High Level Design (HLD)
QR Code Generator

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Document Version Control

Sr.no.	Date issued	Description	Author
1.	27/06/2022	• Completed front end & Back End Part Of Application.worked on Back end Part. • Worked On API To Fetch the QR Code From Server. • Used API “Fetch”& “GET” Method to Display QR code on Browser Screen. • Used API fetch & “POST” Method to Decode the Message Contained in QR code. ◦ Created PID Report, LLD, HLD.	Ashutosh Haridas Shinde

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Abstract

A **QR code** is a type of matrix barcode invented in 1994 by the Japanese automotive company Denso Wave. A barcode is a machine-readable optical label that can contain information about the item to which it is attached. In practice, QR codes often contain data for a locator, identifier, or tracker that points to a website or application. A QR code uses four standardized encoding modes (numeric, alphanumeric, byte/binary, and to store data efficiently; extensions may also be used.

The Quick Response system became popular outside the automotive industry due to its fast readability and greater storage capacity compared to standard UPC barcodes. Applications include product tracking, item identification, time tracking, document management, and general marketing.

Introduction

1. Why this High-Level Design Document?

The purpose of this High-Level Design (HLD) Document is to add the necessary detail to the current project description to represent a suitable model for coding. This document is also intended to help detect contradictions prior to coding and can be used as a reference manual for how the modules interact at a high level.

The HLD will:

- Present all the design aspects and define them in detail.
- Describe the user interface being implemented.
- Describe the hardware and software interfaces.
- Describe the performance requirements.
- Include design features and the architecture of the project.

2. Scope

The HLD documentation presents the structure of the system, such as the database architecture, application architecture (layers), application flow (Navigation), and technology architecture. The HLD uses non-technical to mildly technical terms which should be understandable to the administrators of the system.

3. Definition

The terms used in the projects are:

API- Application Programming interface.

QR Code- Quick Response Code.

General Description

1. Product Perspective

QR code Generator is JavaScript API Based Web Application, Which Helps to Create The QR codes in PNG or jpg format. In Addition It Also Helps in Reading QR code Which is in PNG or jpg Format. QR code Reader Displays The Message Contained In the QR code in Text Bar.

2. Problem Statement

Create your own QR Code Creator and Reader

website. You can take use of various JavaScript libraries to create

and read QR codes. Your website should perform below tasks:

• User can create QR code for Text, Paragraphs, Links, Images,

etc.

• User can use the website to read the existing QR code.

• Provide unique URLs for each QR Code when visited will open up

the QR Code and its decoded message.

• User can customize the QR code by adding images or logos in

the middle of the QR [OPTIONAL].

3. Problem Solution

Develop the web application to Create QR code for given Link, URL or Text.

In addition it will also able to Read the QR code Which is in Jpg or PNG format,

and gives decoded message in Text Bar.

5. Data Required

The images of QR code are Fetched from Web server that is qr-server API.

6. Tools Used

- Pure JavaScript Programming Language (Back End)
- IDE- Microsoft Visual Studio Code
- For styling & front End used HTML & CSS.
- Deployment – GitHub
- OS – Linux

7. Constraints

The QR code website should be user friendly. It should work on Mobile & Tablets.

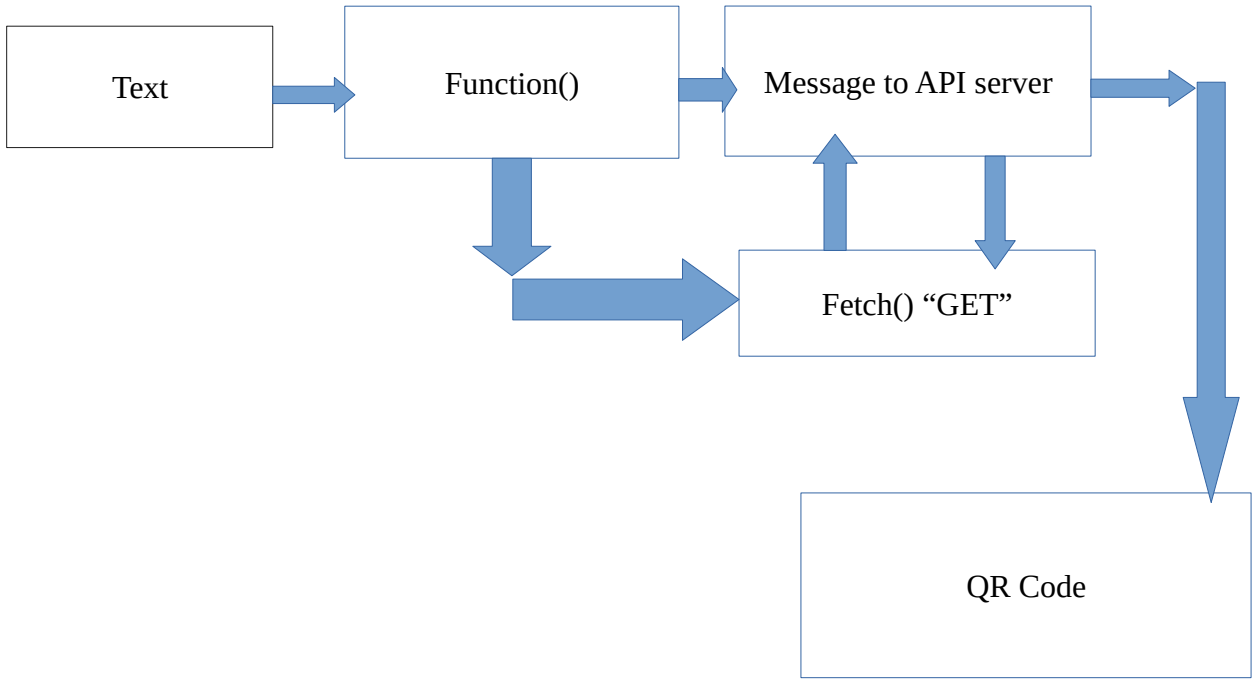
8. Assumptions

The Main objective of project is to create QR code for any Text, URL, Website.

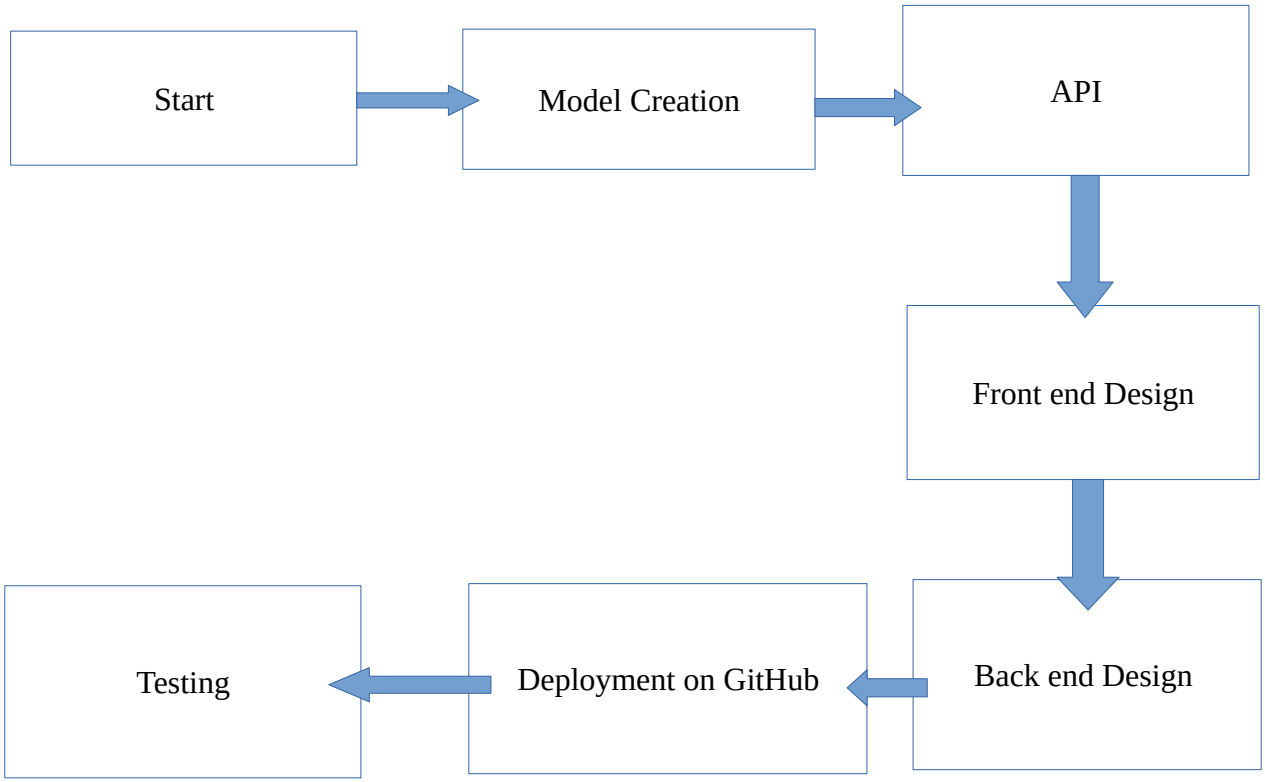
It should Read the QR code & Generate Decoded message in Text box.

Design Details

1. Process Work flow



Deployment Process



2. Error Handling

Initially I got errors during API fetching Process, I got errors in displaying the QR code. All of the above errors have been resolved.

Conclusion

This project Proposes the Web Application for QR code Generation & Reading. This type model is used in Various E Payment Applications Like PhonePe, Google Pay, PayTM.