



**TED UNIVERSITY**  
**Department of Computer Engineering**

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**CMPE 491 – Senior Design Project I**  
**TEDU Guide — TODO / Backlog Document**

**Project Website:** <https://tedu-guide.vercel.app/>

**Team Members**

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1. Taci Furkan Gökalp
2. Elif Nazlı Özer
3. Fatima Nasir Muhammad

**Date: 27 March 2026**

**Version: 1.0**

**Advisor & Jury Members**

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**Advisor:** Tolga Kurtuluş Çapın

**Jury Member 1:** Mehmet Evren Çoşkun

**Jury Member 2:** Müslüm Bozyiğit

## Backlog Overview

The backlog is organized into five phases aligned with the project timeline. Each item is tagged with:

- **Task ID**: Unique task identifier
- **Priority**: Critical / High / Medium / Low
- **Status**: Not Started / In Progress / Completed / Blocked
- **Estimated Time**: Linked FR / NFR / PR from the Specification Report
- **Assigned To**: Team member responsible

### 1. Project Phases & Timeline Overview

Phase	Title	Duration	Target Completion	Status
Phase 0	Project Setup & Planning	Week 1 - Week 2	27-Mar-26	In Progress
Phase 1	Data Collection & Infrastructure	Week 3 - Week 5	17-Apr-26	Not Started
Phase 2	Core Feature Development	Week 6 - Week 10	22-May-26	Not Started
Phase 3	Compliance & Non-Functional	Week 9 - Week 11	22-May-26	Not Started
Phase 4	Integration & Final Demo	Week 11 - Week 13	12-Jun-26	Not Started

### 2. Detailed Task Backlog

#### Phase 0: Planning & Setup

ID	Task Description	Priority	Assigned To	Status
P0-01	Project Website Deployment (Vercel)	Critical	Taci Furkan	Completed
P0-02	D1: Project Proposal Submission	Critical	All Team	Completed
P0-03	D2: Project Specifications & Literature	Critical	All Team	Completed
P0-04	D3: Initial Backlog Document (v1)	Critical	Taci Furkan	Completed
P0-08	Formal IT Approval for WiFi Data Collection	Critical	Fatima Nasir	Not Started

### Phase 1: Data & Infrastructure

ID	Task Description	Priority	Assigned To	Requirement
P1-01	Digitize floor plans (Leaflet/SVG format)	Critical	Elif Nazlı	FR-06
P1-03	WiFi RSSI Fingerprinting Site Survey	Critical	Fatima Nasir	FR-01
P1-06	PostGIS Spatial Database Schema Design	High	Taci Furkan	PR-01
P1-08	React Frontend + Leaflet.js Scaffold	High	Taci Furkan	PR-04

### Phase 2: Core Development (AI & Navigation)

ID	Task Description	Priority	Assigned To	Requirement
P2A-02	Train k-NN Indoor Positioning Model	Critical	Fatima Nasir	FR-02
P2B-02	OpenAI API Integration (FastAPI)	Critical	Elif Nazlı	FR-03
P2C-02	A* / Dijkstra Shortest Path Implementation	Critical	Taci Furkan	FR-04
P2B-06	Speech-to-Text Voice Input Integration	Medium	Fatima Nasir	FR-09

### 3. Deliverable Checklist

Deliverable	Due Date	Status	Format
<b>D2 — Specification Report</b>	27-Mar-26	Ready	PDF (Email)
<b>D3 — Backlog v1</b>	27-Mar-26	Ready	PDF (Email)
<b>D4 — Analysis Report</b>	10-Apr-26	Planned	PDF (LMS)
<b>D8 — Final Presentation</b>	TBA	Planned	Oral + Demo

#### 4. Risk & Mitigation Table

ID	Risk Description	Impact	Mitigation Strategy
R-01	WiFi Signal Interference/Noise	High	Use signal smoothing and dense fingerprint grids.
R-02	IT Department Approval Delays	Critical	Submit request immediately; use manual pin-drop fallback.
R-03	API Cost Constraints (OpenAI)	Medium	Optimize prompts; use GPT-3.5 for dev, GPT-4 for demo.