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### 1. Introduction

#### 1.1. Project Description

Mobile phones are one of the most essential tools in the contemporary world and they have become an integral part of people's life. This integration has come with lots of benefits but it is not deniable that there are some drawbacks. One of these drawbacks is that people are becoming increasingly introverted thanks to having lots of alone time entertained thanks to mobile phones. Thus, if a person has a phone inside their palm, they do not feel to urge to socialize. Therefore, there is a need to build a platform that brings friend groups or crowds together by making them eager to organize events and socialize.

In this application, there are groups consisting of friends. Anybody can create a new group then, everyone in this group can create an event and invite any other person in the group. In any group, the person can create or attend an event and socialize. All the activities of all members are logged into the log tab of the group. The logs depict information about the creator of the event, who accepted or did not accept the invitation to a particular event.

#### 1.2. Project Scope

People want to socialize with their friends by organizing or attending some events. When these organizations and invitations are done on daily communication channels, there can be misunderstandings or people can overlook them. Therefore organizing events for friend groups can be hard. It is inevitable that when more and more people are involved in friend groups, there may also be many problems involved. In light of these, our app aims to eliminate these problems by giving its users to specifically track events of their friends and family groups on a different and detailed platform.

#### 1.3 Deliverables

Aa No.	■ Deliverable Name	
<u>1</u>	Project Plan	
<u>1.1</u>	WBS of Project	
<u>2</u>	Requirements Specification	
<u>3</u>	Requirement Analysis	

Aa No.	■ Deliverable Name	
<u>4</u>	Design Document	
<u>5</u>	Test Report	
<u>6</u>	Source Code & Demo	

## 1.4. Functional Requirements

Aa No.	≡ Actor	■ Use Case	Priority
<u>1</u>	Admin	Create, Read, Update, Delete operations on users	High
<u>2</u>	Admin	Create, Read, Update, Delete operations on events	High
<u>3</u>	Admin	Create, Read, Update, Delete operations on event groups	High
<u>4</u>	Admin	The admins can add a user to any group	High
<u>5</u>	Admin	Read operation on logs	High
<u>6</u>	Admin	Create special events to promote company events among all users	Medium
7	System	Create operation on logs	High
<u>8</u>	System	Delete operation on logs (2 weeks after the event's finished date)	
<u>9</u>	System	Notify users when they are invited to a group	Low
<u>10</u>	System	Notify users as the time of the event approaches	Low
<u>11</u>	System	Update member status of event invitation after a user action	High
<u>12</u>	System	Automatically set all member statuses as pending when an event is created	High
<u>13</u>	User	Create an account using email, username and password	High
<u>14</u>	User	Update their account details	High
<u>15</u>	User	Delete their accounts	High
<u>16</u>	User	Sign in to a created account	High

Aa No.	≡ Actor	■ Use Case	Priority
<u>17</u>	User	Sign out from the account	High
<u>18</u>	User	Create and read operations on event groups	High
<u>19</u>	User	The group owner can invite a person to the group	High
<u>20</u>	User	Update and delete operations on event groups if the user is the owner of the group	High
<u>21</u>	User	CRUD operations on the belonging account  High	
<u>22</u>	User	Read operations on logs of joined groups  High	
<u>23</u>	User	Accept, reject an event invitation or update the status Medium	
<u>24</u>	User	Accept or reject a group invitation	High
<u>25</u>	User	Quit group	High
<u>26</u>	User	Read operation on today's invited events  High	
<u>27</u>	User	CRUD operations by event owners on events in joined groups	High
<u>28</u>	User	Read operation on events in joined groups	High

## 1.5. Non-Functional Requirements

Aa No.	<b>≡</b> Туре	■ Description
<u>1</u>	Performance	The application should not require unnecessary computing power and should respond to the actions of users fastly (60-90ms)
<u>2</u>	Performance	The load time for fetching event groups should not exceed 2 seconds
<u>3</u>	Security	The personal information of users and admins' must be secured by the software
<u>4</u>	Security	The actions that a person can take must be determined by a role assigned to their account.
<u>5</u>	Usability & Appearance	The application's user interface should be user-friendly as much as possible and the colors used in the application should be as simple as possible.

Aa No.	<b>≡</b> Туре	□ Description
<u>6</u>	Data Integrity	Consistency and continuous integration are the musts of the system.
7	Reusability	The code repository must obey the principles of software engineering and the written modules should be reusable.
<u>8</u>	Reliability	The application should be running properly and must be reliable.

- 1. Event Tracking System (XL)
  - 1.1. Analysis and Documents (L)
    - 1.1.1 Creating requirement specifications document (M)
    - 1.1.2 Creating requirement analysis document (M)
  - 1.2. Design (XL)
    - 1.2.1 Visual Design (L)
      - 1.2.1.1 Preparation of UI Templates (S)
      - 1.2.1.2 Design and Tool Determination Meeting (T)
      - 1.2.1.3 Preparation of Final Design (M)
    - 1.2.2 Software Design (L)
      - 1.2.2.1 Software Architecture (M)
      - 1.2.2.2 Class Diagrams (M)
  - 1.2. Application (XL)
    - 1.2.1. Software Development (XL)
      - 1.2.1.1. Connecting to the cloud database (T)
      - 1.2.1.2. User-Based Development (L)
        - 1.2.1.2.1 Create user roles table (T)
        - 1.2.1.2.2 Create users table (T)

- 1.2.1.2.3 Implement create, read, update, and delete (CRUD) operations on users (M)
- 1.2.1.2.4 Implement and configure security and authorization protocols (M)
- 1.2.1.2.5 Implement APIs for CRUD operations (M)
- 1.2.1.2.6 Assign authorizations to APIs by integrating security configurations (S)
- 1.2.1.2.7 Implement user monitoring and management page (admin panel) (S)
- 1.2.1.2.8 Implement the profile page (S)
- 1.2.1.2.9 Implement sign-in page (S)
- 1.2.1.2.10 Implement the registration page (S)
- 1.2.1.3. Event-Based Development (L)
  - 1.2.1.3.1 Create events table (T)
  - 1.2.1.3.2 Implement CRUD operations on events (M)
  - 1.2.1.3.3 Implement APIs for CRUD operations (M)
  - 1.2.1.3.4 Assign authorizations to APIs by integrating security configurations (S)
  - 1.2.1.3.5 Implement event monitoring and management page (admin panel) (S)
  - 1.2.1.3.6 Implement event details page (S)
  - 1.2.1.3.7 Implement event creation page (S)
  - 1.2.1.3.8 Implement event update page (S)
- 1.2.1.4. Group-Based Development (L)
  - 1.2.1.4.1 Create groups table (T)
  - 1.2.1.4.2 Implement CRUD operations in groups (M)
  - 1.2.1.4.3 Implement APIs for CRUD operations (M)
  - 1.2.1.4.4 Assign authorizations to APIs by integrating security configurations (S)

- 1.2.1.4.5 Implement group monitoring and management page (admin panel) (S)
- 1.2.1.4.6 Implement homepage (S)
- 1.2.1.4.7 Implement group details page (S)
- 1.2.1.4.8 Implement group creation page (S)
- 1.2.1.4.9 Implement group update page (S)
- 1.2.1.4.10 Implement member management page (S)
- 1.2.2. Packaging, Continuous Integration, and Continuous Development (M)
  - 1.2.2.1 Determine and implement the CI/CD pipeline (M)
  - 1.2.2.2 Package Spring project as a WAR format (T)
- 1.2.3. Testing (L)
  - 1.2.3.1 Unit testing (L)
  - 1.2.3.2 Creating test report (M)
- 1.2.4 Project Delivery (M)
  - 1.2.4.1 Executable mobile application package (M)
  - 1.2.4.2 Source codes (M)

#### 3. Estimates

Aa Task	<ul><li>Person-Week</li><li>Value</li></ul>
1.1.1 Creating requirement specifications document (M)	2
1.1.2 Creating requirement analysis document (M)	2
1.2.1.1 Preparation of UI Templates (S)	1
1.2.1.2 Design and Tool Determination Meeting (T)	0.5

Aa Task	<ul><li>Person-Week</li><li>Value</li></ul>
1.2.1.3 Preparation of Final Design (M)	2
1.2.2.1 Software Architecture (M)	2
1.2.2.2 Class Diagrams (M)	2
1.2.1.2.1 Create user roles table (T)	0.5
1.2.1.2.2 Create users table (T)	0.5
1.2.1.2.3 Implement create, read, update, and delete (CRUD) operations on users (M)	2
1.2.1.2.4 Implement and configure security and authorization protocols (M)	2
1.2.1.2.5 Implement APIs for CRUD operations (M)	2
1.2.1.2.6 Assign authorizations to APIs by integrating security configurations (S)	1
1.2.1.2.7 Implement user monitoring and management page (admin panel) (S)	1
1.2.1.2.8 Implement the profile page (S)	1
1.2.1.2.9 Implement sign-in page (S)	1
1.2.1.2.10 Implement the registration page (S)	1
1.2.1.3.1 Create events table (T)	0.5
1.2.1.3.2 Implement CRUD operations on events (M)	2
1.2.1.3.3 Implement APIs for CRUD operations (M)	2
1.2.1.3.4 Assign authorizations to APIs by integrating security configurations (S)	1
1.2.1.3.5 Implement event monitoring and management page (admin panel) (S)	1
1.2.1.3.6 Implement event details page (S)	1
1.2.1.3.7 Implement event creation page (S)	1

Aa Task	<ul><li>Person-Week</li><li>Value</li></ul>
1.2.1.3.8 Implement event update page (S)	1
1.2.1.4.1 Create groups table (T)	0.5
1.2.1.4.2 Implement CRUD operations in groups (M)	2
1.2.1.4.3 Implement APIs for CRUD operations (M)	2
1.2.1.4.4 Assign authorizations to APIs by integrating security configurations (S)	1
1.2.1.4.5 Implement group monitoring and management page (admin panel) (S)	1
1.2.1.4.6 Implement homepage (S)	1
1.2.1.4.7 Implement group details page (S)	1
1.2.1.4.8 Implement group creation page (S)	1
1.2.1.4.9 Implement group update page (S)	1
1.2.1.4.10 Implement member management page (S)	1
1.2.2.1 Determine and implement the CI/CD pipeline (M)	2
1.2.2.2 Package Spring project as a WAR format (T)	0.5
1.2.3.1 Unit testing (L)	3
1.2.3.2 Creating test report (M)	2
1.2.4.1 Executable mobile application package (M)	2
1.2.4.2 Source codes (M)	2

## 4. Resources

## 4.1 People

Aa Name		■ Project Activity Role
<u>Mihriban Nur Koçak</u>	Full-stack Developer	Project Manager
Mehmet Yiğit Balık	Full-stack Developer	Software Architect
<u>Tümay Tayyar Kamburoğlu</u>	Full-stack Developer	Software Analyst
Ahmet Furkan Kavraz	Android Developer	Software Tester

### 4.2 Software and Hardware

Item	Quantity	Specifications
Computer	4	Windows/macOS Minimum 16 GB RAM
Mobile Phone	4	Android OS
IntelliJ IDE	- (software)	Integrated development environment for Java development
GitHub	- (software)	Git versioning
JDK 11	- (software)	Java Development Kit v11
Spring Boot	- (software)	High-level end-point development framework
Kotlin	- (software)	Programming language for android development
npm	- (software)	Node Package Manager
JIRA	- (software)	Agile project management tool
GitHub Actions	- (software)	Extensive CI/CD automation system
AWS API Gateway	- (software)	A service to publish, maintain, create and secure APIs
PostgreSQL	- (software)	Database system

## 5. Schedule

#### Timeline

Aa Name	m Date	<ul><li>♥</li><li>Status</li></ul>
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Aa Name	Date	<ul><li>♥</li><li>Status</li></ul>
1.1.1 Creating requirement specifications document (M)	@November 2, 2022 → November 6, 2022	
1.1.2 Creating requirement analysis document (M)	@November 6, 2022 → November 9, 2022	
1.2.1.1 Preparation of UI Templates (S)	@November 8, 2022 → November 10, 2022	
1.2.1.2 Design and Tool Determination  Meeting (T)	@November 10, 2022	
1.2.1.3 Preparation of Final Design (M)	@November 11, 2022 → November 14, 2022	
1.2.2.1 Software Architecture (M)	@November 11, 2022 → November 14, 2022	
1.2.2.2 Class Diagrams (M)	@November 11, 2022 → November 14, 2022	
1.2.1.2.1 Create user roles table (T)	@November 15, 2022 → November 16, 2022	
1.2.1.2.2 Create users table (T)	@November 15, 2022 → November 16, 2022	
1.2.1.2.3 Implement create, read, update, and delete (CRUD) operations on users (M)	@November 17, 2022 → November 18, 2022	
1.2.1.2.4 Implement and configure security and authorization protocols (M)	@November 17, 2022 → November 18, 2022	
1.2.1.2.5 Implement APIs for CRUD operations (M)	@November 17, 2022 → November 18, 2022	
1.2.1.2.6 Assign authorizations to APIs by integrating security configurations (S)	@November 19, 2022	
1.2.1.2.7 Implement user monitoring and management page (admin panel) (S)	@November 19, 2022 → November 21, 2022	
1.2.1.2.8 Implement the profile page (S)	@November 19, 2022 → November 21, 2022	
1.2.1.2.9 Implement sign-in page (S)	@November 19, 2022 → November 21, 2022	
1.2.1.2.10 Implement the registration page (S)	@November 19, 2022 → November 21, 2022	
1.2.1.3.1 Create events table (T)	@November 20, 2022 → November 21, 2022	
1.2.1.3.2 Implement CRUD operations on events (M)	@November 22, 2022 → November 23, 2022	
1.2.1.3.3 Implement APIs for CRUD operations (M)	@November 22, 2022 → November 23, 2022	

Aa Name	Date	<ul><li>Status</li></ul>
1.2.1.3.4 Assign authorizations to APIs by integrating security configurations (S)	@November 23, 2022	
1.2.1.3.5 Implement event monitoring and management page (admin panel) (S)	@November 24, 2022 → November 26, 2022	
1.2.1.3.6 Implement event details page (S)	@November 24, 2022 → November 26, 2022	
1.2.1.3.7 Implement event creation page (S)	@November 24, 2022 → November 26, 2022	
1.2.1.3.8 Implement event update page (S)	@November 24, 2022 → November 26, 2022	
1.2.1.4.1 Create groups table (T)	@November 25, 2022 → November 26, 2022	
1.2.1.4.2 Implement CRUD operations in groups (M)	@November 27, 2022 → November 29, 2022	
1.2.1.4.3 Implement APIs for CRUD operations (M)	@November 27, 2022 → November 29, 2022	
1.2.1.4.4 Assign authorizations to APIs by integrating security configurations (S)	@November 29, 2022	
1.2.1.4.5 Implement group monitoring and management page (admin panel) (S)	@November 30, 2022 → December 2, 2022	
1.2.1.4.6 Implement homepage (S)	@November 30, 2022 → December 2, 2022	
1.2.1.4.7 Implement group details page (S)	@November 30, 2022 → December 2, 2022	
1.2.1.4.8 Implement group creation page (S)	@November 30, 2022 → December 2, 2022	
1.2.1.4.9 Implement group update page (S)	@November 30, 2022 → December 2, 2022	
1.2.1.4.10 Implement member management page (S)	@November 30, 2022 → December 2, 2022	
1.2.2.1 Determine and implement the CI/CD pipeline (M)	@December 3, 2022 → December 7, 2022	

Aa Name	Date	<ul><li>♥</li><li>Status</li></ul>
1.2.2.2 Package Spring project as a WAR format (T)	@December 3, 2022 → December 7, 2022	
1.2.3.1 Unit testing (L)	@December 8, 2022 → December 16, 2022	
1.2.3.2 Creating test report (M)	@December 17, 2022 → December 21, 2022	
1.2.4.1 Executable mobile application package (M)	@December 17, 2022 → December 21, 2022	
1.2.4.2 Source codes (M)	@December 20, 2022 → December 24, 2022	

### 6. Risk

### Risk impact / Probability chart

Aa Risks	<ul><li>Category</li></ul>	≡ Probability	≡ Impact
Simultaneous usage of app by many people may cause exceeding of limited cloud resources	Technology	%5	15
Lack of profit due to less interest of companies in terms of promoting their events via app	Financial	%15	6
If a new pandemic occurs, interest in face to face event organizations may decrease	Estimation	%10	3
People may tend to return to their usual communication habits rather than using the app for event organizations	Estimation	%30	1
Misusage of the app by different kinds of organization groups	People	%3	15

### **Risk Mitigation Table**

Aa Risks	■ Mitigations
Simultaneous usage of app by many people may cause exceeding of limited cloud resources	The budget for cloud resources can be increased

Aa Risks	≡ Mitigations
Lack of profit due to less interest of companies in terms of promoting their events via app	Considerable effort can be spent on marketing
If a new pandemic occurs, interest in face to face event organizations may decrease	Incorporating online events to our app
People may tend to return to their usual communication habits rather than using the app for event organizations	According to user experience and their feedbacks, developments should be done continuously
Misusage of the app by different kinds of organization groups	Automated keyword checkings may be implemented