# Online Notice Board System

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**Abstract:** *Digital Notice Board is most important factor in any organization or public utility for the places like bus stop, railway stations, schools, colleges, malls, etc. But sticking multiple notices every day is a irritating process. An person character is wanted to take care of these notices. This mission is about advanced cell board. The task is built around raspberry-pi. Display is obtained on LCD. A wi-fi continuously used for Data transmission. We can add or erase or differ the textual content material in accordance to our need. At transmitter, authorized PC is used for sending notices. At receiving end wi-fi fidelity is linked to raspberry pi. When a licensed consumer sends a message that is to be displayed from his system, it is familiar via way of receiver. Wireless is a popular technology known- that how to approve digital device to alternate information over a pc network, collectively with high speed wireless connections. The data is acquired from authenticated user, then it sends the archives to raspberry pi.*

**Keywords:** Distributed computing, MVC (Model View Controller), dynamic information processing, DNB, touch interface, animation.

## I. INTRODUCTION

Now a days, human beings are turning into accustomed for easy access to information. Whether it's with the aid of the net or television, human beings pick themselves to be up to date with the modern-day activities going on around the world. In today's world human beings pick wi-fi connection due to the reality they can have interplay with people without problems and it require an awful lot much less time. Design and Implementation of Digital note board with the resource of the usage of raspberry pi board. The GUI which will be used via users which has been established and equipped to use on the pc, an internet server and a raspberry pi card to display textual content on exhibit device. The important objective of this device is to give a boost to a wi-fi digital word board that exhibit message sent from the consumer and to format a simple, easy to install, purchaser pleasant system, which can obtain and show word in a unique order with respect to date and time which will assist the user to except issues preserve the music of note board each day and every time he/she makes use of the system. The Digital Notice Board is a modern-day way to launch your data to your customers, website visitors or college students Target your audience: You pick out how to ship your information, ensuring that your message is getting throughout to the appropriate people, in the perfect place, at the ideal time. The versatility of the Digital Notice Board platform permits you to use all the present day Power point displays except making any changes or alterations

## II. LITERATURE REVIEW

There are several online notice boards available. However, this section presents an overview of some of the existing online notice boards. The Digital Notice Board (DNB) [12] is an application program which can be installed on various computer systems connected by local area network (LAN). Users use DNB as a platform to get notified about the university updates. It decreases the paper use and improves dissemination of any announcements. DNB is developed using Java 2 and MS access. The limitations of DNB are it's a desktop application and it don't have efficient database. Some of the limitations of this digital NB are noticeable such as; DNB is only accessible when user is connected via LAN. Users can't get any notice or announcements outside the university. The officers can only post any update on DNB if they are connected via LAN. In case of emergency, announcements will remain waiting until and unless they have LAN connection. This paper [2] presents a new procedure for the University of Murcia called TOUM (The Official Electronic Notice board of the University of Murcia), which replaces the traditional notice boards with the electronic official website of the University, in the terms of the Spanish LAE. The main objectives of TOUM are security, access control, authentication and

automation of each publication procedure. To access the application, authentication is done via email and associated password. Electronic signature processes are accomplished during the notice publication request. This transformation has improved many areas of the University such as political and administrative but the main problem for TOUM is its development in Spanish which can only be understandable for them.

The paper [1] represents another way to present student data via network. Student Record Management System (SRMS) provides a clear interface for students to access college or university update without any delay. It manages all types of students' record from starting of the course work to the end. This clear interface system shows and keeps record of detailed information of student's fee, attendance and all results. Students must be registered to view their records via network.

## III. METHODS AND MATERIALS

In our case study (M.U.E.T), there is a manual system of passing information via notice boards located at specific key locations. The facts that notice board program would run on personal computers and can be viewed at touch screens or home computers using conventional hardware items (e.g. Keyboards, mouse).

### 3.1 The Manual Wooden System

The manual wooden boards are located at key locations in various departments residing within the university. The notice boards in these departments contain vague paper based information that needs to be changed and replaced frequently because if not, this creates abundance and redundant information.

The wooden notice board is basically a wooden object, used as a source of information dissemination within the vicinity. This object serves to display information regarding competitions, seminars, test results, test announcements or any other important announcement that needs to be placed publically.
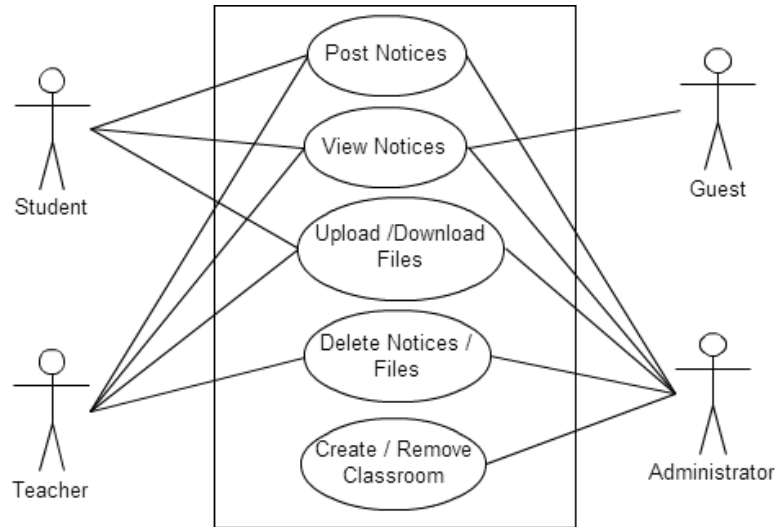
This method creates problems and is less efficient because of lack of information processing such as maintaining notices, timely updates and removals, addition of paper. Following figure 1 show a notice board located in a university department.



**Figure 1:** Wooden notice board showing posters and student marks

### 3.2 Proposed DNB Framework

Using the MVC control architecture [10], the system can be connected in one server entity to multiple thin layer client entities. The UML usecase figure 2 depicts the working of the complete application.

Use Case Diagram

**Figure 2:** Use case diagram of DNB system

Figure 3 shows the business logic of the server side script. The server side script contains logical queries that help fetch data from the database. The tables in the database are connected together to perform optimized queries.
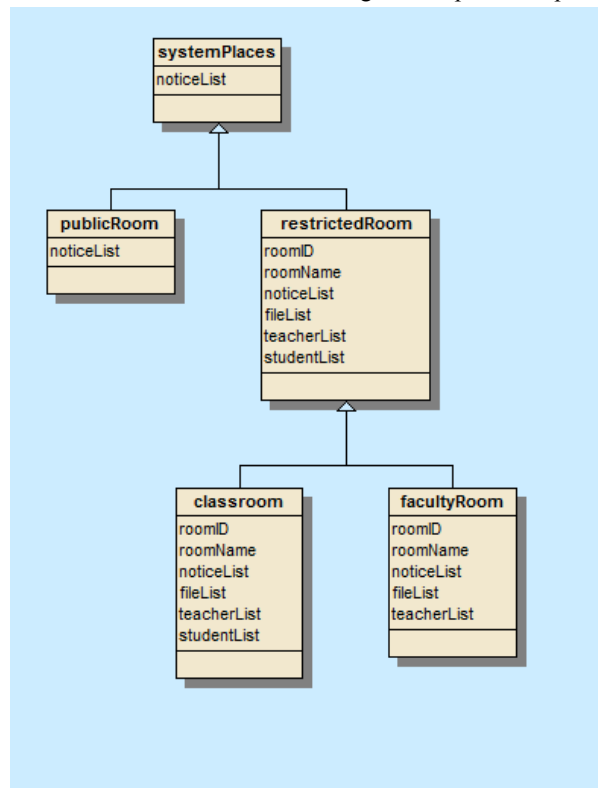


**Figure 3:** MUET E – Noticeboard Relational Diagram

Figure 4 UML activity diagram shows interaction of different set of users with the system.
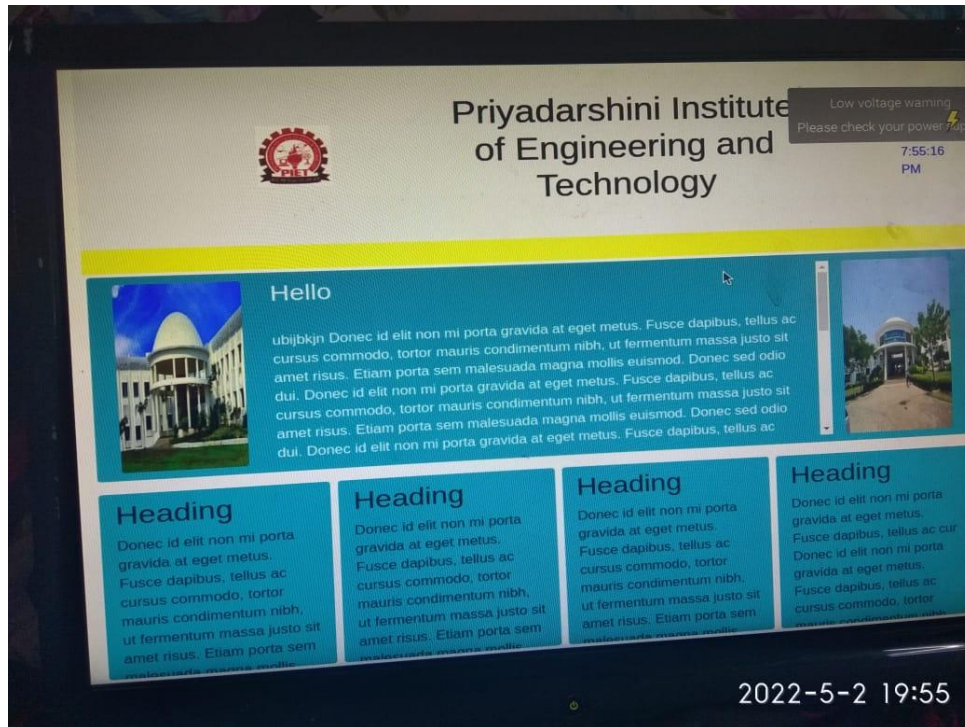


**Figure 4:** Activity diagram showing user interaction with the system

A student user takes the following steps, according to the given UML diagrams

1. User logs in the DNB interface.
2. Once connection has been established, the user can then view his/her account details.
3. User can upload or view current general announcements on the notice board.
4. Once user leaves the DNB the application automatically logs out the users' account
5. Exit.

### 3.3 Languages and Platforms

The application is a combination of software and hardware aspects. All the languages and platforms which are used for the development of this application are discussed in this section.

The application focuses on eye candy user interaction approach, i.e. high-end user interface with pre-rendered animations. HTML 5 [5] has that cutting edge support for canvas as well as timeline animation that one can put on web page interfaces. Since the application is focused on web browsers, HTML 5 can easily be integrated with all the modern web browsers.

HTML 5 is a markup language; JavaScript is a logic based language. The language is integrated in web browsers, which can work hand to hand with HTML 5 Web pages [14]. Php [1] is a server side scripting language, build for managing client side requests.

Ajax [7] is basically not a separate programming language, but actually a new way of writing standards. Ajax is basically an art of exchanging data between server and client to show dynamic information on Web pages [13].

Where HTML 5 was designed to show data, XML [3] was designed to transport and store data. XML itself doesn't have any effect on the layout or the logic of the Webpage, but can transport data from multiple cross platform data usage.

MySQL [11] [8] is open source database management software, which is highly used over the internet because of its ease of use, workbench and multi-cross platform support. It supports all the standard SQL queries for data manipulation and transfer.

The Android SDK [4] used for this application, is focused on Jelly Beans API. The Android SDK would provide a Smartphone interface for the application [5][6].

**3.4 User Interface and System Workflow**

As the program is launched the user is welcomed with a main screen, which provides the general view of the DNB. The main general view would contain all the general information regarding current announcements, test results, attendances and information regarding the department. The DNB search can be granulated in various ways, according to student percentages, marks or saturation on ranks.

The interface is completely touch base [9] supported via a touch screen. The icons, menus, buttons and tabs; all are emulated according to a user friendly easy to use touch environment. The figure 5 depicts the workflow of the overall system via modular approach and how a normal user would interact with the system
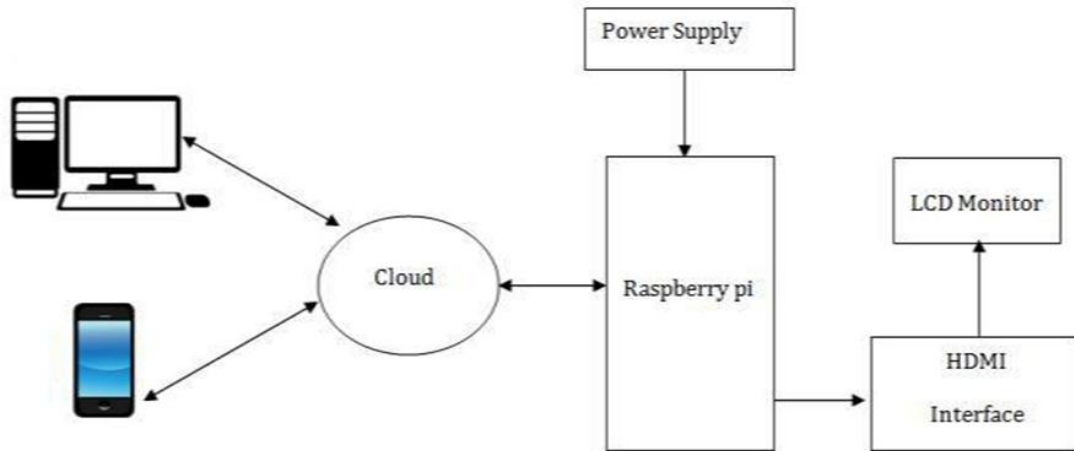


**Figure 5:** Component interaction diagram

## IV. IMPLEMENTATION OF THE SYSTEM

For the application we have created three interfaces. Each interface serves a specific purpose and entertains specific users namely students, teachers and admin. A good validation mechanism is ensured and integration of the system is created to offer best user experience. The Application contains a touch user interface (TUI) that allows user to experience on a whole different level. Users don't require special training to interact with the system. Security is another matter for the project, same origin Ajax policy is applied on the system as well as, the system would be implemented in the local intranet to avoid outside interference.

**4.1 Test Cases**

Following are the designed test cases for each module.

**Table 1:** Checking the announcements feature if it is working or not

| Test Case #: 1 | Checking the announcements feature if it is working or not |
|---|---|
| System: MUET E-Notice board | Subsystem: checking the announcements |
| Designed by: Memoona | Design Date:- 1-2-2022 |
| Executed by: Memoona | Execution Date: 6-2-2022 |
| Short Description: login system for MUET E-Notice board | |

**Table 2:** Checking the status of test case 1

| Step | Action | Expected System Response | Pass / Fail |
|---|---|---|---|
| 1 | Write your announcement and submit it | Any faculty member who made announcement about his or her subject should be notified to his/her students | Pass |

**Impact Factor: 6.252**

**Table 3:** Updating the student response

| Test Case #: 2 | **Updating the students marks** |
|---|---|
| System: MUET E-Notice board | Subsystem: checking the feature of adding marks in to database is working or not |
| Designed by: Memoona | Design Date:- 1-2-2022 |
| Executed by: Memoona | Execution Date: 6-2-2022 |
| Short Description: login system for MUET E-Notice board | |

**Table 4:** Checking the status of test case 2

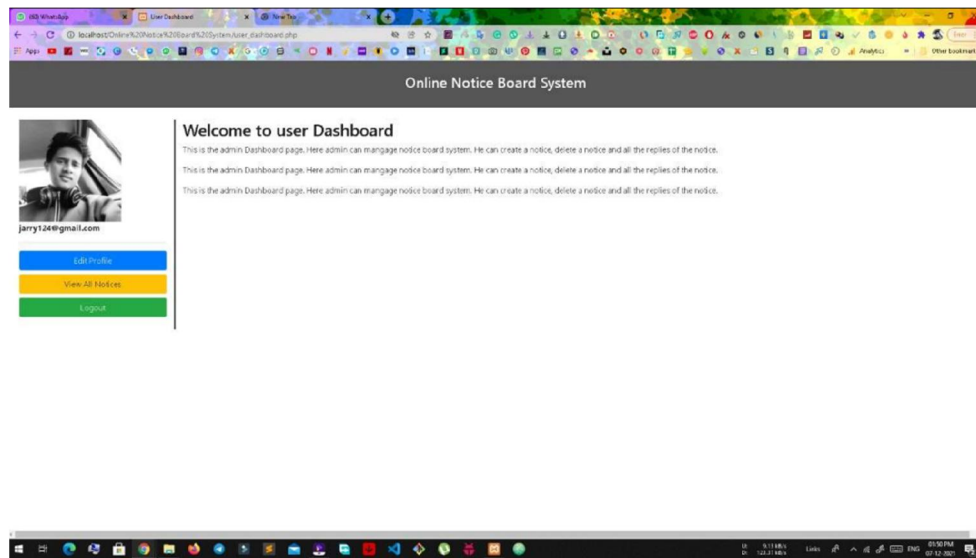| Step | Action | Expected System Response | Pass / Fail |
|---|---|---|---|
| 1 | Write your announcement and submit it | Marks should be uploaded to the database and a notification sent to the student | Pass |

**4.2 Screenshots of DNB interface**
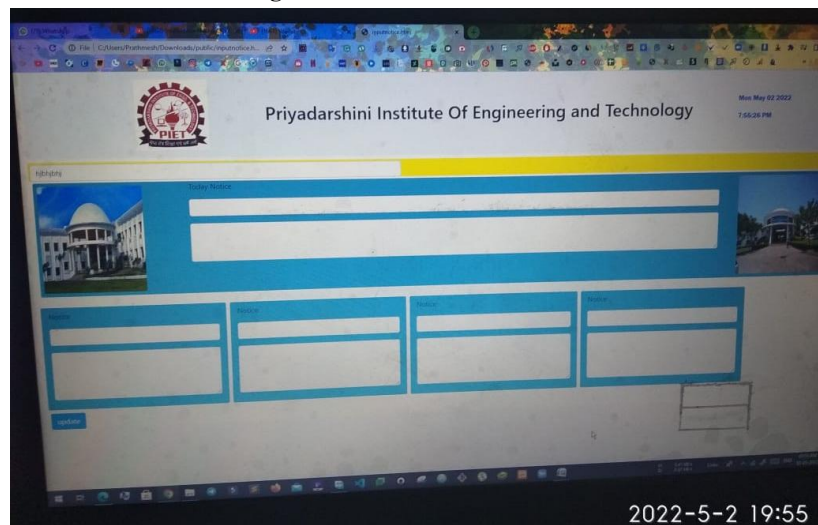


**Figure 6:** Student Account Interface



**Figure 7:** Student Noticeboard Interface (General Noticeboard)

**4.3 Real World Applicability**

DNBs original proposal is to act as an information dissipation unit for different academic institutes (e.g. schools, colleges, universities). The system doesn't limit itself to it, the system can also be used to create a communication channel between different franchises of any institute. The main head office can install different notice boards in their franchises, which can easily pass information and also efficiently stay connected with their head office or vice versa.

## V. RESULTS AND DISCUSSIONS

Since the Dynamic Information Processing Application works on three different platforms i.e. DNB, PCs', Smartphone, it plays a vital role on the network applicable in the given vicinity. Following results were obtained and were beneficial. Students can now read any notification available on the DNB within the campus, prior that the DNB. The DNB mainly acts as a medium that fills a communication gap between the local offices and students, notices posted by officers can be automatically controlled by the DNB system. Officers can upload information on the DNB from anywhere through a PC via authorized accessibility.

The program doesn't require any specific software installation but best performance can be attained on Google Chrome and a system with a nice GPU (Graphical Processing Unit). The system can easily be managed by the admin because of its slick dynamic information display capability; the system can easily be modified and updated without the service being shutdown

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