E-Scratch Cards App & Dashboard (Q-Lotto)

A Web & Mobile Platform to demonstrate operationalization of electronic lottery management.

Design Manual

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B.Sc. (Hons) in Software Development



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1.0 Introduction

This document is developed to further highlight and discuss system functionality for qLotto as identified in the functional requirements specification document. Here the goal is to present a more technical and visualized/ mockup views of how the qLotto application would look like when finally developed.

This document will showcase the proposed database modelling as well as the database tables that would be used for the project. As was earlier stated in previous documentations, use would be made of the MySQL relational database system to store/ persist data for the application. The document will also illustrate the navigation options that would be adopted for the application for a great user experience. More so, wireframe mockups for the different intended screens will be presented to aid visualization while the development of the final application is ongoing.

2 Database Backend

Database table specifications

Customers Table

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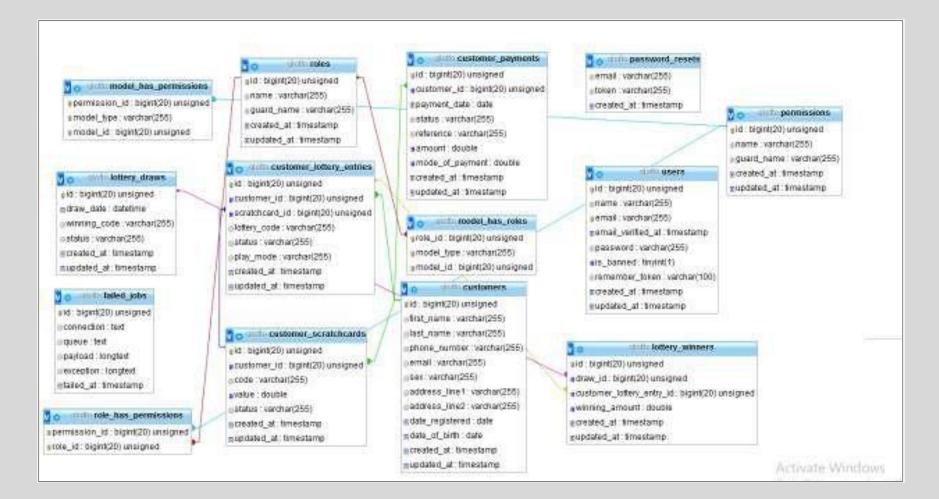
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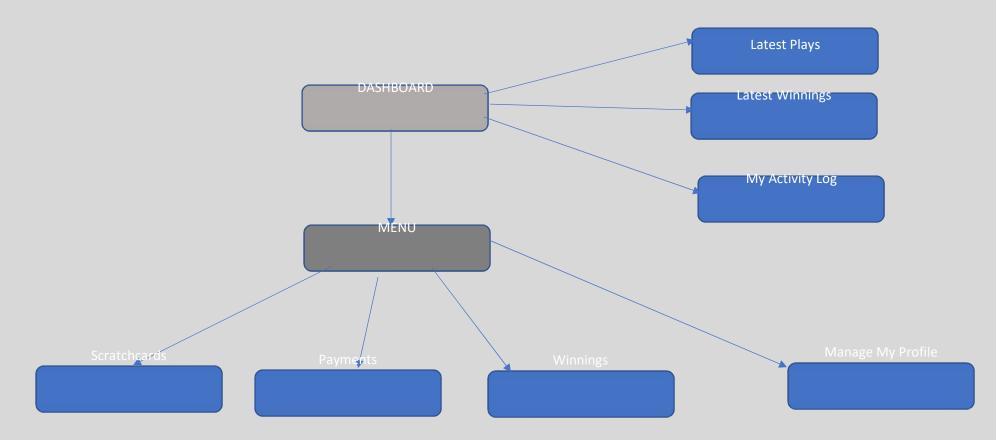
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Database Relationship Model



3. Navigation Diagram

Logged-In Customer navigations



4 User Interface Wireframes

Customer Registration

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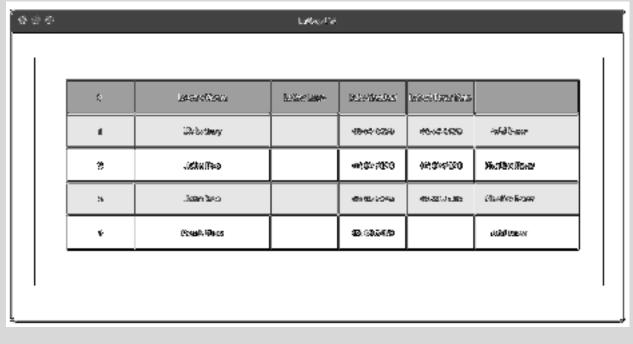
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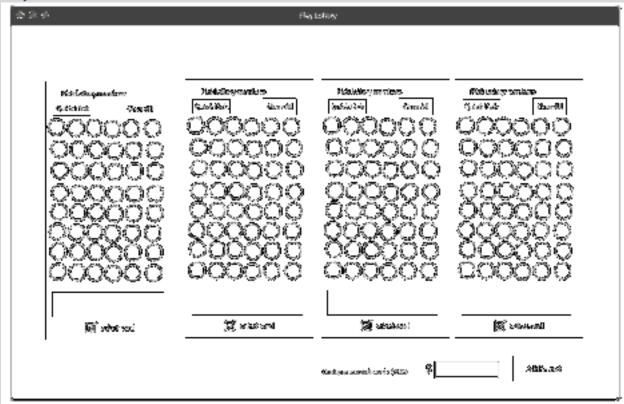
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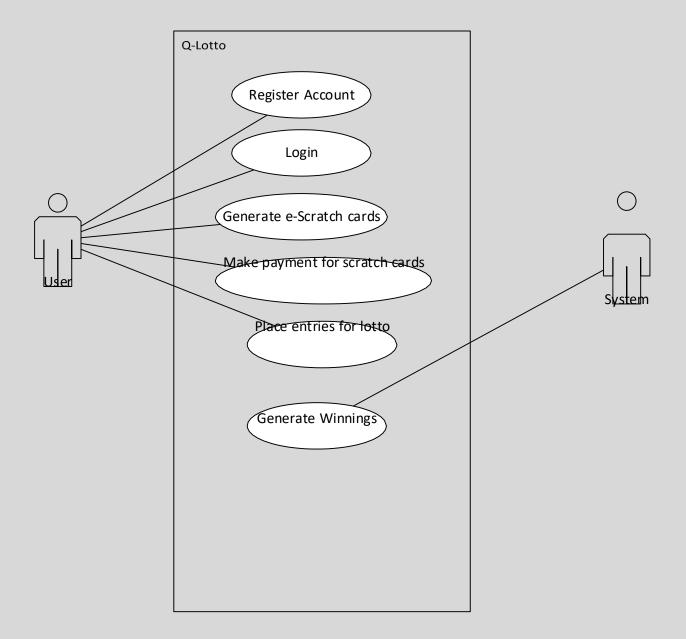
Lottery List



Play Lotto - Selection



5.0 Use Case Diagrams



6.0 Use Cases

6.1 User Registration/ Signup

Actors:

User

Pre-conditions:

The User has access to the internet and can access the application via a web browser or through the mobile application

Description:

When the user accesses the application, he/ she can see an actionable button which when followed presents a registration form for the user to register his/ her account. Where validation errors are encountered during the registration process, these are displayed/ communicated to the user for possible correction.

In order to finalize the registration process, users are expected to verify their accounts via email verification strategies.

6.2 User Login Actors:

User

Pre-conditions

The user has completed the account creation/ registration process and can access the application via web/ mobile.

Description

When the user accesses the application and follows the login link, he proceeds to supply his valid username and password for verification/ validation. Where the supplied login details don't match those stored in the application database, a failed login message is communicated to the user. However, if the login detail correctly matches those stored in the application database, the system proceeds to execute One Time Password (OTP) verification for the user account using the user registered email address. With the OTP routine, a securely generated literal is sent to the user registered email and the user is expected to provide back the literal in a displayed form. The login process is successfully completed only when the user correctly enters the OTP literal. A user has a maximum of 3 attempts to complete the OTP process, which when exhausted successively results in a temporary suspension of the account as part of security.

6.3 Ticket/ Scratch Card generation

Actors: User

Precondition:

The user is duly logged in.

Description:

The user clicks on the generate scratch card button on the application (web & mobile), and the system securely generates a string of 16 "charactered" numbers based on system preferences for a fixed cost. This generated number is tied to the customer account and available for entry into the lottery system on payment of allotted fee for the scratch card.

6.4 Payment for Scratch Cards

Actors:

User, payment system/ gateway

Precondition:

The user has generated e-scratch cards

Description:

User is presented with a list of scratch cards available for payment. He proceeds to select one or multiple of the items for payment. On selection of the items, an electronic invoice for the items is generated and user is prompted to choose from available list of payment processors with which to settle the invoice. On selection of payment processor, the user is navigated to the payment processor system for the settlement of the invoice. On completion of the payment processing, the payment processor navigates the user back to the application and where payment was success processed, the system updates payment status and makes the generated scratch card available for use and entry for lottery.

6.5 Drawing of Winning Lottery Numbers

Actors:

Admin user,

Precondition:

Description

The system supports weekly as well as on-demand drawing of winning lottery numbers. When the admin user activates the drawing of lottery numbers for possibly winning, the system securely draws and generates winning numbers using a highly Random Number Generator algorithm which will be developed as part of the outcome from this research.



DECLARATION

- I declare that all material in this submission e.g. thesis/essay/project/assignment is entirely my/our own work except where duly acknowledged.
- I have cited the sources of all quotations, paraphrases, summaries of information, tables, diagrams or other material; including software and other electronic media in which intellectual property rights may reside.
- I have provided a complete bibliography of all works and sources used in the preparation of this submission.
- I understand that failure to comply with the Institute's regulations governing plagiarism constitutes a serious offense.

Student Name: CHRISTIANA TEMIOLA

Student Number: C00220551

Signature: C.Y Temiola

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