Snag Reporting System

1. Project Overview

To develop an Android Mobile Application based **Snag Reporting System** to keep track (making a note) of the snags. Snags here mean a fault in the machine, may be a missing part like a bolt or a nut or oil leakage or hydraulic hose damage or wrong size bolt.

2. Use Cases to be Supported

1. Generate QR code for a series of numbers (which will represent unique machine ID).
2. To every machine, attach a QR sticker and stick it to the machine on the spot.
    a. QR Code Scanner : It requires a screen which lets user (Admin) to scan a QR code, retrieve a unique code for it and then store it in database.

3. Scan the QR code (which is a sticker pre-printed) which is already stuck to the machine. App should be able to identify the machine based on the QR code and display appropriate screen for the Inspector or functional operator whoever has logged in.

4. Inspector 1: Will identify the snags and raise the snags in the app for a machine.

5. Functional Operator: Will fix snags one by one and he will update in the app that it is cleared. Immediately this snag should get into cleared bucket.

6. Inspector 2: will re-examine whether the snags are cleared from the cleared bucket (from previous step).

7. Inspector 3: will examine whether all the snags are cleared and he will approve for snag-free machine.

3. Project Modules:

These are modules that would be developed as part of this project proposal, each of these modules are storing data in a database deployed on Cloud.

Here is the list of modules:

1. **Admin Panel :** This is a web based portal accessible only to administrators of the project.
   This administrator panel would have the following sections:

   a. **SignUp Page for Administrator**:

   b. **Login Page for Administrator**:

   c. **Add Mobile App's User Page** :
      There are multiple kinds of mobile app users, such as
      i) Inspector 1,
      ii) Functional Operator,
      iii) Inspector 2, and
      iv) Inspector 3.
      Once registered, there login information is send to the respective assigned person over email (outside of system) separately so they can login in the mobile application.

   d. **List all Mobile Users:**
      Displays a list of all mobile app users.

   e. **Add Machine's Metadata Page**:
      This module would let admin add each machine's attributes (metadata) such as :
      i. Category of machine which has snag,
      ii. sub-category or part of machine which has snag,
      iii. Name of the part which has snag.
      These amachine properties will then to appear in snag reporting module in android application.

   f. **List all Machine's Metadata :**
      Displays a list of all machine's metadata.

   g. **List all QR Codes :**
      Displays a list of all machine's QR codes, generated using mobile app.

   h. **List All Snags Page**:
      Lists all the snags that were add using android application . This page also displays their status. The status of a snag could be any of the following values:
      i. Reported by Inspector 1, or

ii. Fixed by Functional operator, or
iii. Re-examined by Inspector 2, or
iv. Approved by Inspector 3

The list will be **sortable** and **searchable** by machine name (type) and by snag status.

2. **Mobile App :**

   a. **Login Screen :**
   This screen will let a registered user login. Users are added in admin panel by administrator only. User could be of any category of Users (Functional Operator, Inspector 1 , Inspector 2 and Inspector 3).

   b. **Generate QR Code Screen:**
   This screen will let an admin user to generate a QR code representing a machine code. Once a qr code is generated it gets saved in the database and is visible inside admin panel.

   c. **Add New Snag Screen:**
   This module will let user of type **Inspector 1** to add a new snag against a machine by choosing the machine from a drop down (or scan the QR code). These drop down entries are read from metadata added in admin panel.

   d. **Mark Snag Screen** for Functional Operator :
   This screen will list all active snags. **Functional Operator** works on a snag, then chooses one of them from this screen and then marks them as **CLEARED** once it is resolved. This cleared snag will move to another list which is shown to **Inspector 2.**

   e. **ReExamine Screen** for Inspector 2: This screen will list all snags marked CLEARED by Functional Operator. Inspector 2 can re examine a chosen snag and then mark them as “CLEARED” again.

   f. **SnagFree Screen** for Inspector 3: This screen will list all snags of a machine with eir status. Once all snags of a machine are marked as **CLEARED**. It can be marked as **SNAGREE** on this screen by **Inspector 3.**