Paper 14
Water Quality Calculation and Management System

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INRODUCTION

Water is found almost everywhere on the Earth. Water resources like rivers, lakes, which provide water contain a lot of pollution. To be clean, the water should undergo a number of treatments necessary to make it potable. Therefore, it is a must to have purification technology for these raw water.

Water treatment plants play a major role to overcome these issues. When considering the procedures used, water treatment process design was always based on manual calculations and recordings. Water Treatment Plants interacts with lots of manual processes. It means the design process is much time consuming. As a result, the final evaluation and physical, chemical and biological treatment processes designs are delayed. In order to prevent those types of drawbacks there are computerized programmable calculations and analytical techniques which can be introduced to the laboratory and other staff. An automated system will be a solution which guarantees the rational selection.

THEME 4

HIGHLIGHTS

- Developing a system to calculate the parameters which affects the water quality to replace the manual calculation method with the web based system.
- Enabling programmable calculations in water chemistry.
- It is easy to keep a track of manual activities to obtain a precise output by a web based process.
- It is better to introduce a specific system to obtain correct details and calculations for a reliable output.

METHODOLOGY

A system development process can follow a number of standard or specific frameworks, methodologies, modeling tools and languages. The development of a website should be a complete and deliberate process.

The technological influence to the system is HTML, MySQL, php and some other web developing technologies. Current issues in the computerized water chemistry analysis are not much deep in progress.

PHP is a fast, server-side scripting language that is used to create interactive, dynamic web sites. It is particularly well-suited to integrating with a range of databases. PHP code is inserted directly into the HTML that makes up a website. When a visitor enters to the website, the code is executed. Because PHP is a server side technology, the user does not need any special browser or plug-ins to see the PHP in action.

MySQL is a fast, open-source Relational Database Management System that uses the popular Structured Query Language (SQL). It is perfect for most websites that need database functionality, and works hand-in-hand with PHP.

AJAX user interfaces are highly responsive giving users the feeling that changes are instantaneous. It also introduces multiple segments of interactivity on the same page. User may submit a form and immediately after concentrate on some text or click on a menu item in some other segment. Even in case of an error in one segment other segments can stay usable. AJAX applications usually avoid the need of horizontal and vertical scrollbars, this adds to user convenience.

OUTCOMES

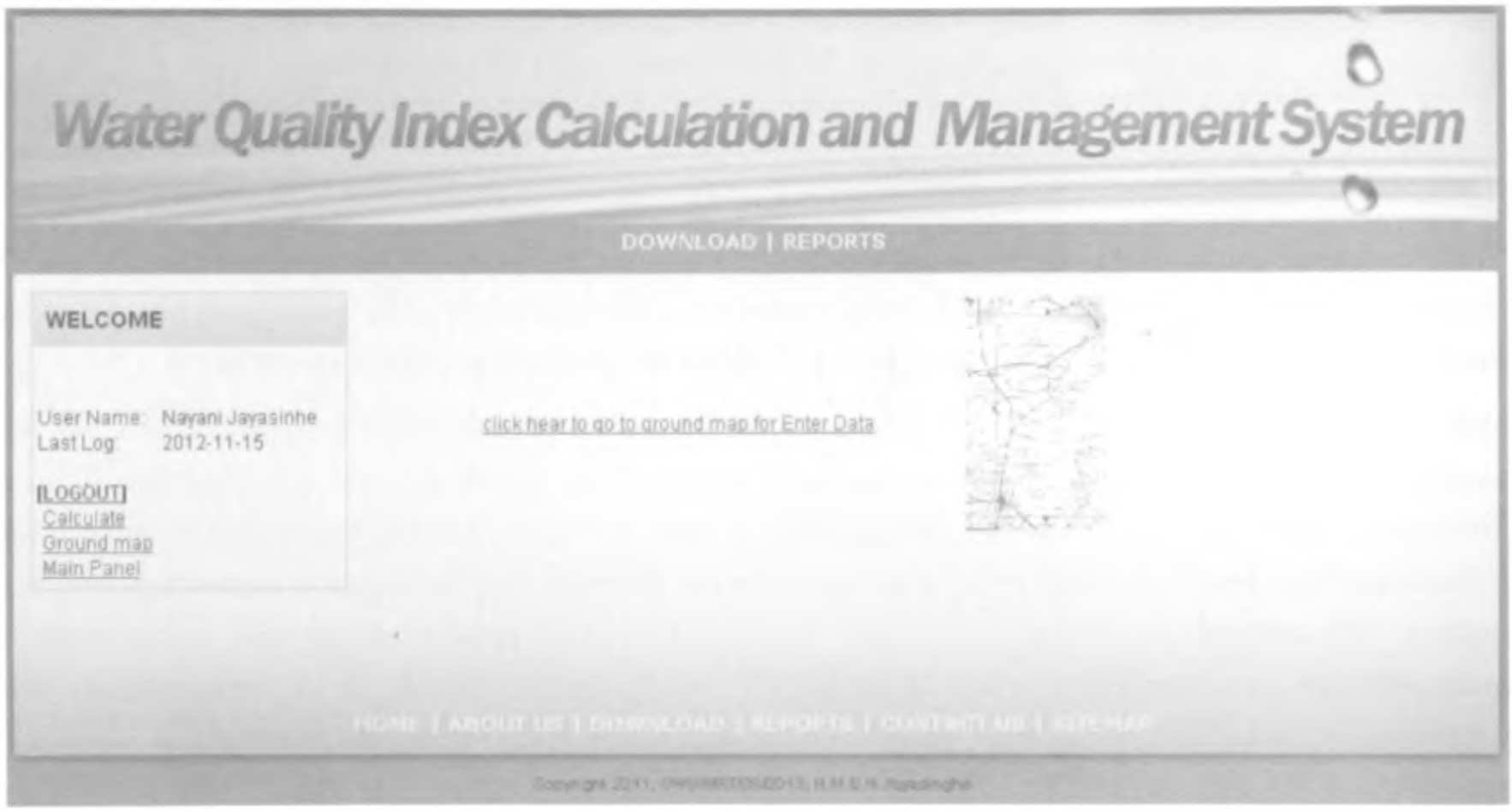

Figure 1: Home Page

Figure 2: Administrator Login

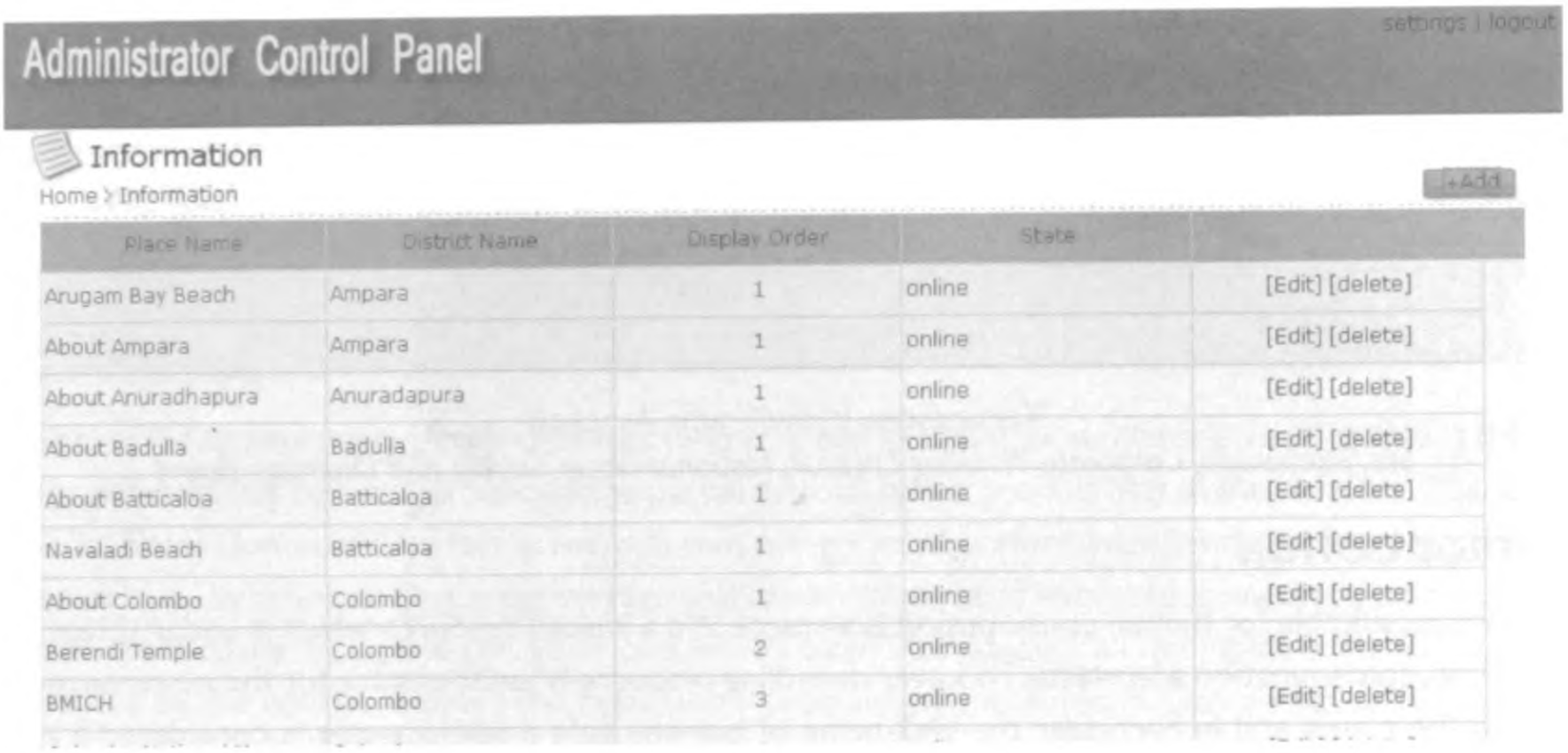

Figure 3: Admin Control Panel

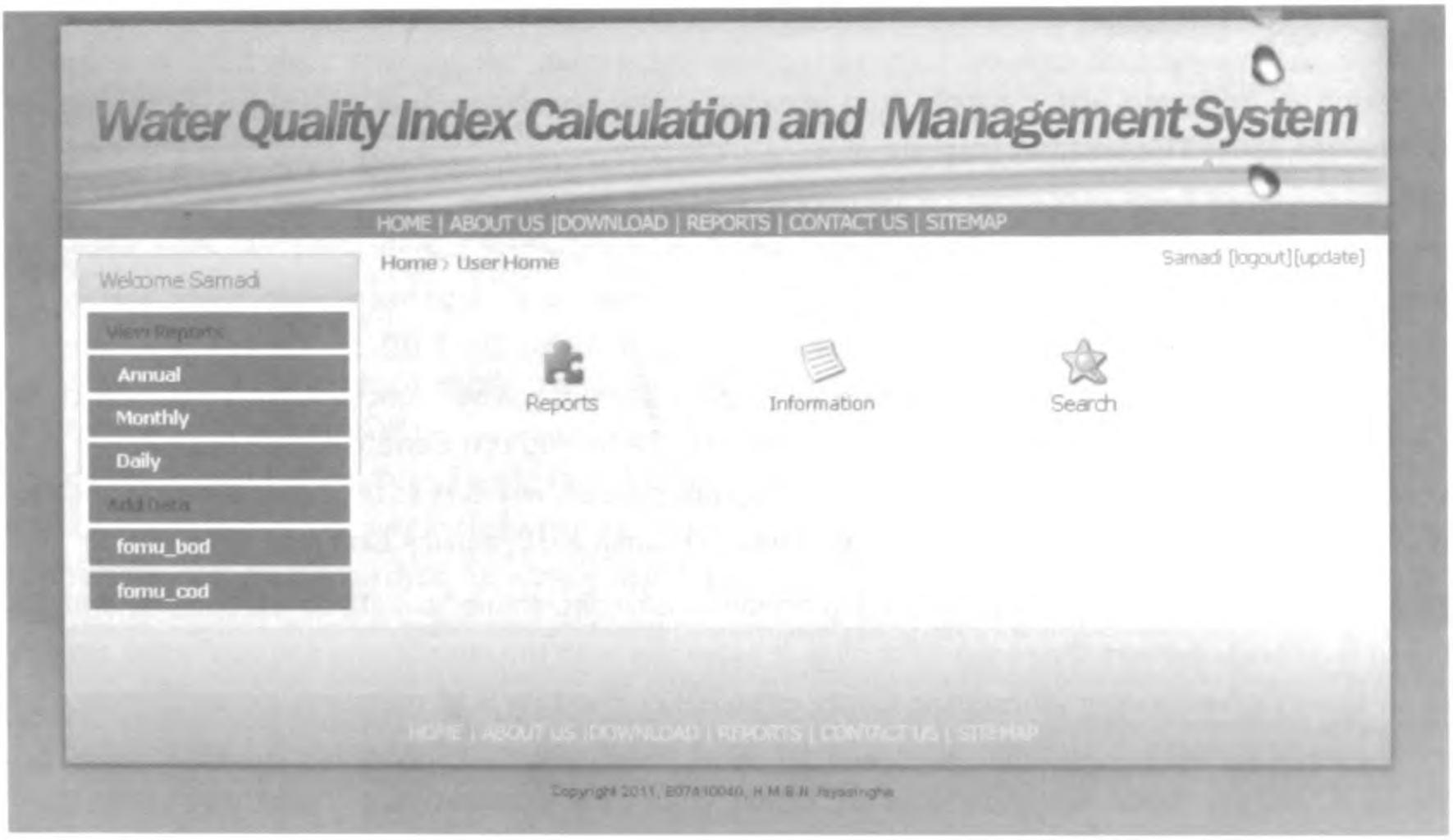

Figure 4: User Home

- The software is completely user friendly.
- Menu is displayed to select a particular process unit for design.
- Design procedures followed are according to standard practice and field oriented.
- Permissible ranges of the parameters are provided to guide the user for entering the input data.
- A warning message is displayed when value of any parameter entered yields a design value, which exceeds or falls short of the expected range usually practiced and, also an option to modify that particular parameter until a satisfactory design is obtained.
- The program is written in a user friendly environment, and supports necessary information for design of the units.
- The software will not allow entering any data which is incompatible and prevents from obtaining erroneous results.