Doctor At Call

1. Introduction

Objectives

The purpose of this document is to provide a detailed description of the software system "Doctor at Call." This system aims to book appointment,facilitating consultations and medical assistance.

Scope

The "Doctor at Call" system will include a web application accessible to users seeking medical advice. The application will enable users to book with available doctors for consultations and visiting.

Definitions, Acronyms, and Abbreviations

SRS: Software Requirements Specification

API: Application Programming Interface

UI: User Interface

2. System Description

System Overview

"Doctor at Call" is a telemedicine application that allows users to request on-demand medical consultations with registered and available doctors. The system will prioritize ease of use, security, and real-time communication.

System Features

User Registration and Authentication

- Users can create accounts with their personal information.
- A secure authentication mechanism will be implemented**.**

Doctor Availability Status

- Doctors can set their availability status (online/offline).
- Real-time updates on doctor availability.

Appointment Scheduling

- Users can schedule appointments with available doctors.
- Notifications for upcoming appointments.
- Secure and encrypted communication.
- Appointment Request Processing
- Upon user request, the system should identify and display a list of available doctors based on their specialization, availability, and proximity to the user's location.
- Users can select a preferred doctor and propose a time slot for the appointment.

Prescription and Medical Records

- Doctors can generate and share electronic prescriptions.
- Users can access and manage their medical records.

3. Functional Requirements

User Module

User Registration

- Users must provide valid information for registration.
- Unique usernames and passwords for authentication.

Profile Management

- Users can update their profiles.

- Option to add and edit medical history**.**

Appointment Booking

- Users can view available doctors and schedule appointments.
- Confirmation notifications for booked appointments.

Doctor Module

Doctor Registration

- Doctors must provide necessary credentials for registration.
- Verification process for medical professionals.

Availability Management

- Doctors can set and update their availability status.
- Real-time synchronization with the user interface.

Consultation Management

- Doctors receive and accept/reject appointment requests.

Prescription and Medical Records Management

Prescription Generation

- Doctors should have the capability to create electronic prescriptions during or after a consultation.
- Prescriptions should include details such as medication names, dosage, and instructions.

Prescription Delivery

- Users should receive electronic prescriptions securely through the application.

- Prescription details should be stored in the user's medical records.

Medical Records Access

- Users should have the ability to access and download their medical records at any time.
- The system should maintain a secure and organized repository of medical records for each user.

Medical History Update

- Users should be able to add, edit, or update their medical history through the application.
- Changes in the medical history should be reflected in future consultations.

4. Non-functional Requirement

Performance

- The server must be able to support an unlimited number of devices.
- Any amount of active client payments must be supported by the server, and payments must never be lost.

Security

- Registered users will be allowed to place an Appointment.
- Sensitive data will always be transmitted with encryption. The system will internally maintain a secure communication channel between servers (web servers, application servers, database servers).

Reliability

- The system should be scalable, with the ability to accommodate a large number of users at once.
- The site's response time should be as quick as feasible, and it should be able to load balance the server.

Availability

- This application is available for 24 hours anywhere, anytime.

Maintainability

- Commercial database software will be used to maintain System data Persistence.
- A readymade Web Server will be installed to host online doctor at call portal (Web Site) to management server capabilities.
- IT operations team will easily monitor and configure the system using Administrative tools provided by Servers.
- Separate environments will be maintained for the system for isolation in production, testing, and development.

Portability

- PDA: Portable Device Application
- The system will provide a portable User Interface (HTML, CSS, JS) through which users will be able to access the Doctor at Call portal.
- The system can be deployed to a single server, multi-server, to any OS, Cloud (Azure or AWS or GCP).

Accessibility

- After authentication, only logged-in users will be able to place an Appointment.
- Through a personalized dashboard, the BOD team will be able to monitor daily, weekly, monthly, and annual business growth.

Efficiency

- The system will be able to manage all transactions with isolation.

Safety

- All the data will be hidden for other users.

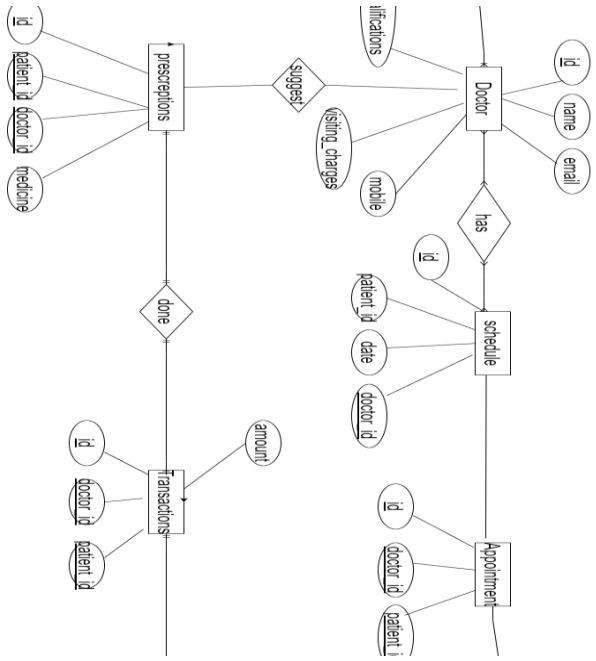
Scalability

- Online Doctor at Call portal will be secure from malicious attacks.
- Online Doctor at Call portal functionalities are protected from the outside with proper configuration.
- Data will be backed up periodically to ensure the safety of data using an incremental backup strategy.
- Role-based security will be applied for Application data and operations accessibility.

Benefits

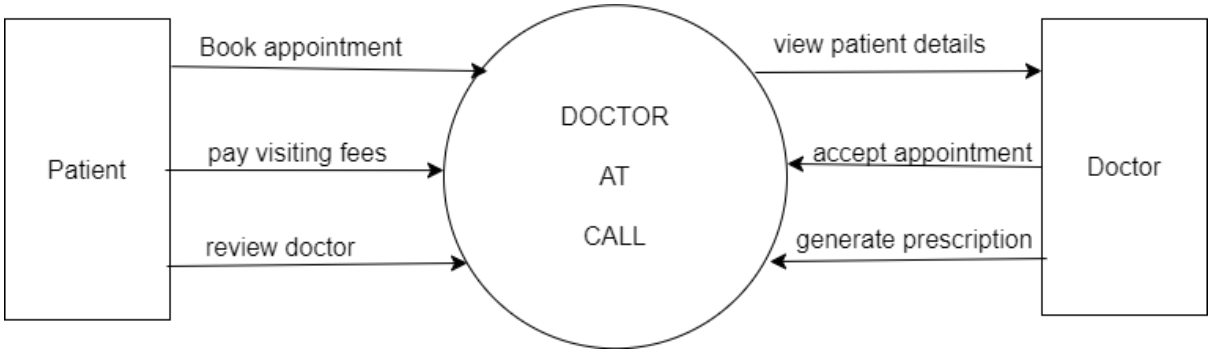
- The Patients will save time because they are not going to the clinic.
- The doctor can visit patient at the proper time.
- The patient can book doctor appointment at any time from its place in that area.

5. Entity Relationship Diagram

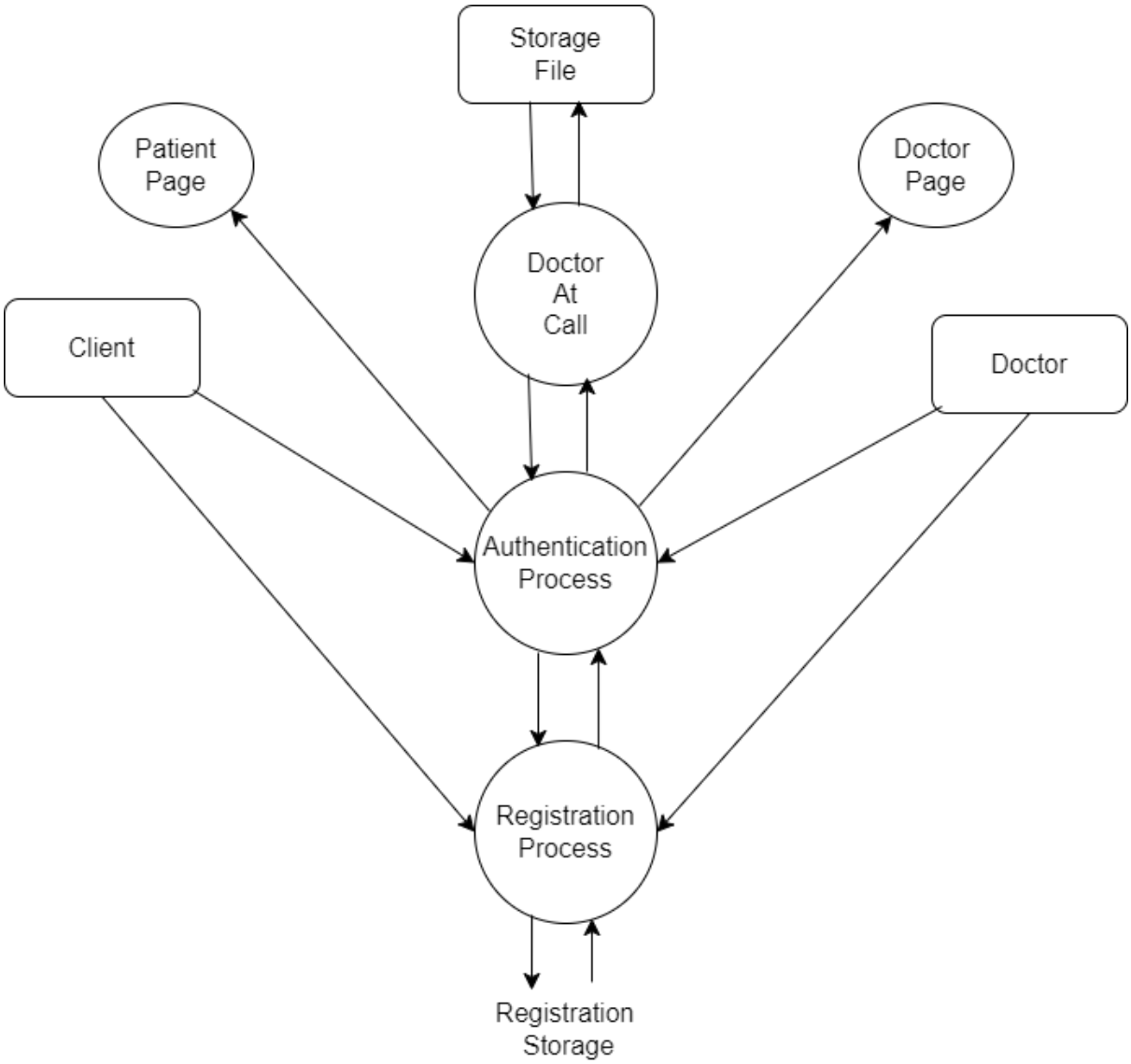


6. Data Flow Diagram

Level 0



Level 1


Storage File
Patient Page
Doctor Page
Doctor At Call
Client
Doctor
Authentication Process
Registration Process
Registration Storage

7. Use Case Diagram