



Pose Alert System (PAS) Functional Documentation

V 2.1

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1. Introduction

1.1 Purpose

This document outlines the functional specifications for the development of a Pos Alert System (PAS) mobile applications. The system aims to monitor patient activities, detect specific events, and notify medical staff based on predefined rules.

1.2 Scope

The PAS system includes mobile applications for medical staff to receive real-time alerts and view patient activity data.

2. Mobile Applications (for Medical Staff)

2.1 Login Screen

- Secure login for medical facilities with role-based access

2.2 Forgot Password

- Password recovery option with a "Forgot Password" link.
- Secure verification process for password reset.



2.3 Room List with Status

- View the status of system/cameras in individual rooms.
 - Green indicates the camera is active, and the system is on.
 - Red indicates the PAS system is off, the camera is off, or no patient is present.
- Clicking on the Room number will take to Live View screen

2.2 Live View

- Real-time streaming of patient activity in the Room.
- Display of Activity with the option for the Medical Staff to Enable / Disable Notification. Red indicates the Notification is OFF & Green indicates the Notification is ON.
 - In Bed
 - Restless in Bed
 - Stand Attempt,
 - Standing,
 - Sitting,
 - Walking,
 - Falling.
- An alert i.e Push notification will be sent to the staff when the following event is detected. Clicking on the Push notification will show the Real-time i.e LIVE streaming of patient activity.
 - Event Types
 - Live View: Real-time streaming without recording.
 - In Bed: Indicates the patient is in bed.
 - Restless in Bed: Alerts when the patient shows signs of restlessness in bed.
 - Stand Attempt: Alerts when the patient attempts to stand.
 - Standing: Indicates the patient is standing.
 - Sitting: Indicates the patient is sitting.
 - Walking: Indicates the patient is walking.



- Falling: Alerts when the system detects a fall.
- Daily Report: Display the current day report i.e Activity of the patient by hours, minutes. **TBD**
- Weekly Report: Display weekly report i.e Activity of the patient by day. **TBD**

3. Web Portal (for Hospital Administrators)

User Management:

- Create, edit, and delete user accounts for hospital staff.
- Define roles and permissions for different staff members (e.g., nurses, supervisors, IT personnel).

Facility Configuration:

- Add, Edit, Delete Rooms & monitoring device details.

Rules and Alerts Configuration:

- Set up and configure rules for patient activity monitoring.
- Customize notification preferences for different staff members.

Report Generation:

- Generate and view reports on patient activity.
- Extract data for specific time periods, rooms, or patients.
- Export reports in common formats (PDF, CSV) for analysis.



Device Health:

- Monitor the health and status of monitoring devices.
- Receive alerts for malfunctioning devices.

Cloud DB setup

On the cloud platform (AWS or GCP), we will set up the cloud database service to receive incoming data.

Data Engine

SDI will develop a script that will retrieve the data stored on the on-premise PC's via secure transmission protocols (e.g., HTTPS) to establish a secure connection between the on-premise PC and the cloud. The script will transform the data into a standardized format compatible with the cloud database schema.

Message Queue or Event Hub:

We will implement a message queue or an event hub to decouple data ingestion from processing. This will enable us to asynchronously sync the data with the cloud DB.

Note

All Devices & Patient Activity data will be provided by the client in CSV format.

Tech Stack

Web Development

- Framework: AngularJS, Express.js

Cross-Platform Development:



- Framework: React Native
- Push Notifications: Firebase Cloud Messaging (FCM) for Android, Apple Push Notification Service (APNs) for iOS

Backend:

- Framework: Node.js (Express.js)
- Database: MongoDB (for JSON data storage)
- API Documentation: Swagger

Total Cost

Mobile Application	\$19600
Web Portal (Hospital Administrator)	\$17200