

# Design and Development of a University Web Portals

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**Abstract** — University portal takes data from different data sources, organizes them and provides with consistent look and feel to the users. Proposed portal covers almost all major aspects related to students and teachers. Its high speed, dynamic rendering and asynchronous communication with data sources make things snappy and very responsive. University portal must be complete and provide all features related to students and teachers. This review paper provides a brief comparison of existing web portal and suggests following eye catching and stunning features/modules such as Oral Commands Interpreter, Oral Dictation, Multitasking, Rental Services, SMS alerts and Software Industry modules.

**Keywords** — University Portals, Portal Comparisons, Features in University Portal

## I. INTRODUCTION

Portals provide an entry point for accessing information on a single desk. James [1] says that building a website (portal or some other one) is like preparing a meal for someone. You have to look at the guests (audience) for whom you are going to prepare meal. Then you collect ingredients from your cupboard or you go to near market to have them. Then finally you assemble the things and get your meal ready. Proposed portal provides eye catching features with stunning looks, high speed, responsiveness, completeness and ability of being molded according to the roles of user make it different from other existing portals. Bernard [3] talks about the opportunities for developing a portal where as Richard [4] talks about the problems being faced while developing a portal. Both Bernad and Richard lay down a basic foundation for designing and developing web portal for the customers.

Following are the major proposed modules of a university portal that can fill the gap faced by current portals:

- *Multitasking*  
User can perform multiple tasks at a time. This functionality gives high productivity to the user. For example while chatting with friends or writing email user can ask the portal to read out yesterday's news paper and play a particular song.
- *Rental Services Module*  
User can hire the service of other students to fulfill his deficiencies. All he is supposed to do is to make an announcement over the portal and the price for doing that. Other students can bid on this and on approval of some bid contacts are interchanged for making the complete deal. By implementing this all students can come up with their best.
- *SMS alerts module*  
Mobile has brought us in new era for fast and immediate information exchange. Instead of informing student through mail or by other means its beneficial to inform them through SMS. This module is cheap and very important
- *Software Industry Module*  
Students must have links with their seniors in industry. This module informs university students about the CV formats, Software houses address, their entry requirements and foremost about the seniors in different software houses and their contacts.
- *Cafeteria*  
This module tells students about the health care, food they can have in café and their prices. It provides them tips for improving their health. It makes students aware of their food and health.
- *Transport*  
This module allows student to view their routes schedule. It saves their time of visiting transport office for asking timings of different routes to different places.
- *Dynamic Application Rendering*  
There are different roles in university portal and a user can be associated with any one of them at a time. Administrator has the functionality to add/remove/edit roles of the users. Upon signing in, portal detects the login person role and
- *Oral Commands Interpreter Module*  
It's a new feature that allows the user to perform his tasks verbally. User is suppose to switch on the "voice recognition engine" and can start using portal through voice commands. It saves the user time and make the application more interactive.
- *Oral Dictation Module*  
This module allows user to dictate while he is using different modules of the application. It saves extra hectic key strokes and time of the user. It brings the user in new era and opens a new horizon of interactive applications.

renders the GUI according to the allocated permissions. This functionality makes it dynamic for everyone.

- *What a user can do?*

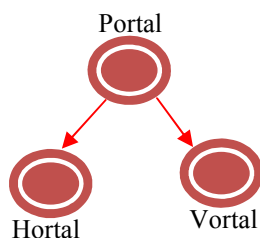
Proposed portal lets the user do multiple tasks simultaneously like if he is chatting with his one friend he can ask the portal to read news paper of yesterday, make a search on google on some topic and pause/play/stop any song. This functionality not only saves user time but also makes it very friendly, stunning and different from other portals.

- *Rental Services*

Rental Services feature also makes it unique by allowing users to announce about the things they want on rental basis, buy or sale. Once the announcement is made, portal informs other users keeping interest in that. Other users can bid on that announced thing and finally they can come up with some buy/sale/rental deal. By this any student can get what he wants by hiring other guys from within the same university and a proper flow of cash reaches the deserved person. Portal does not introduce any broker in the deal but provides this feature for free to enhance and boost the output of students. By this students can focus on what they want to develop and not on how to develop, they can hire a person they want to do the task and get their work done.

## II. WEB PORTALS

A portal can be defined as application/site which links the pages/screens together; it takes information from diverse/different sources and presents them in a unified way. Other than a search engine functionality/feature university portals must offer other service which may include knowledge sharing, entertainment, emails, etc. In other words we can define portals as applications getting data from different data sources and displaying the stuff under a consistent look and feel umbrella which in other case would have been different applications or sites altogether.



There are two main categories of portals: **Horizontal** and **Vertical** portals. Horizontal portals are those sites/applications which cover different domains/areas where as vertical portals are the type of portals which maintain their focus on a single domain/area and covers all aspects of that. Or in other words a horizontal portal can target different companies/area that are identical or totally change where as a horizontal portal is an entry point for users to a particular domain having common interest: falling under same category.

## III. EXISTING UNIVERSITY PORTAL FEATURES

Existing university portals provide email, blog, chat, announcements, calendar, class schedule, results and weather features. The detail of these features is as follows:

- *Email:*

This feature allows users of the portal to email each other. They can send email to their mates and can read, delete, forward and this also allows them to make custom folders for putting mails in them.

- *Blogs:*

This feature allows users to create blog about any topic they want to get information about, share or spread. Blogs are basically for knowledge sharing. Once a blog has been created you people can search it, comment on it and can read comments of other guys as well. Blogs are also known as internal wikis as well.

- *Chat:*

It allows users to communicate with each other electronically. Chat requires some friends. If you know someone you can send friend request to him. On his/her approval he will be added to your friend list. No anonymous chat is allowed. You will chat with your username and only with the friends you have in your friend list.

- *Announcements:*

This feature depends upon the role of the logged in person. If the user owns teacher or admin role then this tab will be a create-new announcement tab otherwise it will be simply a announcement tab. Teachers and admin members can create news and announcements but students have only the right to view those announcements.

- *Calendar:*

This feature allows users to add alerts for some future events. Occurring of those events case alerts to be generated to the referred persons in form of emails. Users can create, delete and modify existing calendar alerts.

- *Class Schedule:*

This feature allows users to view their class schedule. When user opens class schedule tab system identifies his identity through his profile like class, semester, section and depending upon that it renders the class schedule.

- *Results:*

This feature allows users to view their semester wise results. When user opens result tab system identifies his identity through his profile like class, semester, section and depending upon that it renders the result on screen (semester wise).

- *Weather:*

This feature allows users to view updated current and future predictions of weather.

IV. UNIVERSITY PORTALS COMPARISON

Following are the comparison sheets showing the difference between existing [2] portals and the proposed one:

1<sup>st</sup> Comparison Sheet

Portal Names	Email	Blog	Library	Research Paper	Project	Assignment	Junk Sharing	Chat	Announcement	Single Sign on	SMS
Youngstown		Yes					Yes	Yes	Yes		
myPolyU	Yes			Yes					Yes	Yes	
myPortal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
South University	Yes	Yes	Yes					Yes	Yes		
myRutgers	Yes								Yes		

2<sup>nd</sup> Comparison Sheet

Portal Names	Admission	Aid	Result	Calendar	Classes	Industry	Transport	Cafeteria	Voice Enabled	Mutli Taking	Rental Services	Weather
Youngstown				Yes								
myPolyU	Yes			Yes	Yes							Yes
myPortal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
South University					Yes							
myRutgers		Yes	Yes	Yes								

V. CASE STUDY

Following are the main proposed features of university web portal

- Oral Commands Understanding
  - Browser
  - Media Player
  - Oral Dictation
  - Email Reading
- Class Schedule Module
- Industry Module
- Attendance Module
- Multitasking
- Rental Services Module
- Email Module
- Blogs Module
- Library Module
- Assignment Module
- Research Paper Module
- Project Module
- Role based Dynamic GUI
- Chat
- Announcement
- SMS alerts
- Admission
- Search
- Scholarships/Aid
- Result

Screenshot of Blogs Module



### Screenshot of Books Module

Title	Author	Creator	
Object Oriented Programming C++	Dietel n Dietel	emraan	<a href="#">Download</a>
C Sharp Programming	Dietel n Dietel	emraan	<a href="#">Download</a>
Java	William Smith	emraan	<a href="#">Download</a>

### Screenshot of Emails Module

To: imran@portal.com

Cc: riz@portal.com

Bcc:

Attachment:

Subject: Hello dude :D

Body: i was missing you so decided to mail your... hows you ??

[Give Dictation](#)

### Oral Commands Enabled (Multitasking) [Detail]

This feature allows users to do a number of tasks at a time. Imagine a situation in which a person is sending mail to his friend he asks the portal to read out yesterday's news paper, play some song and make a search on google on some topic. Portal will be doing all these tasks simultaneously for enhancing throughput and productivity.

### VI. CONCLUSION

The proposed university portal brings the student to a platform of knowledge sharing with stunning and highly user friendly modules for increasing the productivity and saving user time. After discussing academic portals available on web

new and vibrant features have been included which are going

to open a new horizon?

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