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GSU Scheduling System

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1. Project Description:

1.1 Project Abstract

The main agenda of this project is scheduling student project sessions for a particular semester. In this system we going to develop a web based application where students who are been registered for this particular section can directly select their slot and time when they want to give Presentation of their project and also they can directly submit their abstract online and also they can get updates as a messages and e-mails which are been send to their personal contact numbers and email address regarding their project and where as advisor can add the students and manage the schedule of the project selected by the student .

Modules:

Administrator – In this module admin can have the privileges to add advisors and students.

Supervisor – in this module advisor can access through the student files and can give updates regarding project.

Student – student can login and select the slots and also they can upload the abstracts.

FRONT –END:

Asp.net, C#, Ajax

BACK-END:

Database -: SQL server 2012.

1.2 Competitive Information:

Doodles, day Pilot, Outlook are the major web based scheduling system this scheduling systems are competitors of the GSU Scheduling System.

1.3 Relationship to Other Applications/Projects:

This is project developed based on Google Calendar and Scheduling systems. We are using google Calendar for scheduling the events and meetings

1.4 Assumptions and Dependencies

This system supposed to be a web based application which can be accessed 24/7. . Network connection should be available to use the application. . System assumes that all the participants will be actively involved in responding to Meeting requests. The initiator must decide about the importance of participants. MMS can only schedule a meeting, not the priority of participants. Priorities of meetings also has to be done by initiator, the system is not responsible for the importance level of meetings. . System assumes the users are familiar with basic windows and web browser operations

1.5 Future Enhancements:

Since this system is intended for many different types of organization where a scheduling system is necessary to schedule seminar days, it is very important for the code to be customizable due to the distinct needs of different organizations. For example, some organizations only need to schedule seminars with similar responsibilities, where balance of skills is not an issue during each shift, and some places need to schedule workers with different positions and skills for each project. Also, some organizations make their schedules once a month, and others more frequently. For the above reasons, the system needs to be documented very well in close detail, and the system should be easy to reuse, and customize for future usage. Future customization will include features that will simplify data entry and reduce opportunity for data entry errors.

1.6 Definitions and Acronyms.

SRS – Software Requirement Specifications

MMS – Meeting Scheduler System

FR – Functional Requirement

NFR –Nonfunctional requirement

DR- Domain requirement

SE- Software Engineering

IC- Identity Card

HTTP- Hypertext transfer Protocol

HTML- Hypertext Markup Language

CS- Computer Science

2. Technical Descriptions:

The objective of the project is to develop a meeting Scheduler system within allocated time, budget and specified quality. The project is prioritized due to high benefits to the organization. One of the important usages of this project is that it will automate the process of meeting scheduling and thus save the time and efforts of meeting organizer. More benefits will be further discussed ahead. The primary focus of our team is the reliability, usability, and quality. Satisfying requirements and perfecting the product is very important to us. Meeting user's needs is our top goal.

A) Microsoft. NET Framework

The .NET Framework is a new computing platform that simplifies application development in the highly distributed environment of the Internet. The .NET Framework is designed to fulfill the following objectives:

- To provide a consistent object-oriented programming environment whether object code is stored and executed locally, executed locally but Internet-distributed, or executed remotely.
- To provide a code-execution environment that minimizes software deployment and versioning conflicts.
- To provide a code-execution environment that guarantees safe execution of code, including code created by an unknown or semi-trusted third party.
- To provide a code-execution environment that eliminates the performance problems of scripted or interpreted environments.
- To make the developer experience consistent across widely varying types of applications, such as Windows-based applications and Web-based applications.
- To build all communication on industry standards to ensure that code based on the .NET Framework can integrate with any other code.

The .NET Framework has two main components: the common language runtime and the .NET Framework class library. The common language runtime is the foundation of the .NET Framework. You can think of the runtime as an agent that manages code at execution time, providing core services such as memory management, thread management, and remoting, while also enforcing strict type safety and other forms of code accuracy that ensure security and robustness. In fact, the concept of code management is a fundamental principle of the runtime. Code that targets the runtime is known as managed code, while code that does not target the runtime is known as unmanaged code. The class library, the other main component of the .NET

Framework, is a comprehensive, object-oriented collection of reusable types that you can use to develop applications ranging from traditional command-line or graphical user interface (GUI) applications to applications based on the latest innovations provided by ASP.NET, such as Web Forms and XML Web services.

The .NET Framework can be hosted by unmanaged components that load the common language runtime into their processes and initiate the execution of managed code, thereby creating a software environment that can exploit both managed and unmanaged features. The .NET Framework not only provides several runtime hosts, but also supports the development of third-party runtime hosts.

For example, ASP.NET hosts the runtime to provide a scalable, server-side environment for managed code. ASP.NET works directly with the runtime to enable Web Forms applications and XML Web services, both of which are discussed later in this topic.

Internet Explorer is an example of an unmanaged application that hosts the runtime (in the form of a MIME type extension). Using Internet Explorer to host the runtime enables you to embed managed components or Windows Forms controls in HTML documents. Hosting the runtime in this way makes managed mobile code (similar to Microsoft® ActiveX® controls) possible, but with significant improvements that only managed code can offer, such as semi-trusted execution and secure isolated file storage.

The following illustration shows the relationship of the common language runtime and the class library to your applications and to the overall system. The illustration also shows how managed code operates within a larger architecture.

B) SQL SERVER 2012

Microsoft SQL Server 2012 is comprehensive, integrated data management and analysis software that enables organizations to reliably manage mission-critical information and confidently run today's increasingly complex business applications. SQL Server 2012 allows companies to gain greater insight from their business information and achieve faster results for a competitive advantage.

2.1 Project/Application Architecture.

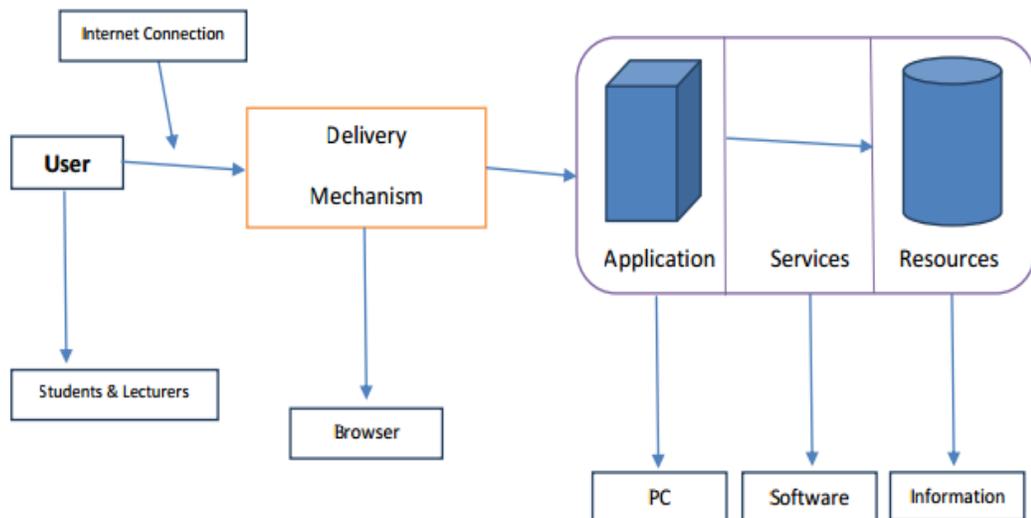


Fig: System Architecture (a)

Fig-1: Architecture

2.2 Project/Application Information flows

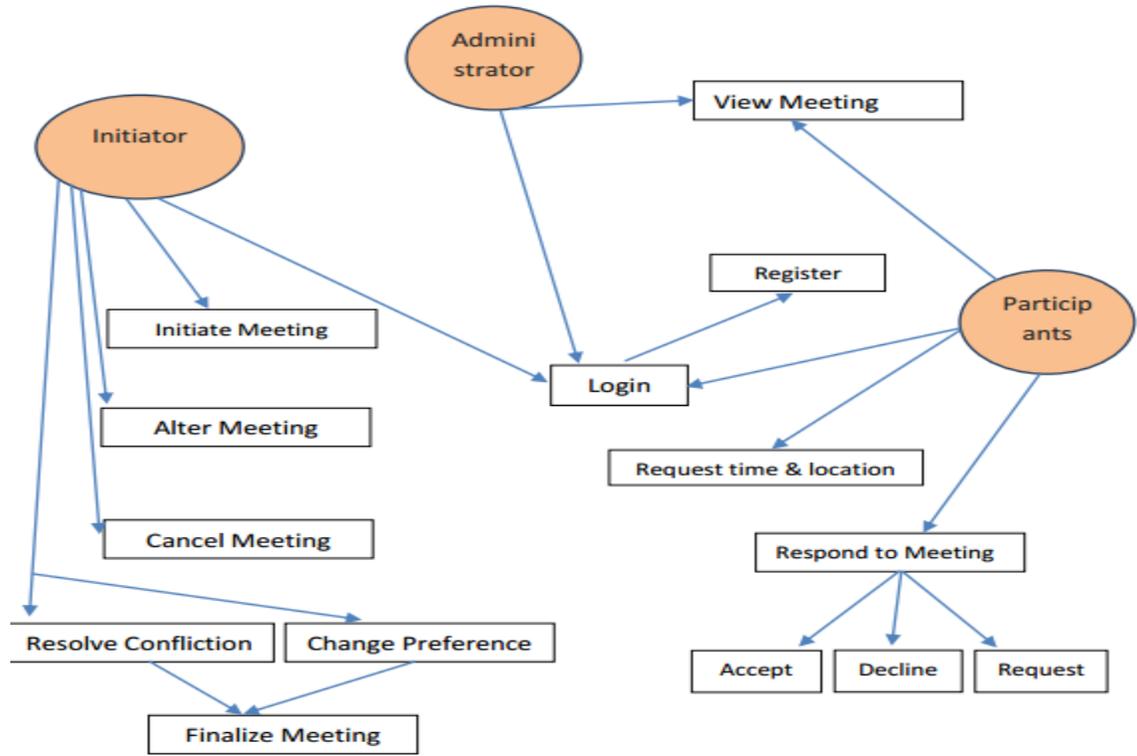


Fig: Use Case Diagram

Fig-2: Use Case Diagram

2.3 Interactions with other Projects

This is project developed based on Google Calendar and other Scheduling systems

2.4 Interactions with other Applications

This project uses Event calendar for scheduling purpose. SMS Gateways for sending SMS. Finally this project uses Gmail for sending mails

2.5 Capabilities

- Scheduling the meeting in efficient way.
- Gathering the feedback from attendee.
- Cancelling the meeting.
- Changing the meeting schedule and/or location.
- Scheduling concurrent meetings in timely manner.
- Conducting virtual meetings.
- Confirming the location and time of the meeting.

- Minimize users effort in coordinating and scheduling meetings

2.6 Risk Assessment and Management:

- Before risk management begins it is imperative that a foundation is established for providing structured project information, thus, the following project elements were completed and defined prior to developing this Risk Management Plan:
 - Define work scope, schedule, resources, and cost elements
 - Develop project WBS/WBS dictionary
 - Develop master schedule and detailed schedules
 - Estimate project cost and finalize budget
 - Identify required and available resources
 - Establish performance measurement metrics
 - Define minimum and maximum baseline thresholds
 - Schedule
 - Resources
 - Cost
 - Baseline reporting requirements
 - Format
 - Frequency of distribution
 - Distribution list
 - Define Risk Management Roles and Responsibilities
 - Project Manager chairs the risk assessment meetings
 - Project team participates in risk assessment meetings and members serve as meeting recorder and timekeeper
 - Key stakeholders participate in risk assessment meetings
 - Project Sponsor may participate in risk assessment meetings.

3 Project Requirements

3.1 Identification of Requirements:

<GSU-001-0.1 STUDENT-STUDENTID/000101>

Require to generate and store the student ID for the student

Implementation: Mandatory

<GSU-001-0.1 STUDENT-EMAIL/000102>

student email must identify each student and is unique for every student

Implementation: Mandatory

<GSU-001-0.1 STUDENT-FIRSTNAME/000103>

Require to store the first name of the student

Implementation: Mandatory

<GSU-001-0.1 STUDENT-LASTNAME/000104>

Require to store the last name of the student

Implementation: Mandatory

<GSU-001-0.1 STUDENT-PHONEONE/000105>

Require to store the primary phone number of the student

Implementation: Mandatory

<GSU-001-0.1 STUDENT-PHONETWO/000106>

Require to store the secondary phone number of the student

Implementation: Mandatory

<GSU-004-0.1 DATABASE-RELIABILITY/00401>

About 100,000 customers will be visiting the web site per week. So, performance must be maintained through 24/7

Implementation: Mandatory

<GSU-005-0.1 DATABASE-MAINTENANCE/00501>

Database maintenance issues must be fixed scheduled every Sunday 10PM to 6AM central time. Daily DB maintenance and backup, can only be performed between 12PM to 2AM central time

Implementation: Mandatory

<GSU-006-0.1 DATABASE-FAILOVER/00602>

To handle fail over case, the system must support at least 30 seconds worth of data in temporary memory space. This is estimated as 5000 customer records and their transient state info. Duplex system should be maintained.

Implementation: Mandatory

<GSU-007-0.1 SCHEULE APPOINTMENT/000701>

Advisor create the seminar slots when student need to present their project

Implementation: Mandatory

<GSU-007-0.1 SCHEULE APPOINTMENT-DATE/000702>

When students need to present seminar will be decided

Implementation: Mandatory

<GSU-007-0.1 SCHEULE APPOINTMENT-TIME/000703>

Timing information will be updated.

Implementation: Mandatory

<GSU-007-0.1 SCHEULE APPOINTMENT-PLACE/000704>

Place of seminar will be stored

Implementation: Mandatory

<GSU-007-0.1 SCHEULE APPOINTMENT-EMAIL/000705>

Students will be informed using Email
Implementation: Mandatory

<GSU-007-0.1 SCHEULE APPOINTMENT-SMS/000706>

Students will be informed using Sms
Implementation: Mandatory

<GSU-008-0.1 SLOT BOOKING/000801>

Using this students can able to select their seminar slots
Implementation: Mandatory

<GSU-008-0.1 SLOT BOOKING-AVAILABLE DATES/000802>

Students need to check the seminar dates
Implementation: Mandatory

<GSU-008-0.1 SLOT BOOKING-AVAILABLE TIMES/000803>

Students can check what are the timing slots available for seminar
Implementation: Mandatory

<GSU-008-0.1 SLOT BOOKING-GROUP ID/000804>

While booking the slots students must provide their Group ID
Implementation: Mandatory

<GSU-008-0.1 SLOT BOOKING-PROEJCT NAME/000805>

Project name should be provided by the student
Implementation: Mandatory

<GSU-008-0.1 SLOT BOOKING-REQUIRED DOCUMENTS/000806>

Required documents should be uploaded by student
Implementation: Mandatory.

<GSU-009-0.1 ADD STUDENT/000901>

Administrator will add the students those who are eligible for the Seminar
Implementation: Mandatory

<GSU-009-0.1 ADD STUDENT-STUDENTID/000902>

Student id required to register for the application
Implementation: Mandatory

<GSU-009-0.1 ADD STUDENT-NAME/000903>

Student name is required for the database
Implementation: Mandatory

<GSU-009-0.1 ADD STUDENT-EMAIL/000904>

Student must provide valid college email id
Implementation: Mandatory

<GSU-009-0.1 ADD STUDENT-PHONE NUMBER/000905>

Student should provide valid phone number for communication purpose
Implementation: Mandatory

<GSU-010-0.1 ADD SUPERVISOR/001001>

Administrator only register the Supervisor
Implementation: Mandatory

<GSU-010-0.1 ADD SUPERVISOR-ID/001002>

To register supervisor they should provide their College ID
Implementation: Mandatory

<GSU-010-0.1 ADD SUPERVISOR-NAME/001003>

Account will be created based on their name
Implementation: Mandatory

<GSU-010-0.1 ADD SUPERVISOR-EMAIL/001004>

When their account is created they can be communicated using their email
Implementation: Mandatory

<GSU-010-0.1 ADD SUPERVISOR-PHONE NUMBER/001005>

After registration they will get password as a text message
Implementation: Mandatory

<GSU-010-0.1 ADD SUPERVISOR-PASSWORD/001006>

Administrator will create a password for Supervisor.
Implementation: Mandatory

3.2 Operations, Administration, Maintenance and Provisioning (OAM&P)

GSU Scheduling system is a web based application. The Client Side Design Developed using ASP.NET and server side validation done by C# for storing student details , project details and seminar dates and slots we are using sql server 2012 .If students want to use this web application they need web browser (chrome,firefox,safari,internet explorer) of any version .

If you want to deploy the web application we need windows server with IIS enabled and administrator is required to back up the database every one month supervisors students are required to change their password for every 90 days .

If student or supervisors want to change their password they need to contact the administrator with their id and password if student want register for the web application they need to register for the Graduate Seminar .

Those who are registered for the web application they can perform the following operations based on their role

- a) **Admin :**
 - i)Add a supervisor
 - ii)Add student
 - iii)Maintain Database
- b) **Supervisor :**
 - i)Creating Seminar Slots
 - ii)verifying Student Uploaded Documents .
 - iii)Communicating with the Students by email / SMS.
- c) **Students :**
 - i)Registration for the Subject
 - ii)Uploading the Documents
 - iii)Selecting Slots for the Seminar.

3.3 Security and Fraud Prevention

Our Project is a web based application whenever the user wants to login in to the GSU Scheduling System it automatically records the IP address of the particular user login session and its stores the information in the database. Using this we can easily track the user details those who are trying to perform the fraud.

3.4 Release and Transition Plan

Release Process

This SOW shall commence on Aug 31st, 2015 (the “Effective Date”) and shall continue until 29th Nov, 2015. The final demonstration is to be given on Dec 07 2015. Below are the timelines and Deliverable details.

- Interim Project I (Phase 1.1) has been given on Nov 03, 2015
- Final Project I (Phase 1.2) has been given on Nov 25, 2015

Transition Schedule

		Member1	Member2	Member3	Member4
Phase I					
	Project Plan	x	x	x	x
	System Requirement Specification		x	x	x
	Prototype	x			
	User Manual				
	Presentation	x	x	x	X
	Document Formatting				
Phase II					
	Project Plan				
	Vision Document	x			
	Supplementary Document				
	System Requirement Specification Refinement		x		
	Process and Product Specification	x		x	X
	User Manual				
	Implementation				
	Document Formatting				

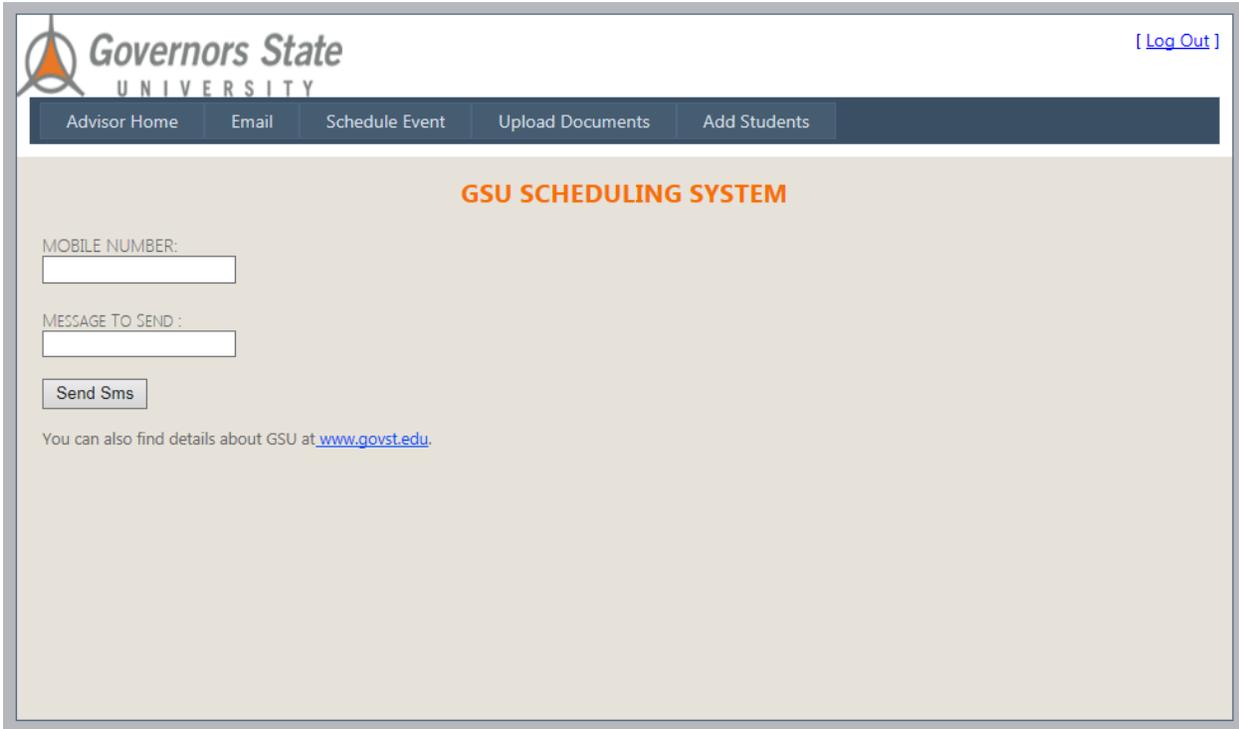
Fig-3: Transition Diagram

4 Project Design Description

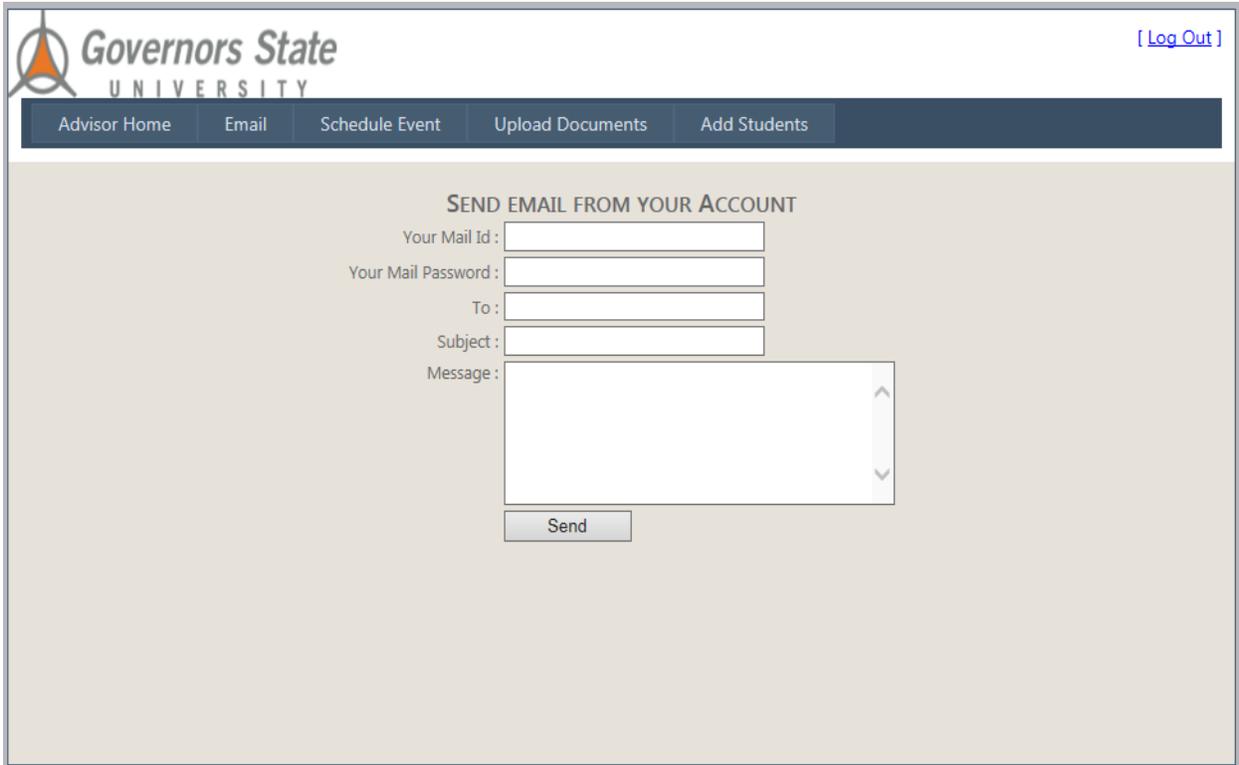
The ASP.NET conventional facilities will be designed to provide the Security, services and utility infrastructure needed to support the technical scope of the project and the mission of a high technology user facility.

The GSU Scheduling System is a web-based meeting scheduler system to schedule various types of meetings. It would efficiently schedule meetings and determine the available resources such as location and free-time-slots suitable for all attendees which are necessary for the meeting to be initiated. The purpose of this system is to support the faculty in scheduling meetings by determining each attendee’s free time slot, date and location. The MMS system will monitor meetings, plan meetings under constraints expressed by the participants, reschedule meetings based on constraints, support conflict resolutions, and manages all the interactions among

participants. Since GSU is an online system, it can be easily accessed from web-browser with internet access, thus removing any constraints of time or place. The system also sends relevant notifications and information to respective users through emails. The system will have a user friendly interface which will make it easier for all kinds of participants.



The screenshot shows the 'GSU SCHEDULING SYSTEM' interface. At the top left is the 'Governors State UNIVERSITY' logo. To the right is a '[Log Out]' link. Below the logo is a dark navigation bar with buttons for 'Advisor Home', 'Email', 'Schedule Event', 'Upload Documents', and 'Add Students'. The main content area has a light beige background with the title 'GSU SCHEDULING SYSTEM' in orange. Below the title are two text input fields: 'MOBILE NUMBER:' and 'MESSAGE TO SEND :'. A 'Send Sms' button is positioned below the second field. At the bottom of the form, there is a link: 'You can also find details about GSU at www.govst.edu'.



The screenshot shows the 'SEND EMAIL FROM YOUR ACCOUNT' interface. It features the same header and navigation bar as the previous screenshot. The main content area has a light beige background with the title 'SEND EMAIL FROM YOUR ACCOUNT' in black. Below the title are five text input fields: 'Your Mail Id :', 'Your Mail Password :', 'To :', 'Subject :', and 'Message :'. The 'Message :' field is a larger text area with a vertical scrollbar. A 'Send' button is located at the bottom of the form.

Event Registration

Meeting Title

Description

Location

Email

Date

November 2015						
≤						≥
S	M	T	W	T	F	S
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

Time To

Submit

Add Students By Uploading Excel File

Browse...

Upload Files

Add Advisor

Advisor Firstname

Advisor Lastname

Advisor ID

Email

Password

Confirm Password

Add Students By Uploading Excel File

Schedule Appointment

Group Name

Project Name

Email

Select Date

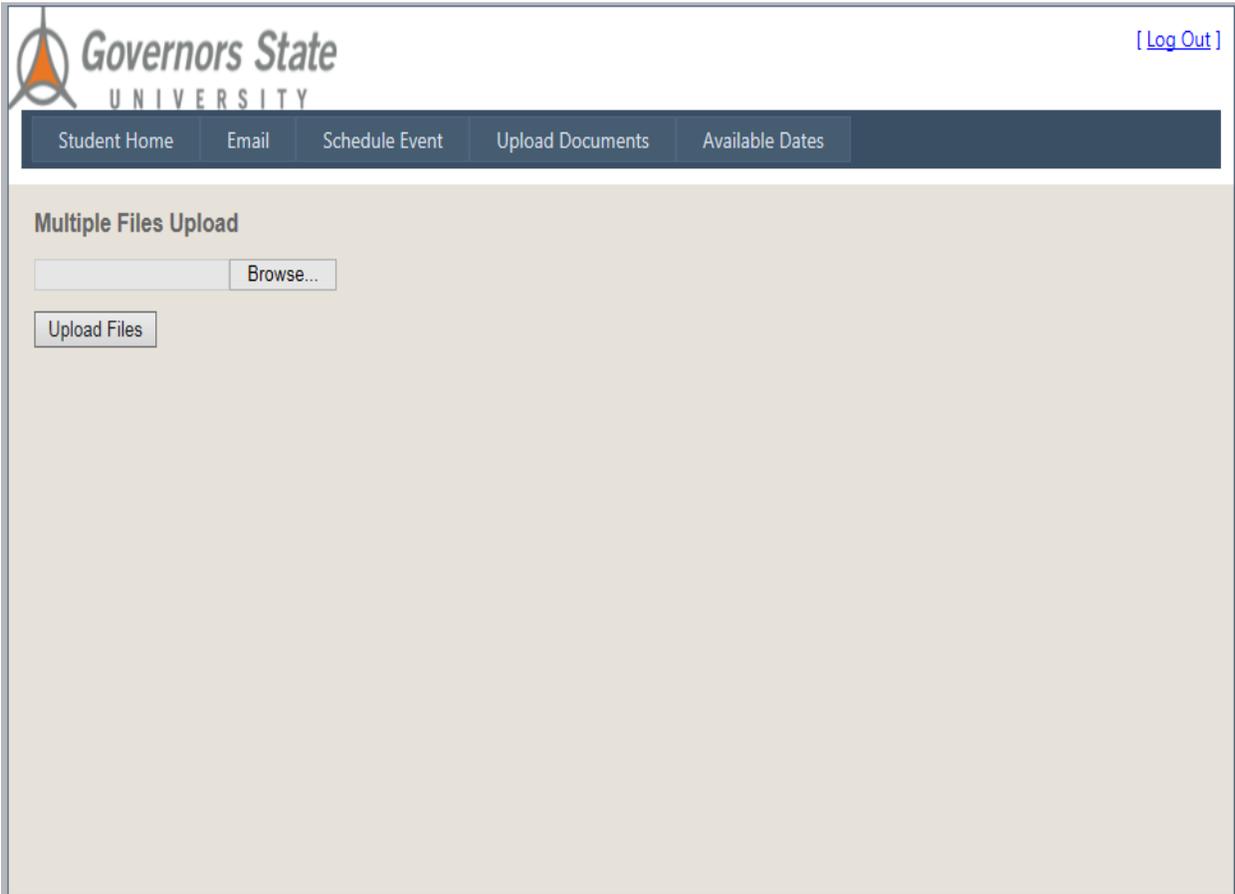
November 2015						
S	M	T	W	T	F	S
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

Select Time

To

Submit

Group Id	Project Name	Student Name	Sechduled Date	Scheduled Time
P4	Hospital Management System	xyz	11-23-2015	07:30 PM-07:40 PM
C4	GSU Scheduling System	sagar	11-23-2015	07:40 PM-07:50 PM



5 Project Internal/external Interface Impacts and Specification

i) Structure :

Structure is an internal Factor that impacts operation of GSU Scheduling System .The structure the number of advisors work for the Graduate Seminar, the levels of hierarchy, the extent of advisor and department collaboration and the roles of advisor and admin.

ii) External Communications:

This is external Impact factor for the web based application system The way the system interacts with the students impacts the workflow of the system .

6 Project Design Units Impacts

The Techniques we will be using in our project will be focused on Model driven development, Test driven development, and object oriented development.

MDD gives architects the ability to define and communicate a solution while creating artifacts that become part of the overall solution. MDD is also comprised of the ability to visualize the domain, such as a business domain, and the generation of implementation artefacts. The Model-Driven Architecture (MDA) defines an approach to modelling that separates the specification of

system functionality from the specification of its implementation on a specific technology platform. In short it defines a guideline for structuring specifications expressed as models.

Test Driven Design (TDD). With a TDD approach you create a test then write enough production code to fulfil that test. In other words, the tests form your detailed design model (as executable specifications), arguably making TDD a modelling approach.

Object Oriented Development (OOD) promises to reduce development time, reduce the time and resources required to maintain existing applications, increase code reuse, and provide a competitive advantage to organizations that use it.

6.1 Functional Area/Design Unit A

The objective of the project is to develop a meeting Scheduler system within allocated time, budget and specified quality. The project is prioritized due to high benefits to the organization. One of the important usages of this project is that it will automate the process of meeting scheduling and thus save the time and efforts of meeting organizer. More benefits will be further discussed ahead.

The primary focus of our team is the reliability, usability, and quality. Satisfying requirements and perfecting the product is very important to us. Meeting user's needs is our top goal.

6.1.1 Functional Overview

With this system, users can do the following major functions:

- I. Set up meetings.
- II. Re-plan meetings.
- III. Cancel meetings
- IV. Send email and SMS to the users.

6.1.2 Impacts

Impacts of the system are:

- I. User should be able to access the system over the network.
- II. Participants should be the lecturer or students of GSU.
- III. Participants must have the GSU email for the authentication purpose.
- IV. Participants and the initiator are not allowed to modify the information about the rooms and resources.

6.1.3 Requirements

<GSU-002-0.1 ADVISOR-LOGIN/000201>

If the advisor provides valid credentials then redirects to home page else shows invalid credentials

Implementation: Mandatory

< GSU -002-0.1 ADVISOR-PWD-REQUEST/000202>

Prompts for advisor Id. If valid advisor Id then prompts security questions else prompts not a valid employee

Implementation: Mandatory.

< GSU -002-0.1 ADVISOR-FGT-VALIDATE/000203>

If valid security answers then send password recovery link to concerned email Id

Implementation: Mandatory

< GSU -002-0.1 ADVISOR-PWD-RESET/000202>

Clicking link in the mail must redirect where the password can be reset

Implementation: Mandatory

6.2 Functional Area/Design Unit B

- I. A “meeting initiator” may cancel the meeting or reschedule the meeting at any time prior to the start of the meeting.
- II. A meeting scheduler may automatically propose another meeting if current meeting is canceled by an important participant.
- III. A “meeting initiator” shall confirm the meeting and the system shall change the “time slots” of accepting “meeting participants” from a temporary reservation to a scheduled meeting, once all “potential meeting participants” have responded to the “meeting proposal.
- IV. A meeting scheduler will inform the “meeting initiator” that no “time slot” exists for all “potential meeting participants” and may optionally suggest an alternative “date range”, “duration”, and “location” which is available.
- V. The system shall keep participants informed about meeting schedules and their changes.
- VI. The meeting scheduler system must in general handle several meeting requests in parallel. Requirements: list of meeting schedules and their adopted room.

6.2.1 Functional Overview

The Meeting scheduler system has three main members involved; the initiator, administrator and the attendees (participants). The steps for the event scenarios include the user input, processing for the meeting schedule and the notification sent to the various users. The user input consists of

login with his/her email. The pre-condition to this function is “register” incase the user hasn’t registered to the system. The initiator logs in to process the function for initiating, altering and canceling the meeting when required. Once the meeting has been finalized all the participants registered for the meetings are notified.

6.2.2 Impacts

- I. GSU’s students and employees database is needed for the list of participants.
- II. Meeting room database is required for scheduling the meeting’s location.

6.2.3 Requirements:

<GSU-003-0.1 DEPARTMENT-NAME/000302>

Every department has its name

Implementation: Mandatory

< GSU -003-0.1 DEPARTMENT-EMAILID/000303>

Every department has its email ID for communication

Implementation: Mandatory

< GSU -003-0.1 DEPARTMENT-PHONE/000304>

Require to store department's phone number

Implementation: Mandatory

<GSU-008-0.1 DEPARTMENT-BUILDING/000305>

Department's block/building name or number must be stored

Implementation: Mandatory

<GSU-008-0.1 DEPARTMENT-HEAD/000311>

Every department has a manager who is the employee

Implementation: Mandatory

7. Open Issues:

- I. Technical – Relating to a technological problem in the project.
- II. Business process – Relating to the project's design.
- III. Change management – Relating to college, students, or environmental changes.

- IV. Resource – Relating to equipment, material, or people problems.
- V. Third party – Relating to issues with outside scheduling Systems.

8 Acknowledgements:

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

I am highly indebted to for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project.

I would like to express my gratitude towards my parents & member of for their kind co-operation and encouragement which help me in completion of this project.

9 References

- [1] Requirement Engineering – Advanced Requirement Engineering. CS/SE 6361 Section 001, Spring 2010. <http://www.utdallas.edu/~chung/RE/syllabus.htm>
- [2] Project Description: Requirements Elicitation: Initial Understanding
<http://www.utdallas.edu/~chung/RE/Project1.pdf>
- [3]
http://www.utdallas.edu/~chung/CS6354/CS6354_U07_source/Team_2/SoftwareProjectManagement_Plan_v1.1_Team2.doc
- [4] http://re-project.org/Documents/Final_Project_Plan.doc
- [5] <http://www.utdallas.edu/~chung/RE/Presentations09F/Pioneer-Team/RE%20Deliverable/>
- [6] Roles and responsibilities www.csuchico.edu/cms/Readiness/roles.doc
- [7] www.search.org/files/doc/sample%20project%20plan.doc - section 3.2, 3.4
- [8] IEEE standards for SRS [IEEE-STD-830-1993] <http://pro-10.design.officelive.com/aboutus.aspx>

10. Appendices.

Features of the Common Language Runtime:

The common language runtime manages memory, thread execution, code execution, code safety verification, compilation, and other system services. These features are intrinsic to the managed code that runs on the common language runtime.

With regards to security, managed components are awarded varying degrees of trust, depending on a number of factors that include their origin (such as the Internet, enterprise network, or local computer). This means that a managed component might or might not be able to perform file-access operations, registry-access operations, or other sensitive functions, even if it is being used in the same active application.

The runtime enforces code access security. For example, users can trust that an executable embedded in a Web page can play an animation on screen or sing a song, but cannot access their personal data, file system, or network. The security features of the runtime thus enable legitimate Internet-deployed software to be exceptionally featuring rich.

ASP.NET

ASP.NET is part of the whole .NET framework, built on top of the Common Language Runtime (also known as the CLR) - a rich and flexible architecture, designed not just to cater for the needs of developers today, but to allow for the long future we have ahead of us. What you might not realize is that, unlike previous updates of ASP, ASP.NET is very much more than just an upgrade of existing technology – it is the gateway to a whole new era of web development.

ASP.NET is a feature at the following web server releases

- Microsoft IIS 5.0 on WINDOWS 2000 Server
- Microsoft IIS 5.1 on WINDOWS XP

Some of the key goals of ASP.NET were to

- Remove the dependency on script engines, enabling pages to be type safe and compiled.
- Reduce the amount of code required to develop web applications.
- Make ASP.NET well factored, allowing customers to add in their own custom functionality, and extend/ replace built-in ASP.NET functionality.
- Make ASP.NET a logical evolution of ASP, where existing ASP investment and therefore code can be reused with little, if any, change.
- Realize that bugs are a fact of life, as ASP.NET should be as fault tolerant as possible.

Benefits of ASP.NET

The .NET Framework includes a new data access technology named ADO.NET, an evolutionary improvement to ADO. Though the new data access technology is evolutionary, the classes that make up ADO.NET bear little resemblance to the ADO objects with which you might be familiar. Some fairly significant changes must be made to existing ADO applications to convert them to ADO.NET. The changes don't have to be made immediately to existing ADO applications to run under ASP.NET, however.

ADO will function under ASP.NET. However, the work necessary to convert ADO applications to ADO.NET is worthwhile. For disconnected applications, ADO.NET should offer performance advantages over ADO disconnected record sets. ADO requires that transmitting and receiving components be COM objects. ADO.NET transmits data in a standard XML-format file so that COM marshaling or data type conversions are not required.

SQL SERVER 2012

Top-10 Features of SqlServer-2012

1. T-SQL (Transaction SQL) enhancements

T-SQL is the native set-based RDBMS programming language offering high-performance data access. It now incorporates many new features including error handling via the TRY and CATCH paradigm, Common Table Expressions (CTE), which return a record set in a statement, and the ability to shift columns to rows and vice versa with the PIVOT and UNPIVOT commands.

2. CLR (Common Language Runtime)

The next major enhancement in SQL Server 2005 is the integration of a .NET compliant language such as C#, ASP.NET or VB.NET to build objects (stored procedures, triggers, functions, etc.). This enables you to execute .NET code in the DBMS to take advantage of the .NET functionality. It is expected to replace extended stored procedures in the SQL Server 2000 environment as well as expand the traditional relational engine capabilities.

3. Service Broker

The Service Broker handles messaging between a sender and receiver in a loosely coupled manner. A message is sent, processed and responded to, completing the transaction. This greatly expands the capabilities of data-driven applications to meet workflow or custom business needs.

4. Data encryption

SQL Server 2012 had no documented or publicly supported functions to encrypt data in a table natively. Organizations had to rely on third-party products to address this need. SQL Server 2012 has native capabilities to support encryption of data stored in user-defined databases.

5. SMTP mail

Sending mail directly from SQL Server 2012 is possible, but challenging. With SQL Server 2012, Microsoft incorporates SMTP mail to improve the native mail capabilities. Say "see-ya" to Outlook on SQL Server!

6. HTTP endpoints

You can easily create HTTP endpoints via a simple T-SQL statement exposing an object that can be accessed over the Internet. This allows a simple object to be called across the Internet for the needed data.

7. Multiple Active Result Sets (MARS)

MARS allow a persistent database connection from a single client to have more than one active request per connection. This should be a major performance improvement, allowing developers to give users new capabilities when working with SQL Server. For example, it allows multiple searches, or a search and data entry. The bottom line is that one client connection can have multiple active processes simultaneously.

8. Dedicated administrator connection

If all else fails, stop the SQL Server service or push the power button. That mentality is finished with the dedicated administrator connection. This functionality will allow a DBA to make a single diagnostic connection to SQL Server even if the server is having an issue.

9. SQL Server Integration Services (SSIS)

SSIS has replaced DTS (Data Transformation Services) as the primary ETL (Extraction, Transformation and Loading) tool and ships with SQL Server free of charge. This tool, completely rewritten since SQL Server 2000, now has a great deal of flexibility to address complex data movement.

10. Database mirroring

It's not expected to be released with SQL Server 2005 at the RTM in November, but I think this feature has great potential. Database mirroring is an extension of the native high-availability capabilities. So, stay tuned for more details....

HTML

HTML (Hyper Text Markup Language) is the language that is used to prepare documents for online publications. HTML documents are also called Web documents, and each HTML document is known as Web page.

A page is what is seen in the browser at any time. Each Web site, whether on the Internet or Intranet, is composed of multiple pages. And it is possible to switch among them by following hyperlinks. The collection of HTML pages makes up the World Wide Web.

A web pages is basically a text file that contains the text to be displayed and references of elements such as images, sounds and of course hyperlinks to other documents. HTML pages can be created using simple text editor such as Notepad or a WYSIWYG application such as Microsoft FrontPage.

INTERNET INFORMATION SERVER (IIS):

A web server is a program connected to the World Wide Web (www) that furnishes resources from the web browser.

Microsoft IIS is a web server integrated with Windows.NET server that makes it easy to publish information and bring business application to the web.

Because of its tight integration with Windows NT server, IIS guarantees the network administrator and application developer the same security, Networking and administrator functionality as Windows NT server. Above and beyond its use of familiar Windows NT server

Tools and functionality, IIS also has built-in capabilities to help administer secure websites, and to develop server-intensive web application.

FEATURES OF IIS:

IIS provides integrated security and access to a wide range of content, work seamlessly with COM components, and has a graphical interface—the Microsoft Management Console (MMC) –that you can use to create and manage your ASP application.

IIS Provides Integrated Security:

On the internet, most sites allow anybody to connect to the site. The exceptions are commercialists where you pay a onetime, monthly fee to access the site. Sites that are restrict the access called secured site. Secured site use either integrated security or login, password security. IIS support both of these methods.

IIS ARCHITECTURES OVERVIEW:

IIS is a core product, which means that it is designed to work closely with many other products, including all products in the Windows NT Server 4.0 Option pack. The following figure shows the relationship between IIS and other products installed as part of the Windows NT Server 4.0 Option pack.

SECURITY FOR IIS APPLICATION

IIS provides three authentication schemes to control access to ITS resources: Anonymous, Basic and Windows NT challenge/Response. Each of these schemes had different effect on the security context of an application launched by ITS. This includes ISAPI extension agents, COT applications, IDC scripts and future scripting capabilities.

ACCESS PRIVIEGES

IIS provides several new access levels. The following values can set the type of access allowed to specific directories:

- Read
- Write
- Script

- Execute
- Log Access
- Directory Browsing