

# Unique Description Pattern Application

<sup>1</sup> Purva Patel, <sup>2</sup> Harsh Patel, <sup>3</sup> Akash Thakor

<sup>1,2,3</sup>Department of Computer Science & Engineering

<sup>1,2,3</sup>LDRP Institute of Technology and Research, KSV University, Gandhinagar, Gujarat.

## Abstract

The gist of Unique Description Pattern is provincial to museum. With the help of application user can easily understand and assimilate information of any magnum opus or unique piece inside the museum.

From the application, it is up-to user's choice that which type of information one wants to know. One can use the application with ease as it just requires to scan QR code placed near antique. After scanning, it's up-to user which information he/she wants to check out like about history, discovery, value, scientific uniqueness etc. Also to add up, it will be useful to make purchases from museum's store where miniatures related to master pieces are available.

In sum, application will be able to help regarding any museum activities. It will be useful to know the map of museum, information about museum collections, online purchases.

UDP is an application which solves the problem most people face while visiting museum. With the help of it, visitor can easily read the information regarding anything in museum from their own smartphone. Reading any sculptures or information from information desk is an old approach and people find it difficult in many ways. Through this application, user will be able to know all the information in multiple languages

## 1. INTRODUCTION

UDP is an application which solves the problem most people face while visiting museum. With the help of it, visitor can easily read the information regarding anything in museum from their own smartphone. Reading any sculptures or information from information desk is an old approach and people find it difficult in many ways. Through this application, user will be able to know all the information in multiple languages. This will save unnecessary space taken by information boards and provide smoothness to add, remove or update any information about any unique thing in museum.

## Scope

### Current Scope

This application is developed passively and cannot take further improvements once it deployed. Currently it works on iOS devices only but further permeate to all operating systems. This application is uses a barcode scanner which scans the code placed beside the artefacts or specimens.

### Future Scope

The application can be further permeate to support all type of operating systems like iOS, android, windows. Also scanner can be replaced by sensors. It will use sensors rather than to scan every specimen or artefact.

## 2. RELATED WORK

1. The application is made to provide smoothness to both visitor and staff of museum. All you need is to provide unique QR code to each specimen or artefact and add all information about it in database only once. Museum staff finds it comfortable as they can update any new information to specimen also they can easily add or delete any information from database. Visitors find it useful as they can read in any language from their own phone. There is no need of guide or to gather at information desk to read about any item.

2. The main purpose of making UDP is to prevent crowd at any one spot in museum and to provide glib facility to gather knowledge about collection for visitor about any category and in any language.

### • Study of current system

There is no universal application for analysing as it is based on particular museum. Considering a paradigm, from my personal experience, in Mahatma Mandir, there was an exhibition where this kind of system used but it was not comfortable

as it can't be used from our own devices. Organizers had to provide an additional device to each visitor as mandatory from the entrance. Major problem with that system was that staff had to keep an eye on each visitor at the exit as all visitors had to return that device. Another problem is that visitors find it uncomfortable to use as all devices were used by previous visitors too. Hence that system was not smooth and efficient.

- **Requirements of new system**

### **Functional Requirements**

- 1) All the barcodes should be available at right place.
- 2) Customers can be able provide feedback.
- 3) Customers can be able to use map of entire museum.

### **Non Functional Requirements**

- 1) Performance
- 2) Cost
- 3) Flexibility
- 4) Look and feel

## **3. Proposed System**

### **Feasibility Study**

Feasibility is the study of impact, which happens in the organization by the development of a system.

The impact can be either positive or negative.

When the positives nominate the negatives, then the system is considered feasible.

In the conduct of the feasibility study, we consider seven distinct, but inter-related types of feasibility. They are:

1. Technical feasibility
2. Economic feasibility
3. Social feasibility
4. Management feasibility
5. Legal feasibility
6. Time feasibility

### **1. Technical Feasibly**

We can strongly say that it is technically feasible, since there will not be much difficulty in getting required resources for the development and maintaining the system as well. All the resources needed for the development of the software as well as the maintenance of the same is available in the organization here we are utilizing the resources which are available already.

### **2. Economic Feasibility**

Development of this application is highly economically feasible. As organizations need to develop an application only once. It does not requisite maintenance or version update. Once it is built, admin just have to update data time if required. Therefore, the system is economically feasible.

### **3. Social Feasibility**

Social feasibility is a determination of whether a proposed project will be acceptable to the people or not. This determination typically examines the probability of the project being accepted by the group directly affected by the proposed system change.

### **4. Management Feasibility**

It is determination of whether a proposed project will be acceptable to management. If management does not accept a project or gives a negligible support to it, the analyst will tend to view the project as a non-feasible one.

### **5. Legal Feasibility**

Legal feasible is determination of whether a proposed Project infringes on known acts statutes as well as any pending legislation. Although in some instances the project might appear. Sound, on closer investigation it may be found to infringe on several legal areas.

### **6. Time Feasibility**

Time feasibility is a determination of whether a proposed Project can be implemented fully within a

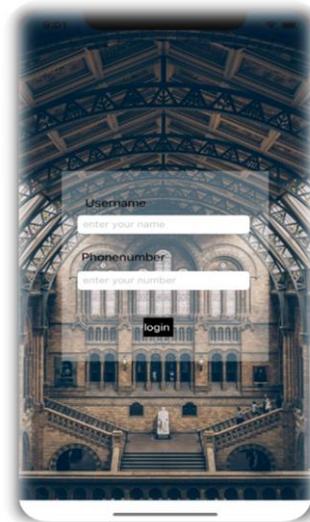
stipulated time frame. If a project takes too much time it is likely to be rejected.

- ❖ Following are the overview of our application and it explains the overview of the mobile application view.

- (1) Launch Screen: - This is flash screen when user touches on the app icon or try to open the app. This screen will pop first.



- (2) Login page: - This page explains the Main page of our application. Basically here user enter the information to login entry to database which is linked to the server called firebase database server. User need to provide the unique username and the phone number which are basic and more secured.



- (3) Home page: - Here user interact with rich features that will help to fulfil survey of any museum. Features like Map, Store, Cart, Settings. The home screen itself have the QR Code scan feature that will redirect to the device camera and scans the info to another page and all that information will be connected to the online server.



- (4) QR Code Scan page: - This page will pop when user click on the scan QR code button. It will request device camera and proceed. When QR code is generated it will

redirect to other page and process will be linked to the online server. If the QR code fails to scan the object then it will generate the error message and redirects to home page. The process of scanning take less than 1 second and provide result.



#### 4) Conclusions: -:

In a nut shell, we can eliminate the need of lengthy and space consuming documentation using this application. UDP application provides smooth interface to user throughout the visit to museum. Replacing the physical resources to QR codes reduces brainstorming headache to both the museum management and visitors.

We have created a unique description system user can operate and visit the museum from his own device without any guides or notice boards.

#### 5) References:-

- (1) <https://www.appcoda.com/qr-code-reader-swift/>
- (2) <https://www.hackingwithswift.com/example-code/media/how-to-scan-a-qr-code>
- (3) <https://developer.apple.com/swift/>
- (4) <https://swift.org/getting-started/#installing-swift>

(5) <https://www.youtube.com/watch?v=4Zf9dHDJ2yU>

(6) <https://www.cocoacontrols.com/controls/qrcode-reader-swift>

(7) <https://techcrunch.com/2017/08/14/swift-creator-chris-lattner>

(8) Wayne Bishop, Writing code & sharing my work with others.

Based on the latest Swift 4.0 standard, *Swift Algorithms & Data Structures - 3rd Edition* blends new code, illustrations and computer science to help you pass the technical interview or build your next app.

(9) *Swift Essentials* by Dr. Alex Blewitt is currently in its 2nd edition.

(10) Book by Jon Hoffman –Mastering Swift, Swift Language Utilize Swift 3 on the embedded Linux platform for IoT and Robotic projects Build more flexible and high-performing applications on desktop, server, and embedded Linux platforms