ADVANCED DRAFT SURVEY SYSTEM

Client : Spares Pazari

Project Background

- Spares-Pazari intends to develop a solution for rapid measurement of Draft of a ship, to be used in maritime industry. The device shall be used to measure the depth of the sea level (water level) from the top of the deck or from similar location and transmit the data to a mobile application that can be used to generate the draft survey report. This will be a handheld device which can be attached to a fixed railing to take the readings while the sensor is overhanging from the device.

Draft Survey

- A draft survey of a ship is a measurement of the depth of the ship's hull below the waterline. This is done by measuring the distance between the waterline and several points (usually six) on the ship's hull, usually at the bow, midship, and stern.
- The draft survey is important because it helps to determine the amount of cargo on board the ship. By knowing the ship's draft before and after loading or unloading cargo, the amount of cargo loaded or discharged can be calculated.

Solution

Android Mobile application

- The mobile app will have the following features:

- Mobile app will function both **online and offline**. When the device is online, it will be able to synchronise with the server. At other times it will store the data locally and whenever it comes online, the app will upload the data on to the server.
- One user will use one login. The same login, if used by other users will synchronise to the server.
- Once the survey is completed, the report can be generated after two approvals (signatures): one by the ship's captain and another by the competent authority from the port operator.
- User on boarding (profile creation, modify details… etc.) can be done from the app itself. If the user is new, they will have to sign up and for existing users, login will be via password.
- Users are to be validated via e-mail before they can upload data to server.
- Any new user with the app will be able to create a profile on the app.
- Ship profile building: The user can create different profiles for the ships to be surveyed. A ship's details needs to be entered only once and for subsequent surveys it will be automatically fetched from the database.
- Connect a device: The user will be able to establish a connection with the ADSS via Bluetooth. The connection status will be visible via the app.
- Survey settings: Specific survey related data will have to be entered via the app before a survey. For this, templates can be used, or a fresh survey can begin with manually entered data. Some of the data that has to be entered are:
    - Survey ID (automatically generated as (YYYY/MM/DDHHMM-sequential number)
    - Ship name
    - Ship type
    - Surveyor name, ID
- Selection of survey location. E.g. FWD-PORT, FWD-STBD… etc.
- After a survey the data can be reviewed before submitting for approval. If something is not right, a survey point can be re-surveyed before submission.
- The app will have provision to get the signatures of the authorities, as approval.
- Access to archived survey data. The app will also show which are synchronised and which are not.
- The archived data will have filtering options which can be used to find specific survey data by ship name, date range or by surveyor name etc.

Solution

Android Mobile application

- It helps to ensure that the ship is not overloaded, which can be dangerous and can also result in fines from regulatory authorities.
- It allows the shipper and consignee to accurately calculate the quantity of cargo being transported, which is important for billing and other administrative purposes.
- It can help to prevent disputes between the parties involved in the shipment, as everyone has a clear understanding of the quantity of cargo being transported.