CHAPTER: - 4 SYSTEM

IMPLEMENTATION AND TESTING

# 4.1 Implementation and Overview

Prototyping Model has been used to develop this application. The prototyping model is a technique for quickly building a function but incomplete model of the information system. There are several kind of prototyping but they all intend to reduce risk by building a quick and dirty replica or mockup of the intended system. It can be used to demonstrate technical feasibility when the technical risk is high. It can also be used to better understanding and elicit user requirements. In either case, the goal is to reduce risk and limit costs by increasing understanding of proposed solutions before committing more resources.

# 4.2 Technology used in my system

**4.2.1 JAVA**

Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. Java is used to develop mobile apps, web apps, games and much more. Java work on different paltforms like Windows, Mac, Linux, Raspberry Pi, etc. It is a general purpose programing language intended to let programmers write once, run anywhere, meaning thatcompiled java code can run on all platforms support Java without the need to recompile.

**4.2.2 SWING**

Swing ia graphical user interface (GUI) and a part of Oracle’s java Foundation Classes that are used to design different applications. Swing was developed to provide a more sophisticated and advanced set of GUI components than the earlier Abstract Window Toolkit. It includes New and improved Components that havee been enhancing the looks and functionality of GUI’s. Swing is more portable and more flexible that AWT, the Swing is built on top of the AWT. Swing support a pluggable look and feel and Swing provide more powerful components such as tables, list, colourchooser, etc.

**4.2.3 JDBC**

JDBC stands for Java Database Connectivity. JDBC is a Java API to connect and execute the query with the database.JDBC APL uses JDBC drivers to connect with the database. It is based on the X/ Open SQL Call Level interface.we can use JDBC API to handel database using Java program and can perform the activities like connection to the database, execute queries abd update statements to the database.

**4.2.4 MYSQL**

MySQL is the world’s popular open source database. With its proven performance, reliability and ease-of-use, MySQL has become the leading database choice for web-based application, used by high profile web properties including facebook, twitter, Youtube, Yahoo! And many more.

**4.3 Testing**

**4.3.1 Integrate Testing**

|  |  |  |
| --- | --- | --- |
| Test suite plan | Test Case Id | Test Case Description |
| Admin | |  |  | | --- | --- | | T-01 | | | T-02 | | | T-03 | | | T-04 | | | T-05 | | | T-06 | | |  |  | | --- | --- | | Log In | | | Edit Facilitator | | | Edit Students | | | Add Attendance | | | Add Result | | | View Result | |
| Facilitator | |  | | --- | | T-07 | | T-08 | | T-09 | | T-10 | | |  | | --- | | Log In | | Add Attendance | | Add Result | | View Result | |
| Students | |  | | --- | | T-11 | | T-12 | | |  | | --- | | Log In | | View Result | |

# 4.3.2 Unit Testing

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S.N  1. | Test case id  T -01 | Test Case Description  Enter username and  Password  Enter username and password  Enter username and password | Input Test Data  Admin  Admin  Admin | Expected Result  Display homepage  Display the login page again  Display the login page again | Actual Result  Successful  Successful  Successful | Remarks  Pass  Failed  Failed |
| 2. | T -02 | Enter  Name, Date of birth, Guardian’s, Name, Email, Phone Number,Qualification for edit | Hari Prasad Roa  1986-4-12  Gopal Roa  [hari@gmail.com](mailto:hari@gmail.com)  9816123245  BSc. CSIT | Add the data where details are viewed for given username | Successful | Pass |
| 3 | T-03 | Enter Name,  Date of birth,  Father Name,  Mother Name, Email,  PhoneNumber,  Class , Remarks | Monoj Shrestha  2001-09-05  Hari Kumar Shrestha  Pabitra Shrestha  98016683613  [Students@gmail.com](mailto:Students@gmail.com)  10  80 | Add the data where details are viewed for given username | Successful | Pass |
| 4 | T-4 | Add attendance |  |  | Successful | Pass |
| 5 | T -5 | Enter Name,  Date of birth,  Class,  Roll no,  Remarks | Monoj Shrestha  2001-09-05  10  6  80 | Result is update | Successful | Pass |
| 6 | T -6 | Enter Name,  Username,  Password conform,  Class,  Roll no,  Remarks | Monoj Shrestha  Remon1  remon  10  6  80 | Display result | Successful | Pass |
| 7 | T-7 | Enter username and  Password  Enter username and password  Enter username and password | Remon1  Remon  Remon  remon1  remon1  remon1 | Display homepage  Display the login page again  Display the login page again | Successful | Pass |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 8 | T -8 |  |  |  | Successful |  |
| 9 | T -9 | Enter Name,  Date of birth,  Remark ,  Email,  PhoneNumber,  Username  Password,  Conform password  Roll no,  Remarks | Monoj Shrestha  2001-09-05  80  [Students@gmail.com](mailto:Students@gmail.com)  98016683613  Remon  Remon1 | Result dispalyed after result is update | Successful | Pass |
| 10 | T -10 | Enter Name,  Date of birth,  Remark ,  Email,  PhoneNumber,  Username  Password,  Conform password | Monoj Shrestha  2001-09-05  80  [Students@gmail.com](mailto:Students@gmail.com)  98016683613  Remon  Remon1 | Result viewed after result is update | Successful | Pass |
| 11 | T -11 | Enter username and  Password  Enter username and  password  Enter username and  password | Remon1  remon  Remon  remon1  remon1  remon1 | Display homepage  Display the login page again  Display the login page again | Successful | Pass |
| 12 | T -12 | Enter Name,  Date of birth,  Remark ,  Email,  PhoneNumber,  Username  Password,  Conform password | Monoj Shrestha  2001-09-05  80  [Students@gmail.com](mailto:Students@gmail.com)  98016683613  Remon  Remon1 | Result displayed after result is update | Successful | Pass |

# 4.3.3 System Testing

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S.N | Test case Id | Test description | Input Test Data | Expected result | Actual result | Remarks |
| 8 | T-08 | System test | Registered data | Data stored successfully and can login | Successful | pass |

# 5.1 Conclusion

Result management system are being as identified as an appropriate method for managing data, information of results of students in school. The purpose of computerize the paperwork in the system and automate the work, has been achieved by implementing this result management system. it was a wonderful and learning experience for us while working on this project. This software is easy to use so all educational institute can use this frequency. So, we can hope our software will be very popular and get sponsor to develop in future.

**5.2 Recommendation**

The result management system is based on Java programming language, is highly referable to the educational institution in modern days. This system is further enhanced with the benefitable features for upgrading in future. The methodology of enhancement in the smart attendance are done by integrating True Depth camera system that scans the shape of the face with near-infrared light.