

Effort Estimation Document

Team Name: HighFive

Project Name: WorkClaim

Team Members:

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Table Of Contents

- 1. Effort Estimation For Each Phase**
- 2. Total Project Effort (Bottom-Up Estimation Methodology)**
- 3. Effort Estimation Per Task (Breakdown Of Each Individual Task)**

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:** $\sim 20+18+12 = 50 \text{ hours}$

PHASE 2: Core Development

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

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 = 210 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)

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

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

TOTAL : 210 Hours.

Task Matrix:

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