

Pool Assessment System

Case Study

CS1809 July 2009

Conduct assessments of pool safety based on administration defined parameters and state regulations

Project Summary:

The application allows staff members to conduct inspections at swimming pools.

Inspectors use a tablet PC to answer a series of questions as they walk around the venue conducting the inspection. There are a number of potential sections to be inspected based on the layout of the venue. These include "Administration", "First Aid", "Technical Operations", "Spa Pools", "Dive Pools" etc. Each of these sections will have a series of questions used to determine whether this part of the venue is safe.

Once the inspection is complete the system produces a report that is presented to the venues management. The report details current practises and recommendations for future practises. It also provides the venue with a safety score.

Client:

Royal Life Saving Society.
<http://poolassessment.royallifesaving.com.au>

Client Business Background:

The Royal Life Saving Society is an organisation that ensures the development of safety guidelines and risk management systems for aquatic environments.

Project Challenge:

The application needed to streamline the process of staff members conducting inspections at swimming pools. Inspectors would need an application that could be operated on a tablet PC to answer a series of questions as they walked around a venue conducting an inspection.

A number of potential sections needed to be included in the inspection process including "Administration", "First Aid", "Technical Operations", "Spa Pools", "Dive Pools" etc. Each of these sections would need a series of questions to determine whether that part of the venue is safe.

Once the inspection was completed the system would need to produce a report that can be presented to the venues management. The report would need to detail current practises and recommendations for future practises. It would also need to provide the venue with a safety score.



Actions:

Development of an application and supporting system with the following functionality:

- Data collection.
- Full data summarisation and reporting functions.
- User friendly operation.
- Assessment criteria customisation.
- Synchronising desktop software with the intranet server.
- Managing changes and updates to the desktop software with minimal disruption to the inspectors.

Outcomes:

The system consists of the two major parts. An intranet based system where assessments (the questions) and inspections (the venues) can be created.

As each state has different regulations, the content of the assessments had to be configurable by the system administrators.

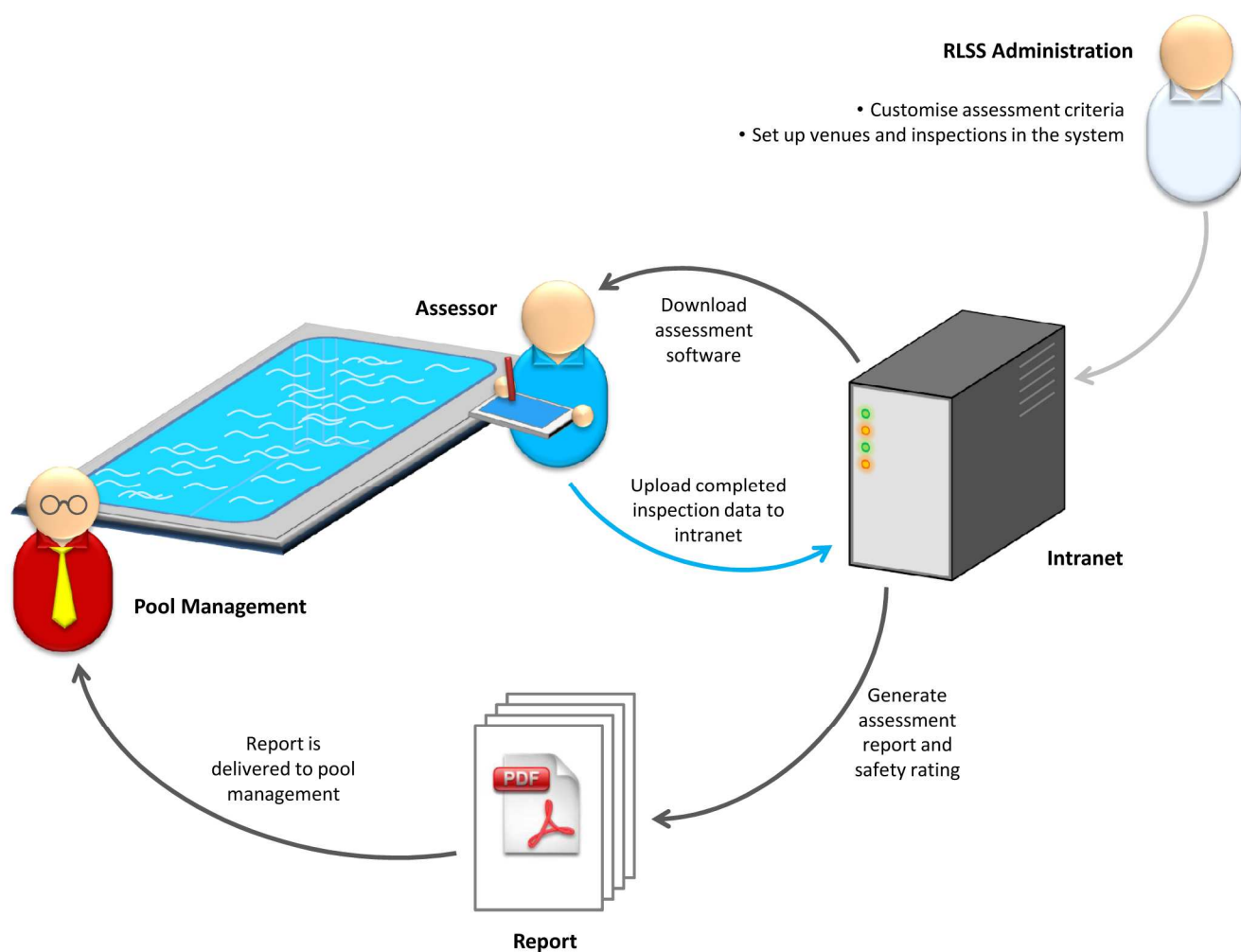
The administrators can define the list of sections as well as the questions that belong to each section. They can add as many assessments as they see fit.

Once the assessments for each of the states are configured, the inspectors can login and create inspections. For example a Victorian inspector would create an inspection for Ringwood Swimming Pool and specify the date that the inspection will take place.

A flex air application running on a tablet PC is the second part of the system. Once inspectors setup their future inspections on the intranet, these inspections are synchronised to the tablet PC when the software is launched.

When the inspector goes to the swimming pool they load the appropriate inspection and begin answering the questions. Once the inspection is complete, the inspectors return to the office where the data is synchronised from the tablet PC back to the intranet. The inspectors can then add additional information and upload photos via the intranet browser interface.

Once the process is complete the system produces a report that it presented to the venues management. The report details current practises and recommendations for future practises. It also provides the venue with a safety score.



Technology Used:

The Pool Assessment System was created using Adobe FLEX, PHP and MySQL.

Adobe Flex:

Adobe Flex is a software development kit released by Adobe Systems for the development and deployment of cross-platform rich Internet applications based on the Adobe Flash platform. Rich Internet applications (RIAs) are web applications that have some of the characteristics of desktop applications. The advantage of Flex is that it doesn't rely on page reloads, can have animations, interactive graphs and handles large datasets.

PHP:

PHP is a widely-used general-purpose scripting language that is especially suited for web development and can be embedded into HTML.

MySQL:

MySQL is a relational database management system (RDBMS). The program runs as a server providing multi-user access to a number of databases.

Extension and Application:

As the questions for the inspections are configurable by the administrators, the Pool Assessment System could be used as general evaluation / inspection tool.

Screenshots:

