

# Effort Estimation Document

**Team Name:** HighFive

**Project Name:** WorkClaim

**Team Members:**

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## Effort Estimation For Each Phase

### Estimation Method: Bottom-Up Estimation

#### PHASE 1: Analysis & Design

- **Tasks:** Requirements gathering, UI/UX Design (PyQt), Database Schema Design (PostgreSQL), Task Management.
- **Effort:**  $\sim 20+18+12 = 50$  hours

#### PHASE 2: Core Development

- **Tasks:** Implementation of reservation logic, Map/Facility integration to DB, Frontend Implementation, API Connection.
- **Effort:**  $\sim (45+45+20) = 110$  hours

### **PHASE 3: Refinement & Testing**

- **Tasks:** *Polishing User Interface, Bug fixing, Testing and Debugging, RBAC implementation and verification.*
- **Effort:**  $\sim 15 + 20 = 35$  hours

### **PHASE 4: Finalization**

- **Tasks:** *Final improvements, Documentation, Presentation Preparation.*
- **Effort:**  $\sim 10 + 5 = 15$  hours

### **Total Project Effort (Bottom-Up Estimation Methodology)**

*To ensure a detailed and accurate estimate, we decomposed the WorkClaim project into specific technical tasks based on our Python (Backend), PyQt (Frontend), and PostgreSQL (Database) architecture.*

**Summing up all phases:**

$50 + 110 + 35 + 15 = \mathbf{210 \text{ TOTAL HOURS}}$

*This aligns with our initial budget plan estimation of roughly 150-200 hours, with a slight buffer for unforeseen technical risks related to database bottlenecks or RBAC implementation).*

### **Effort Estimation Per Task (Breakdown Of Each Individual Task)**

<b>TASK</b>	<b>EFFORT (Hours)</b>	<b>RESPONSIBLE MEMBERS</b>
<b>Requirements Gathering &amp; Scope Definition</b>	<b>10</b>	<b>All Team Members</b>
<b>UI/UX Design (PyQt Layouts &amp; Wireframes)</b>	<b>18</b>	<b>Frontend Developers</b>
<b>Database Schema Design (PostgreSQL)</b>	<b>12</b>	<b>Backend Developers</b>
<b>Frontend Development (PyQt Implementation)</b>	<b>45</b>	<b>Frontend Developers</b>

<b>TASK</b>	<b>EFFORT (Hours)</b>	<b>RESPONSIBLE MEMBERS</b>
<b>Backend Development (Python Logic &amp; API)</b>	<b>45</b>	<b>Backend Developers</b>
<b>API Integration &amp; Connection</b>	<b>20</b>	<b>Backend + Frontend</b>
<b>Role Based Access Control (RBAC) Impl.</b>	<b>10</b>	<b>Backend Developers</b>
<b>Unit &amp; Integration Testing</b>	<b>20</b>	<b>Testing &amp; QA Engineers</b>
<b>Bug Fixing &amp; Optimization (Database Indexing)</b>	<b>15</b>	<b>All Team Members</b>
<b>Documentation (Project Def, Plan, Reports)</b>	<b>10</b>	<b>Content Analysis &amp; All Team</b>
<b>Final Review &amp; Presentation Prep</b>	<b>5</b>	<b>All Team Members</b>

**TOTAL : 210 Hours.**

**Task Matrix:**

<b>TASKS</b>	<b>Zafer</b>	<b>Mert Efe</b>	<b>OrhanEfe</b>	<b>Hasan Yiğit</b>	<b>Emre Kaan</b>
<b>Effort Estimation For Each Phase</b>	X	X	X	X	X
<b>Total Project Effort (Bottom-Up Estimation Methodology)</b>	X	X	X	X	X
<b>Effort Estimation Per Task (Breakdown Of Each Individual Task)</b>	X	X	X	X	X