0004 - Stock Out App Server

This document describes the Stock Out App Server application design

- Database
- Communication
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        - Authentication
        - Stock take
        - Stock arrival
        - Alert
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        - Setup Phone
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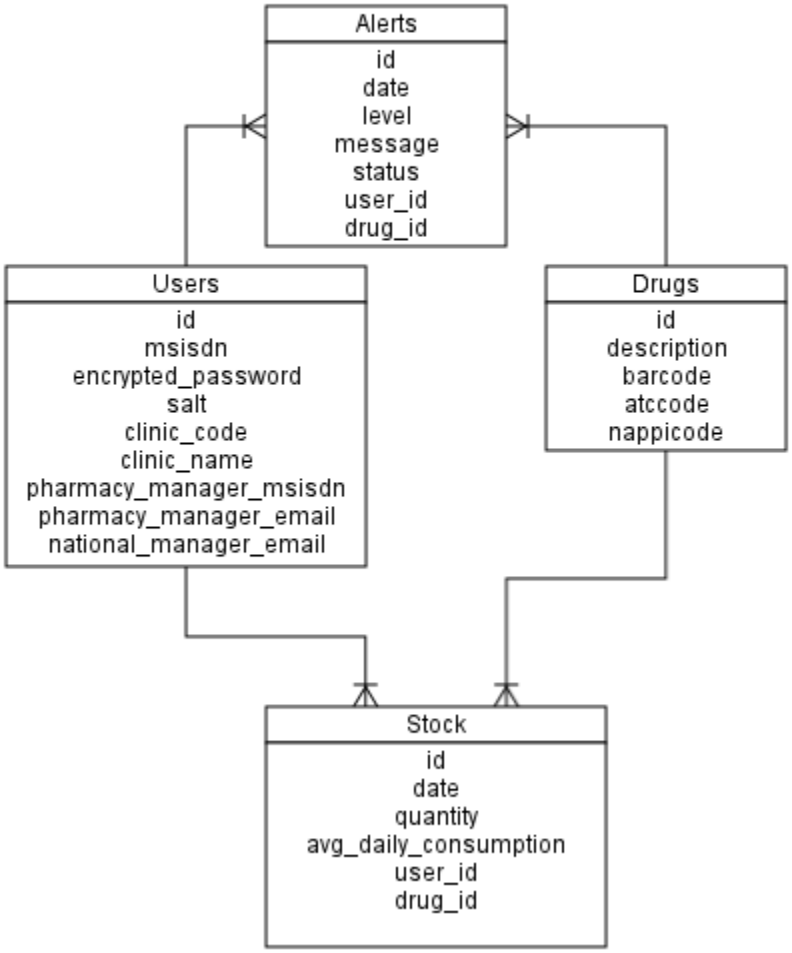
Database



Level = 1, 2, 3 (high)

Status = new, resolved, expired

Communication

REST

Authentication

POST /api/v1/authenticate

Check authentication details of the phone

JSON ....

Authentication details:

- Msisdn
- Encrypted password

Stock take

PUT /api/v1/stocktake

Receives a drug stock take for a clinic (msisdn) from the mobile phone

JSON ....

Authentication details

- msisdn
- encrypted pin

StockTake details:

- Drug
- Quantity

Stock arrival

PUT /api/v1/stockarrival

Receives a drug stock arrival for a clinic (msisdn) from the mobile phone

JSON ....

Authentication details

- msisdn
- encrypted pin

StockTake details:

- Drug
- Quantity

Alert

PUT /api/v1/alert

Receives a drug stock take alert for a clinic for DSW and sends the alert via GCM to the mobile phone

JSON ....

Authentication details

- openHIM authentication details (LDAP)

Alert details:

- Date
- Level
- Drug
- Message
- Clinic contact information

Create User

PUT /api/v1/user

Creates a new user on the system

JSON.....

Authentication details

- user authentication details (LDAP)

User details:

- msisdn
- pin
- clinic_code

Create Drug

PUT /api/v1/dr

Setup Phone

GET /api/v1/user

Retrieves the user information from the user. This includes clinic information required for setup of the phone

JSON....

Authentication details

- msisdn
- encrypted pin

User details:

- msisdn
- encrypted pin
- clinic_code
- clinic_name
- pharmacy_manager_msisdn
- pharmacy_manager_email
- national_manager_email

Outward

This is communication that originates from the Stock Out App Server

OpenHIM

Send stock take

TBD

Send stock arrival

TBD

GCM Alert

Push Alert to Stock Out Android App

GCM Server via XMPP using Smack

https://developer.android.com/google/gcm/ccs.html

Alert Workflow

Immediately, send GCM push to the app to indicate a stock take is required for a drug (this is a green alert)

24 hours after the first stock take warning (where no stock take for the drug has been submitted)

- send an SMS reminder to the pharmacist manager. (Note: if the pharmacy_manager_msisdn is not specified, then the SMS is sent to the app phone)
- a yellow alert to the phone.

48 hours after the first stock take warning (with no stock take)

- send an email to the pharmacy manager
- send an email to the district pharmacy manager
- a red alert to the phone

Working hours

Alerts are only generated during working hours Mon-Friday and not on public holidays.

Public holidays rules are as follows:

- 1 January, 21 March, 27 April, 1 May, 16 June, 9 August, 24 September, 16 December, 25 December, 26 December
- If a public holiday falls on a Sunday, the following Monday is a public holiday
- Easter is calculated using this algorithm: http://www.smart.net/~mmontes/nature1876.html

Architecture notes

Uses ClinicService to get Clinic details (e.g. name) given a clinic code

Uses Communicate dependency for sending of SMS

Re-usable parts (e.g. Working hours) are put into a general Cell-Life utilities dependency

Implementation notes

Apache Camel

Apache Camel will be used for a workflow engine.

The workflow engine is used to generate the alerts for missing stock takes. The alerts will be sent out via GCM push, SMS and email (see Alert Workflow).