

# **BIL 481 – Real-Life Constraints Document**



**TOBB ETÜ**  
University of Economics & Technology

## **Group Members**

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## 1. Introduction

This document outlines the software driven and real-world constraints identified for the "Smart Clinical Appointment System".

## 2. Constraint Tracking Table

ID	Category	Constraint Description	Design Rationale	Owner	Impacted Reqs	Verification	Status
SWC-01	Privacy / Legal	The system <b>must not</b> store raw patient medical history or diagnosis logs permanently.	Compliance with KVKK/GDPR regulations to minimize legal liability regarding sensitive health data.	Database Eng.	FR1, FR7	DB Schema Audit	Active
SWC-02	Performance	AI-driven symptom analysis must return a recommendation within <b>5 seconds</b> .	To prevent user drop-off due to wait times; critical for system usability standards.	Backend Lead	FR7, PR1	Load Testing	Active
SWC-03	Architecture	The database must be a <b>Relational DBMS</b> , specifically MySQL.	Required for ACID compliance to ensure transactional integrity during concurrent appointments.	Database Eng.	All Functional	Arch. Review	Active
SWC-04	Security	Doctor accounts must have emails strictly ending with <b>@doc.com</b> .	To enforce Role-Based Access Control (RBAC) and prevent unauthorized privilege escalation.	Database Eng.	FR10 (Login)	Unit Test & Constraint Check	Active

ID	Category	Constraint Description	Design Rationale	Owner	Impacted Reqs	Verification	Status
SWC-05	Reliability	A specific time slot cannot be booked by two users simultaneously (Double-Booking).	To maintain schedule integrity and prevent real-world conflicts in the clinic.	Database Eng.	FR8, FR5	Concurrency Test	Active
SWC-06	Technological	The system requires an active internet connection to access the <b>OpenAI API</b> .	The recommendation engine relies entirely on a 3rd party cloud service; no offline mode is possible.	AI Engineer	FR7	API Stress Test	Active
SWC-07	Usability	Booking must complete in <b>&lt; 5 mins</b> .	To minimize patient frustration and abandonment.	Frontend	FR8, PR4	User Test	Active
SWC-08	Tech.	Support Chrome, Firefox, Safari	To ensure accessibility across common browsers.	Frontend	All UI	Browser Test	Active

### 3. Document Task Matrix

Task	Responsible Member
Constraint Identification & Context	All Members
Database Constraints (SWC-01, 03, 04, 05)	Mete Kılıç
Frontend Constraints (SWC-07,08)	Ahmet Çakmak
Performance & AI Constraints (SWC-02, 06)	Helen Parlar
Final Review & Formatting	All Members