**User Documentation**

**General Information**

Welcome to Ocean Observation System, which is a  web-based database application system**.**

Ocean Observation System (OOS) is a computer information system that stores and processes different types of data for an ocean observatory. Those data are produced by a wide range of different sensors, placed at different locations. In this system, users are able to upload, search , download and get access to analysis of data provided by sensors.

Sign up a new account and explore a new field now !

**Installation Guideline**

1. Download package and extract files to the path ~/catalina/webapps/Ocean
2. Open terminal and execute commands in order:
   1. cd ~/catalina/webapps/Ocean
   2. javac WEB-INF/classes/\*.java
   3. sqlplus ( enter < username>, < password> to start your sql)
   4. @setup.sql
   5. starttomcat
3. Open a brower, enter http://u\*\*\*.cs.ualberta.ca:<your-port-number>/Ocean/login.html

**User Manual**

1. **Login Module**

Users: All Users

Function: This module enables all users to log in and log out the Ocean Observation System. Users can also modify their personal information and password.

How to use:

Input your username and password. If you don't have one, please contact administrator to create an account for you. After you log in, you will enter the home page of your role automatically.

You can manage your account through clicking the “My Account” button (which will appear almost all pages). Then you can see your detailed information.

You can modify your personal information through clicking “Modify Personal Information” button. You can update all your information except you Person ID (which can only be edited by administrators). After you editing them, you can click “Save”, and then you will see your new information automatically.

You can modify your password through clicking “Change Password”. Then you have to enter your new password twice and click “Save”.

You can also go to the homepage of your role by clicking “Go to HomePage”.

If you want to log out, Please click “Log Out” button.

1. **Sensor management Module**

Users: Only administrators

Function: This module enables administrators to create and remove sensors. Open a brower, enter http://u\*\*\*.cs.ualberta.ca:<your-port-number>/Ocean/login.html

How to use:

Go to administrator page and press "edit sensor table" button. System will list sensor tables that stores all information about sensors and promts you to manage sensors.

To create a new sensor, you should enter correct information about sensor id, location, type and description and then press “create” button. Particularly, the sensor id you entered should be un-used, and the type you entered should be “a” or “I” or “s”, otherwise, there will be an error message.

To remove a sensor, you should enter sensor id of the sensor that you want to remove and press “remove” button. Also,make sure that the sensor you want to remove is within the sensor table. To be noticed of , once you remove a sensor, all date of this sensor will be removed as well.

1. **User management Module**

Users: Only administrators

Function: This module enables administrators to create, remove and update users.

How to use:

Go to administrator page and press "edit user table" button. System will list persons table that stores all information about users and promts you to manage users.

To create a new user, you should enter correct information about person id, first name, last name ,address , email and phone number, and then press “create” button. Particularly, the person id and email you entered should be un-used, otherwise, there will be an error message.

To remove a user, you should enter person id of the user that you want to remove and press “remove” button. Also,make sure that the user you want to remove is within the person table. To be noticed of , once you remove a user, all date of this user will be removed as well.

1. **Subscribe Module**

Users:

Function:

How to use:

1. **Uploading Module**

Users:

Function:

How to use:

1. **Search Module**

Users : Only scientists

Function:

This module enables scientists to search and download data of sensors according to search conditions specified by users.

How to use:

Go to scientist page and press "search" button. System will promt you to enter information about keywords of description , location of sensors, type of sensors and time period of data. You could leave location and type empty, but make sure that you correctly enter information about keywords and time period.

After submiting your search conditions, system will list images, audio recordings and scalar data of sensors which qualifies search condition. Also , you can only see data of sensors that you have subscribed to . If you want to save data, you can download full size image , audio file and scalar data in csv file by pressing "download" button.

1. **Data Analysis Module**

Users: Only scientists

Function: This module enables scientists to view the average, minimum, and maximum values of the selected sensor on five levels of time hierarchies.

How to use:

After you enter Scientist homepage, you can enter Data Analysis page by clicking “Data Analysis” button.

Now you can see all sensors information and your subscribed sensors. Since you can only choose the sensors you have subscribed, you can click “Go To Subscribe” button to edit your subscribed sensors. After that, you can select which sensor you want to analyze and the time hierarchies. Then click “Submit” button.

Then you can see the detailed information of your selected sensor and its average, minimum, and maximum values according to the time hierarchies.