Interactive Museum – IM

Minor Project

IBM Career Education

Disclaimer

This Software Requirements Specification document is a guideline. The document details all the high level requirements. The document also describes the broad scope of the project. While developing the solution if the developer has a valid point to add more details being within the scope specified then it can be accommodated after consultation with IBM designated Mentor.

INTRODUCTION

The purpose of this document is to define scope and requirements of an Interactive Museum Project - IM for a National Museum of Ancient History (NMAH). As a part of their modernization drive, the NMAH needed to move away from the manual inventory of artifacts to an automated one. While planning for an automated management of the inventory, they decided to make the experience of every visitor richer by allowing interaction with the artifact. It was decided to place a QR Code label for every artifact so that when a visitor points her/his smart phone to that QR Code, s/he will be able to obtain detailed information about the artifacts from the NMAH web site.

This document is the primary input to the development team to architect a solution for this project.

System Users

The museum staff and the visitors will primarily use the IM system.

Assumptions

1. The current interaction is limited to obtaining details about the artifacts in a rich text format. This will not include any images right now.
2. The entire artifact inventory along with the artifact's details will be manually entered in the system by the museum staff.

REQUIREMENTS

IM will maintain an online inventory of the artifacts along with the details of every artifact for visitors. It will also generate a QR Code label for each artifact that can be printed and pasted next to the artifact for scanning by visitors.

Basic System Operation

The basic operation of the system is outlined below.

1. Museum staff will be able to enter the information about each artifact in to the IM system. This information will include artifact unique id, artifact name, and its details. The details will be captured in a rich text field. The saved details will become available for viewing through a unique URL for that artifact. The URL for the same can be the artifact id.
2. Museum staff will be able to generate QR Code for any saved artifact for printing. The QR Code will contain the URL pointing to the details of the artifact.
3. A simple list view of all the artifacts will be available to the museum staff. Clicking on an artifact will open the details of the same. At this stage, user will have an option to edit the details or take a QR Code label printout.

4. The visitor will automatically be able to access the details of an artifact on scanning its QR Code label.

About QR Code

Quick Response Code or QR Code can be considered as a 2-dimensional bar code. It was invented in Japan by the Toyota subsidiary Denso Wave in 1994 to track vehicles during the manufacturing process. Here is a sample QR Code that points will read “Hello world” on scanning by a QR Code reader:

More details about QR Code can be found at http://www.denso-wave.com/qrcode/index-e.html and http://en.wikipedia.org/wiki/QR_code URLs.

DEVELOPMENT ENVIRONMENT

IM will be developed as a web application using Java/JSP and DB2 database. Eclipse will be used as the IDE for the same. For QR Code, Google Chart API may be used. The details of the same are available at https://developers.google.com/chart/ URL. However, students are free to use any other tool (that can be integrated with the IM system) for QR Code generation.