Team Name: Toddlers

Team Leader: Tanjim Ahmed Khan

Other Members: Jayanta Sadhu, Nazmul Takbir, Sihat Afnan

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## Problem Identification

The problem has several key aspects which have to be kept in mind when coming up with a solution:

1. In a pandemic situation of an air-borne contagious disease, contact between health care workers and patients have to be minimized while maintaining top quality monitoring of patients.

2. Data has value at both individual level and group level.

3. Individual data of a patient is important to give proper treatment according to his/her needs.

4. Group data of patients is important to analyze which treatment methods have been most successful.

5. Data has to be collected from all patients, but not all data should reach all health workers. Division of labor is needed to improve efficiency.

6. For an individual patient, real time data is important to tackle possible emergency situations, and historical data is needed for long term treatment strategy.
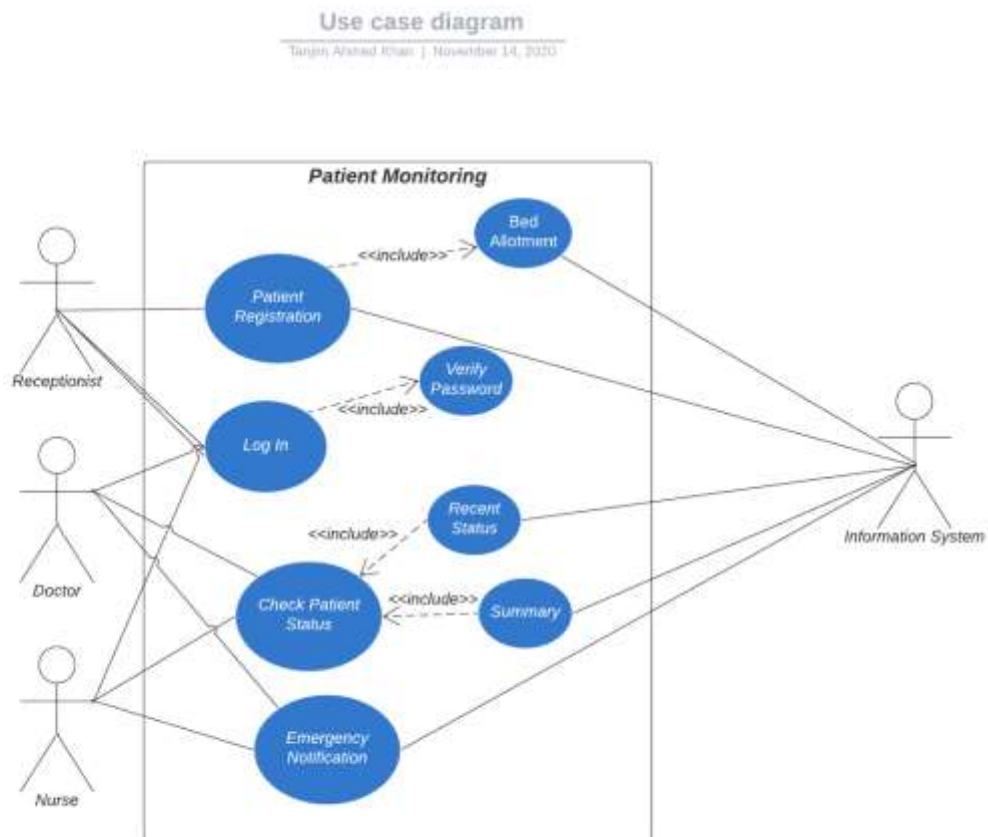
## Risk Analysis

1. Medical Data is sensitive information and data of a particular patient should not be publicly available, but analysis of group data of all patients should be publicly available to help the medical community as a whole.

3. Failure to update data in real-time and inform health care workers of emergencies can have devastating effects.

4. Real-time streaming data for individual patients can build up over several days to very large sized datasets. So historical data has to be stored smartly.
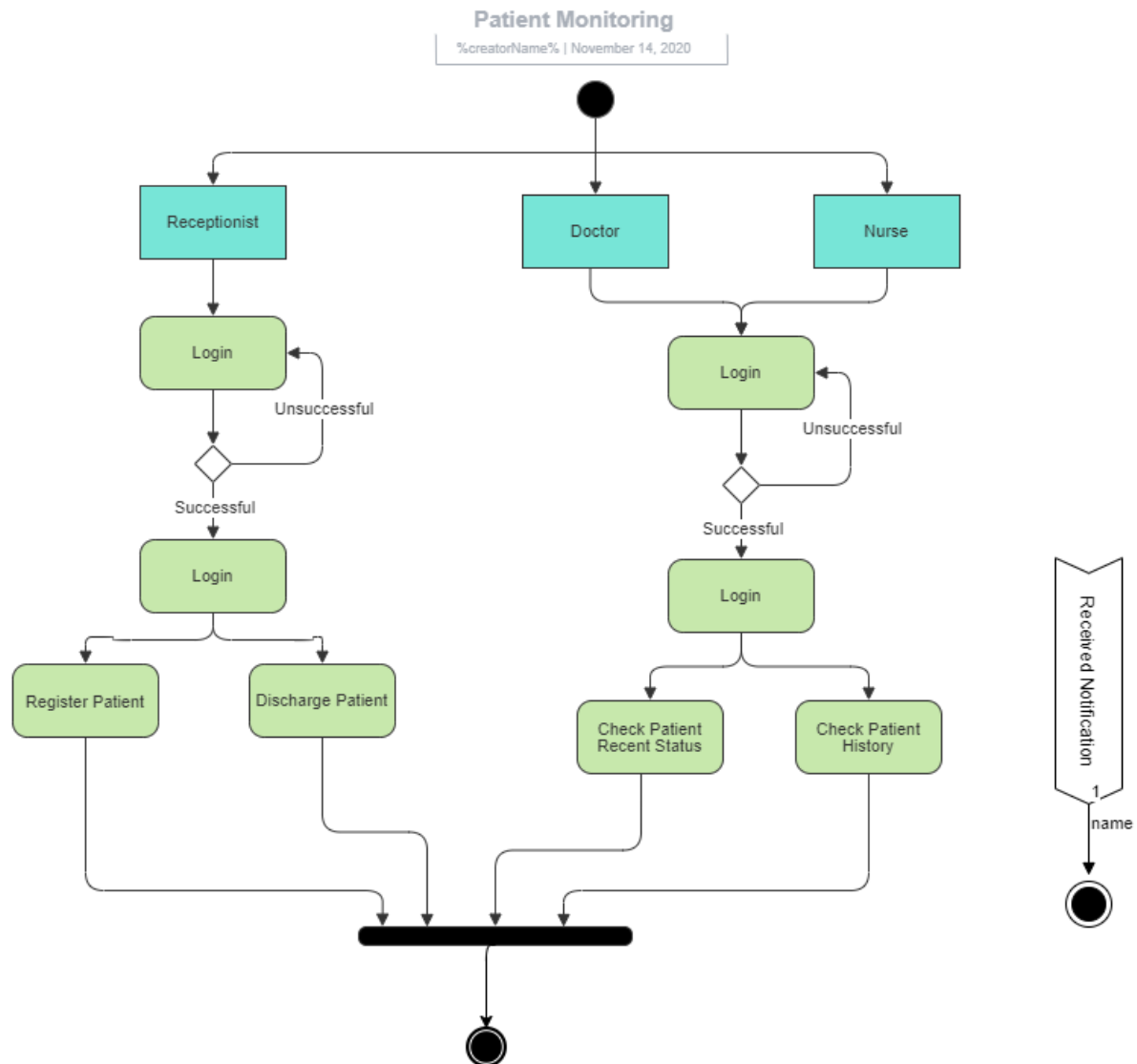
## Implementation Plan and Work Progress

1. Unfortunately none of us have prior experience of working with data streaming platforms like Kafka.

2. In the first 12 hours 2 of us have worked on learning and implementing the data streaming platform using Kafka Python

3. The other 2 of us have worked on building the backend database, models and UI using Django MVT and Bootstrap.

4. Hopefully we will be able to put it all together in the next 24 hours.
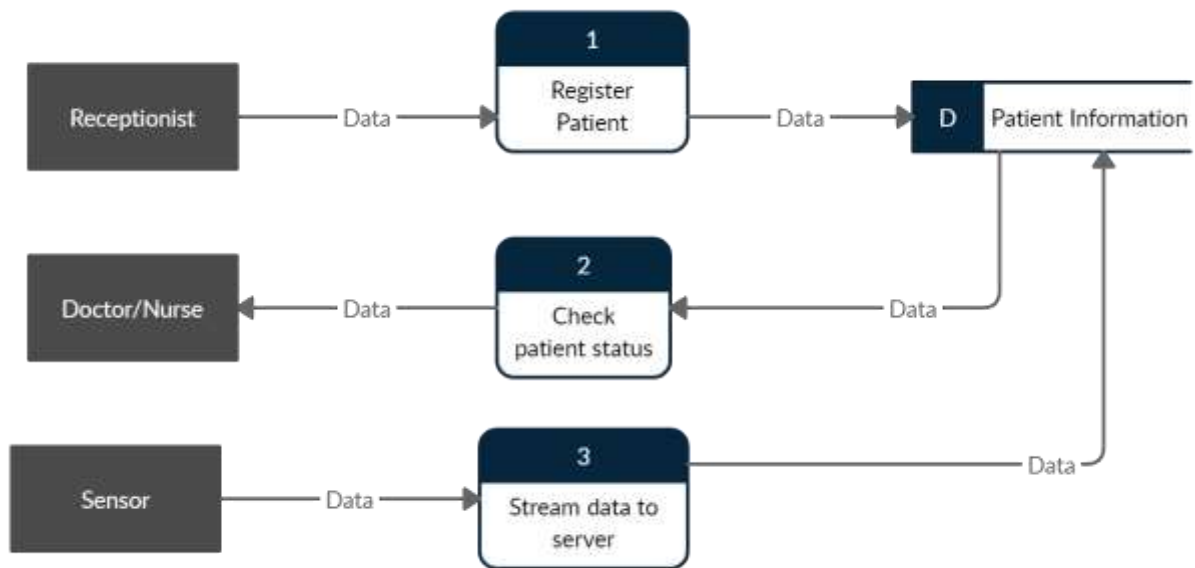
Use Case Diagram



Use case diagram

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Patient Monitoring

Activity Diagram

## Patient Monitoring

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Data Flow Diagram

Architecture Diagram