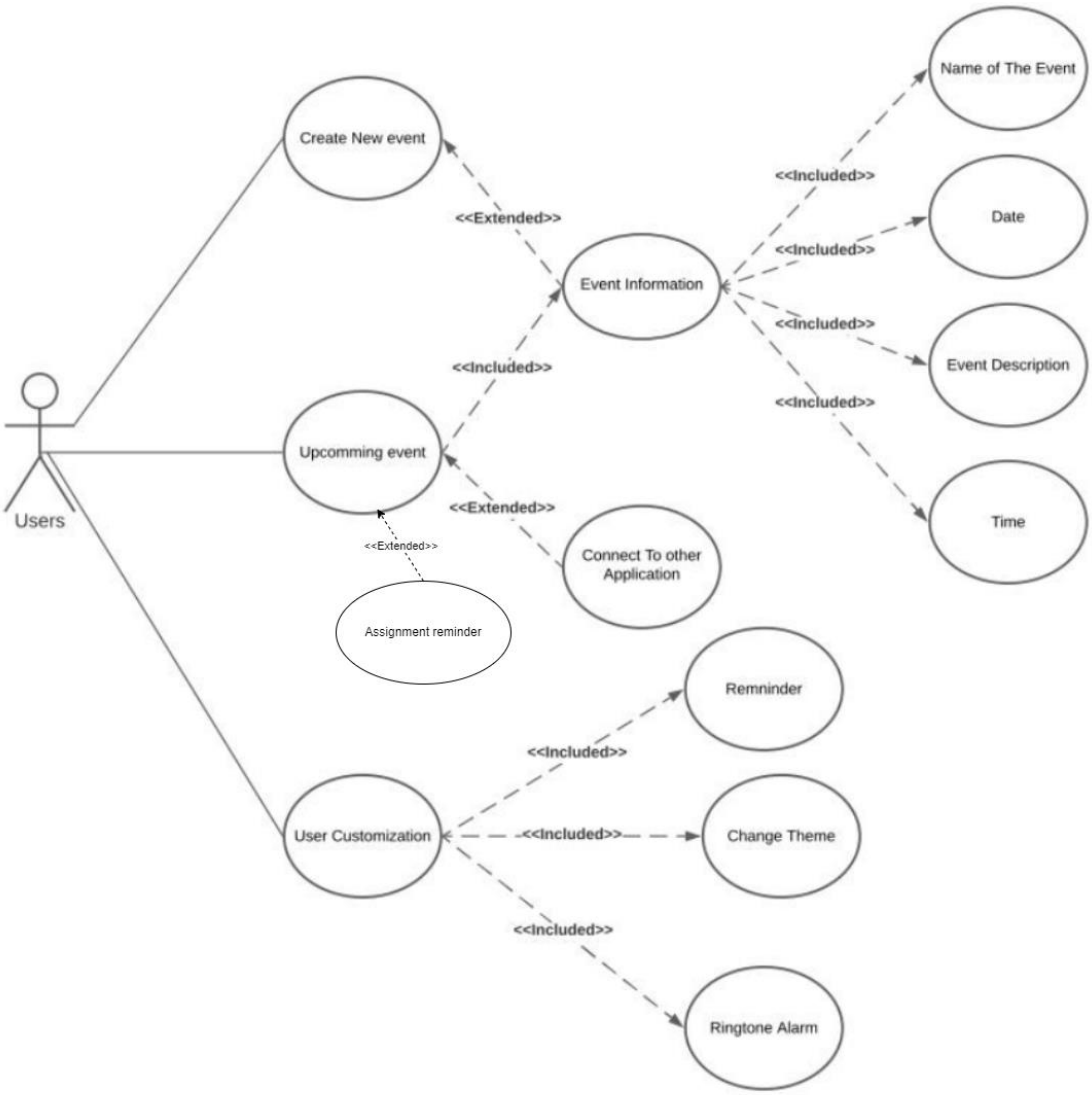
Being late is almost considered as a habit for college students, the only way to overcome being late is change of habit. It is not easy to change a habit for a short time, but there is some way to help it by making a weekly schedule, setting an alarm or asking a friend to notify the person for a certain event. Those 3 actions can be done within your mobile devices. There are several applications that can do some of those actions. The application contains a calendar and alarm. by marking a date, time, event description, and notification time. by inputting those requirements, the application will notify the user by popping up a notification on the mobile device.

This product is very similar to any reminder applications, but this product is intended to help *civitas academica* so that the product could be connected to the college website to link the schedule to the app. the product will be available in Android and iOS devices only because most of the people in the world use those devices.



Block Diagram for the application

2.2 Product Functionality



- Reminder that will always remind the users.
- A user can set a ringtone on the notification.
- Users will not miss any event.
- A user's friendly experience
- User free Customization

2.3 Users and Characteristic

A. Workers: Lecture, Employee, Entrepreneur or any other workers that are concerned about time in their work
- Workers is person that is very concern with time. This type of workers will be need time management in their lives.

B. Student: College student, School Student (Senior, high, elementary School)
- Students need to collect their assignment, task or homework due to the deadline. Moreover, the student needs to attend the class every day and it is very crucial for them to manage their time.

2.4 Operating Environment

- React Native
- Android Marshmallow 6.0.1(MOI10E) and iOS 12.0
- API: Google Location
- Database: iGracias, LMS and another app

2.5 Planning Limitations and Implementation

The biggest problems that will occur on the system is:

- The latest version of android and iOS
- Inability of the system itself
- Inability of the tools used in the app creation process.

2.6 Users Documentation

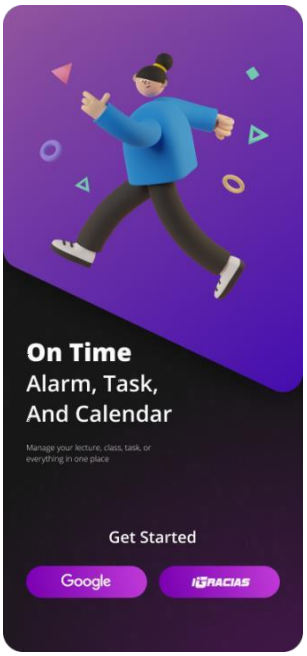
Our application is designed for user-friendliness. The application will have a simple and attractive GUI that will not interrupt other applications. In addition, for the new users there will be a tutorial to help the users how to operate the application.

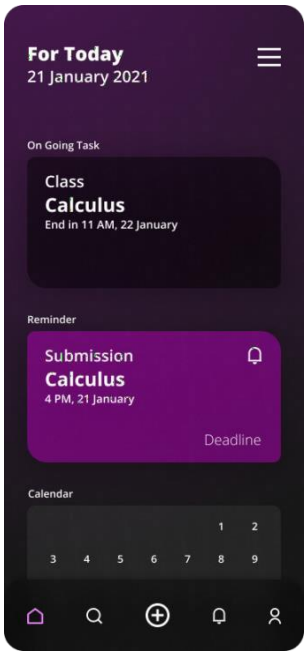
2.7 Assumption and Dependencies

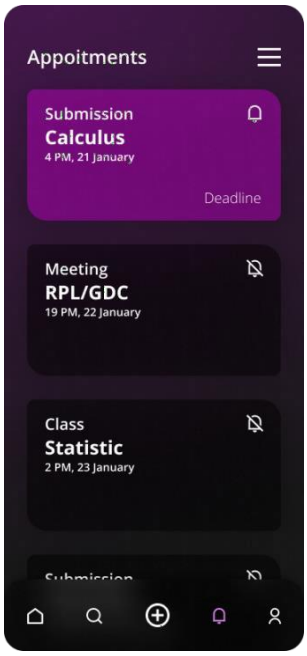
- Users allowed the app to use some of their personal data (schedule) on LMS, Igracias, Google Accounts, and user's social media for the app usage.
- Users have stable internet connections.
- Users have already acquired the school's learning management system accounts.
- Users have enough power on their mobile devices to send and receive information.
- This app can also be used with only Google Accounts.

3. External Interface Requirements

3.1 User Interface







3.2 Hardware Interface

The On Time application will be using the sound interfaces and vibration from the mobile phone. And using the google location API for getting location information when making appointments. And also, the other hardware interfaces of standard mobile phones.

3.3 Software Interface

On Time application using React Native framework with nativebase library for the UI display and will use the same database tools with LMS and iGracias to make it easier to retrieve data.

3.4 Communication Interface

Communication interfaces will only use communication standards for Android and iOS. Nothing special about the communication interfaces. But of course, as in most mobile apps nowadays, users are required to activate mobile data while using the On Time app. Or they could use offline mode with lack of features.

4. System Features

There are some features provided for this application. This feature is enabled as a supporting reminder feature of The On Time product as the main feature. Those features include reminders. or other features that will be described as below.

4.1 Reminder

4.1.1 Description:

This feature will be shown as a notification in the user's mobile devices.

4.1.2 Trigger:

This feature will be triggered at a certain time according to what the users mark on the calendar.

4.1.3 Input:

The input is date, time, or an event.

4.1.4 Output:

The output will be a sentence that will inform the users what event that is notified.

4.1.5 Main Scenario:

To activate this feature, user need to go to user customization and turn on the notification setting. If the notification bar turn into green, it means that this feature has been activated. The users will be notified via their phone.

4.1.5.1 pre-condition:

Users already mark the event.

4.1.5.2 post-condition:

Users will get a notification through their mobile phone.

4.1.5.3 Steps:

- The system will check the date that the user marked.
- If it's time, then the notification will appear on the user's mobile phone.

4.1.6 Exceptional Scenario 1:

4.1.7 pre-condition:

Users forget to turn on notification on their phone.

4.1.7.1 Post-Condition:

The feature will not give the user a notification.

4.1.7.2 Steps:

- Users forget to turn on notification.
- The app will notice that the notification is turn off / disable.
- The feature will not give the user a notification.

4.2 Ringtone Alarm

4.2.1 Description:

An alarm that will remind users about an event that has been marked on the app.

4.2.2 Trigger:

His feature will be triggered at a certain time according to what the users mark on the calendar.

4.2.3 Input:

Date, time or an event

4.2.4 Output:

An alarm with a ringtone that the users set.

4.2.5 Main scenario:

To activate this feature, user need to go to user customization and turn on the alarm setting. If the ringtone bar into green, then this feature is indicating as active. The users will be getting an alarm with a ringtone through the user's phone.

4.2.5.1 Pre-condition:

User already mark the event.

4.2.5.2 Post-condition:

The ringtone will be ringing on your mobile phone.

4.2.5.3 Steps:

- Users mark an event on the app.
- Users choose the song of the ringtone.
- Ringtone will be sound and ringing on your phone.

4.2.6 Exceptional Scenario 1:

4.2.6.1 pre-condition*:*

Users mute the notification.

4.2.6.2 post-condition:

The ringtone cannot be heard by the users.

4.2.6.3 steps:

- User mute the sound
- Feature will still be on but there will be no sound on the user mobile phone.

4.3 Connect to Other App

4.3.1 Description:

Users can connect to the other app; users can mark any event from the other app.

4.3.2 Trigger:

This feature will be trigger if the users click “connect to other’s app” button.

4.3.3 Input:

Users username/ID and Password (users account on the other’s app)

4.3.4 Output:

The app will be connected to the other’s app.

4.3.5 Main Scenario:

To activate this feature, user need to click the “connect to other’s app” button. User’s need to log in into their account and if the button turns into “connected”. It means that this feature is already activated.

4.3.5.1 pre-condition**:**

The app is not connected to the other's app.

4.3.5.2 post-Condition:

The app connected to the other's app.

4.3.5.3 steps:

- Users click the "Connect to other's app" button.
- User login into their account
- The app will be connected to other's app.

4.3.6 Exponential Scenario:

4.3.6.1 pre-condition*:*

Users put the wrong account.

4.3.6.2 post-Condition:

The app will be not connected to the other's app.

4.3.6.3 steps:

- Users click the "Connect to other's app" button.
- User input the wrong account pass/username.
- The app will not be connected to other's app.

4.4 Theme Changing

4.4.1 Description:

Users will be able to customize their own theme.

4.4.2 Trigger:

This feature will be trigger if the users press the "change theme" button.

4.4.3 Input:

Choose the desired theme.

4.4.4 Output:

The theme will be changed by the users desired.

4.4.5 Main Scenario:

To activate this feature, user need to go to user customization and click the theme setting. The users will be given the app default theme. User's need to choose what theme did they want to use. After clicking on the theme, the theme will automatically change.

4.4.5.1 pre-condition:

The app use default theme

4.4.5.2 post-Condition:

The app will use the new theme.

4.4.5.3 steps:

- Users click the "Change theme" button.
- Users choose the desired theme.
- The app theme will be changed.

4.3.6 Exponential Scenario:

4.3.6.1 pre-condition:

User haven't downloaded the theme.

4.3.6.2 post-Condition:

the theme will not be change.

4.3.6.3 steps:

- Users click the "Change theme" button.
- Users choose the theme that hasn't been downloaded.
- The app will not change the theme.

5. Requirements Non-Functional

5.1 Quality Attribute

This app is specialized for students and lecturers to keep them in time. This app uses JavaScript, because the language is easier to understand. Also, the app uses React Native, because it can be moved from mobile device app to web device app with ease. There are several features such as changing the app's theme and changing the ringtone alarm with any song or audio file to make the user away from boredom.

This website is equipped with all standards of website security. in accordance with the reference from ISO/IEC 25010:2011 on systems and software engineering and Systems and software Quality Requirements and Evaluation (Square) and also certainly has been equipped with all the standard quality of five characteristic that relates to the outcome of interaction when a product is used in a particular context of use.

Appendix A: List of Difficult Words

Words	Meaning
API	computing interface that defines interactions between multiple software intermediaries.
React Native	Framework for developing an app on android, android TV, iOS, macOS, tvOS, Web, Windows and UWP
iGracias	Is a website for Telkom university student to check any information about Telkom University
Civitas Academia	Civitas mean citizenship and academia means Academic. In general, it means that a group of people that is involved in an academic system