CENG315 Spring 2018-2019

Software Requirements Specification Report

Ceng Manager

(CEM)

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1.1. Purpose

The purpose of this Software Requirements Specification document is to give a detailed description of the Ceng Manager. It will explain the features of the application, what it is capable of and how it works.

The expected audience of this document is the faculty of Computer Engineering.

1.2. Scope

Ceng Manager is designed to run on the computers that used by admin and content managers. Cem will help to share events to audience of this application. Also helps to create weekly schedule, add courses, delete courses, update existing courses and determine offered courses. This application provides easily and effortlessly manipulation of the website to users.

1.3. Glossary

Cem: “Ceng Manager” is the name of the application.

Ceng: “Computer Engineering” department of Izmir Institute of Technology.

Cm: “Content Manager” is the person who is responsible for updating the content of the IYTE CENG WEBSITE.

Admin: The someone who is chosen by management of Ceng is the most authoritative person.

User: Admin and the content managers of this application.

Category: It is a kind of group selection such as freshman, junior, sophomore, senior, master degree and project groups etc.

1.4. References

IEEE STD 830-1998, "IEEE Recommended Practice for Software Requirements Specifications". 1998 Edition, IEEE, 1998.

1.5. Overview

This proposed practise defines the functionality and properties of the Cem. It is divided into three clauses. Clause 1 is the introduction part which explains the purpose, scope glossary and references of this application. Clause 2 provides the main information which are product perspective, product functions, user characteristic and constraints about the Cem is explained. In clause 3, functional and non-functional requirements and external interfaces are defined.

2.1. Product Perspective

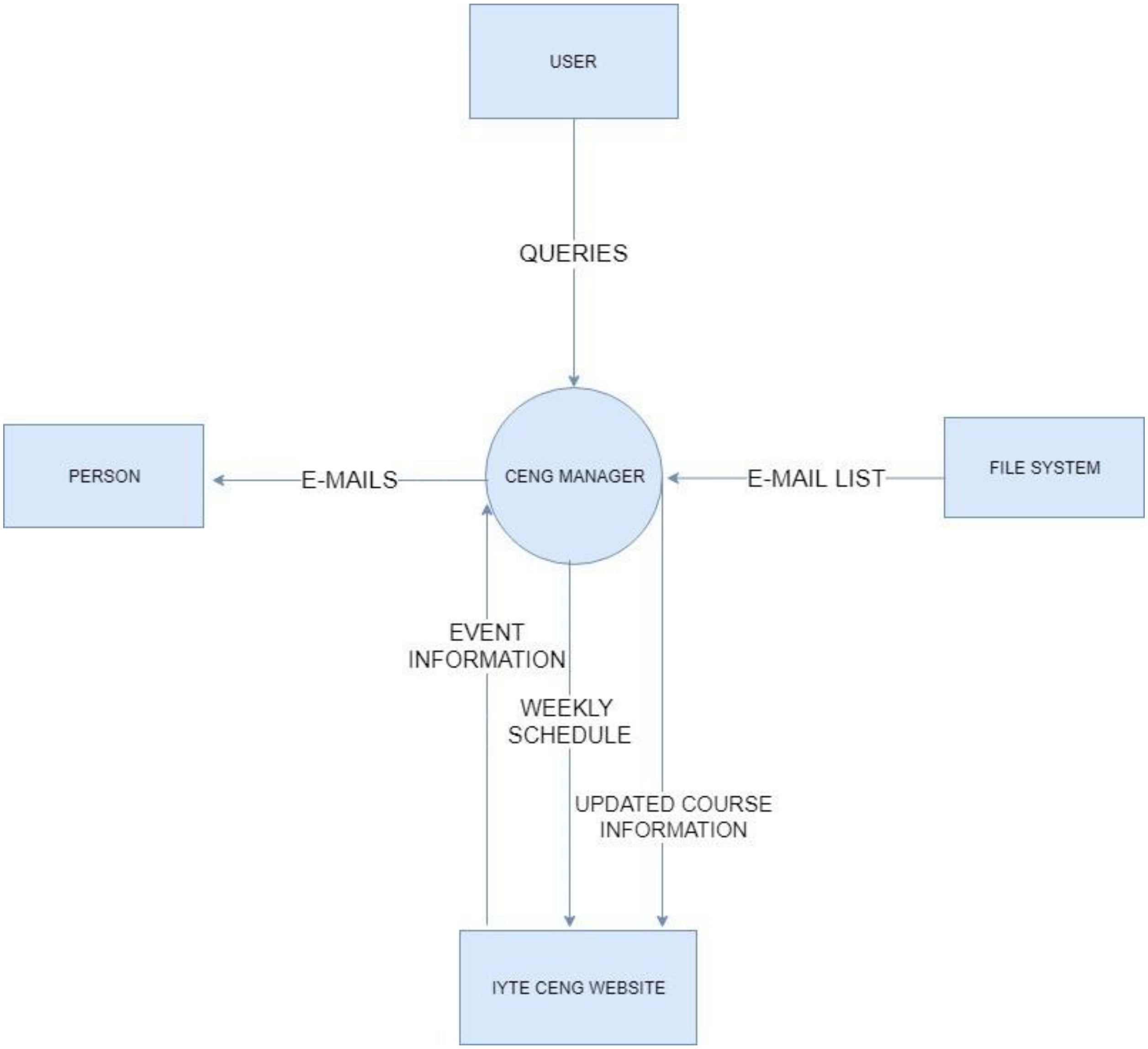


Figure 1 – Context Diagram

Users give queries to system. According to given query, Ceng Manager can import file from desktop environment send email to person publish changes to IYTE CENG WEBSITE or pull event information from IYTE CENG WEBSITE. Figure 1 shows all of system's relations with its environment.

2.2. Product Functions

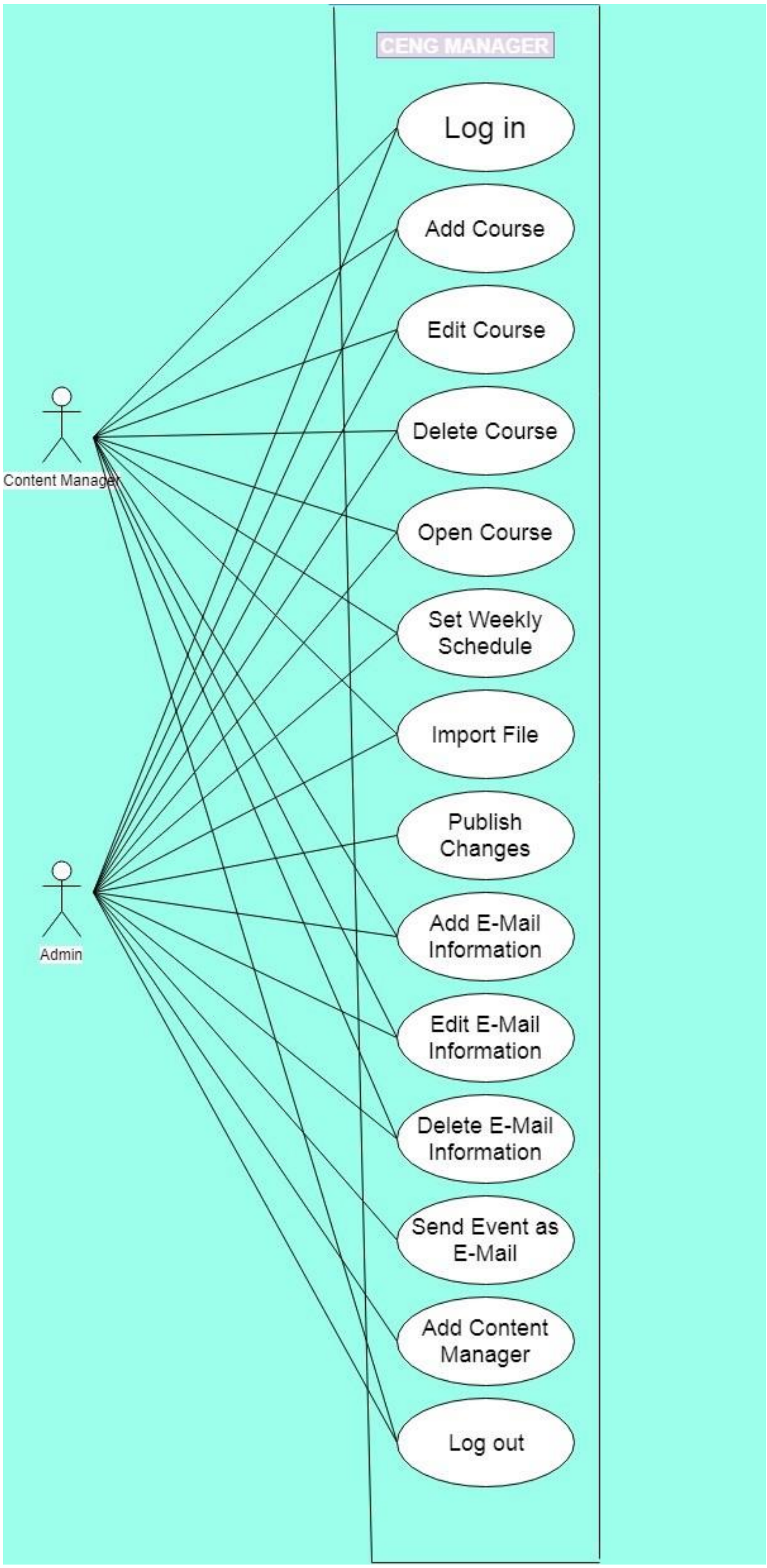


Figure 2 - Use case diagram

Users will be able to add, edit or delete courses in the department.

Users will be able to choose offered courses from the pre-defined list for that semester.

Users will be able to select instructors and assistants for the offered courses.

Users will be able to create weekly course schedule of that semester.

Admin will be able to publish all courses and schedule on the web site.

Users can import an email list from the computer.

Users can add, edit or delete emails.

Admin can get events from the website and send them to selected email list(s).

Users need to login to use any functions above.

Admin can add new content managers.

2.3. User Characteristics

Users should be familiar with ceng courses.

Users must be computer literate.

Users should have pre-knowledge about the use of application.

Admin is the top qualified user. Therefore he/she should be attentive to make the final cuts like publish or send events in order to increase correctness.

Users must be English literate.

Users must be authorized from the university.

2.4. Constraints

2.4.1 Development Process and Team Constraint

Our team has recommended 3 months to complete this project.

2.4.2 Software Constraint

Supported WordPress API which is a part of library in Java programming languages have to be used in the project because of the fact that IYTE CENG WEBSITE is built on WordPress.

On the event page of IYTE CENG WEBSITE, HTML tags and CSS class names must not be changed.

2.4.3 Apportioning of requirements:

This application requires database system. we are going to use MySQL database system.

2.5. Assumptions

Imported e-mail list must be in csv format. Given e-mails must be valid, application just checks for the existence of “@” and “.” signs. Correctness of the inputs such as names and category are on user’s responsibility, application cannot checks them. Inputs of the system are events and e-mails.

3.1. External Interfaces

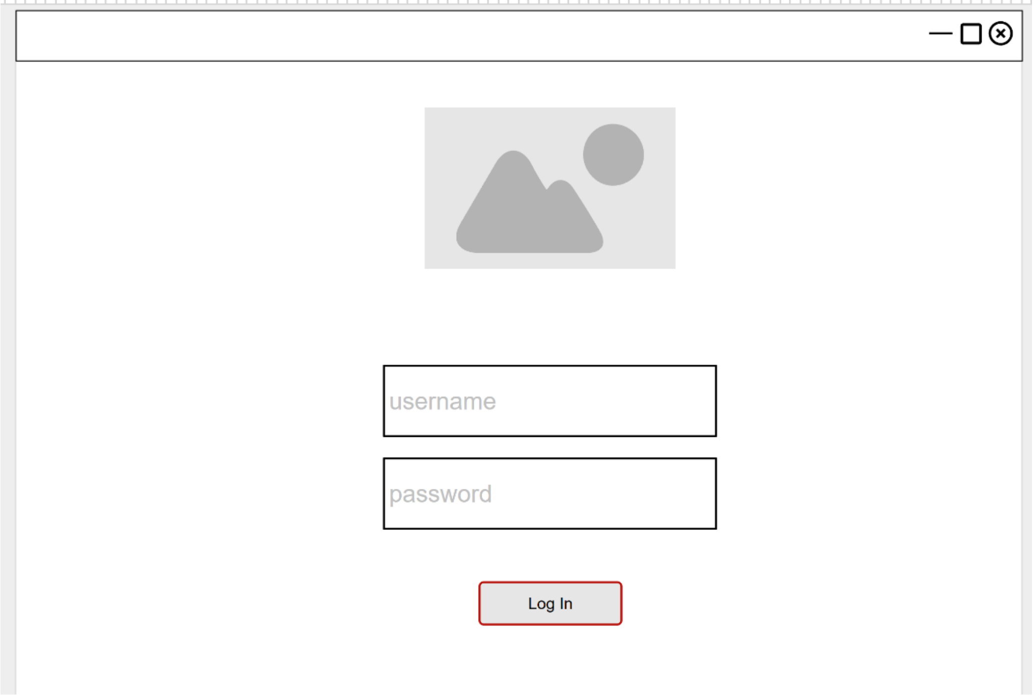


Figure 3 - Login

In log in screen there are 2 areas specified by user password and username, after specifying username and password user can click log in.

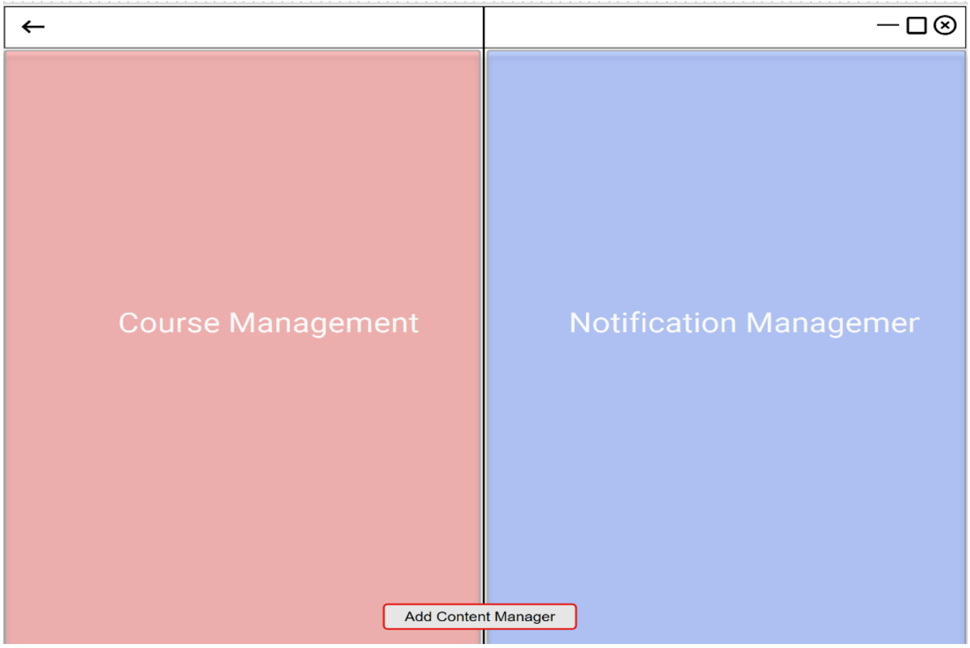


Figure 4 – Main Menu

In main menu screen there are two options which are course management button and notification management button.

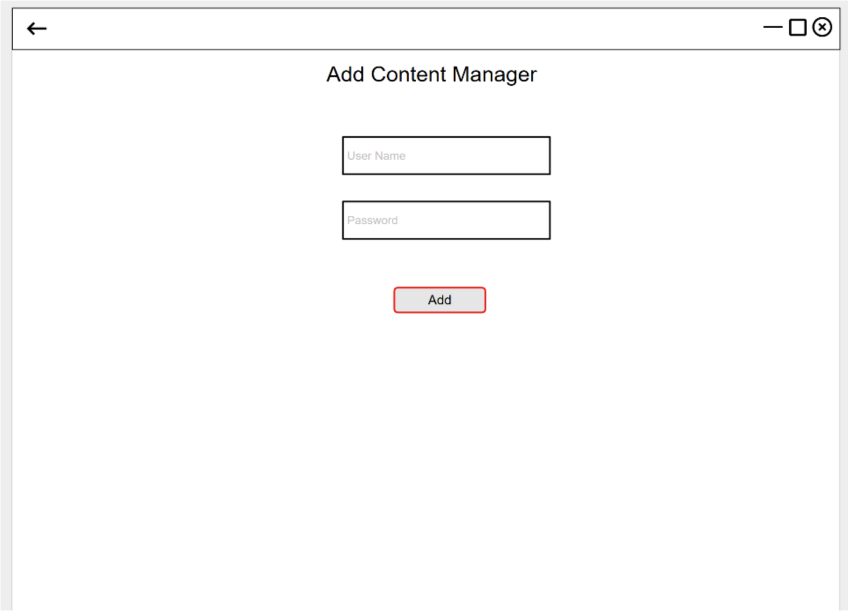


Figure 5 – Add Content Manager

In this screen consist 3 areas. User Name , Password and add button. Via this page admin can add Cm to Cem.

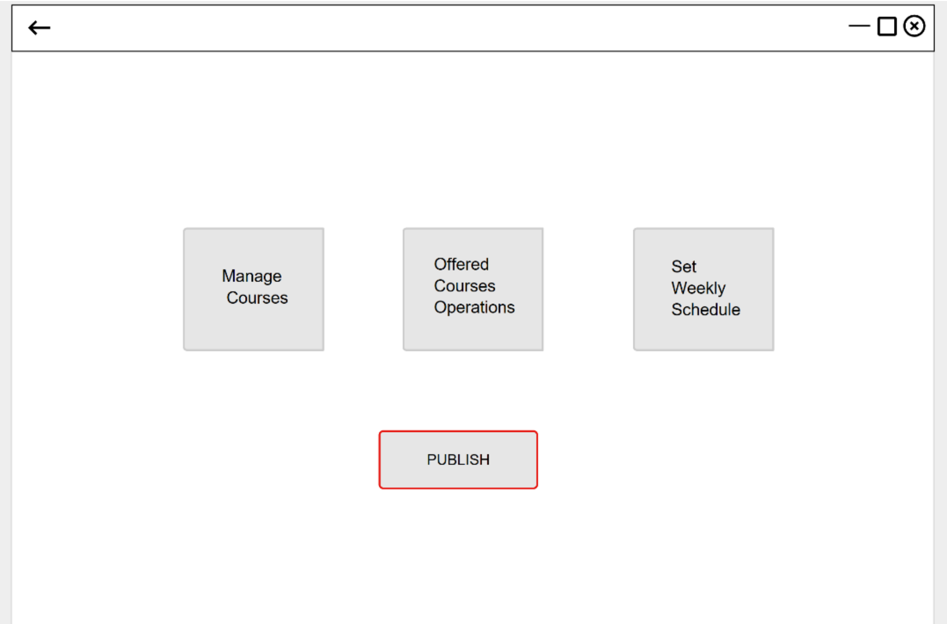
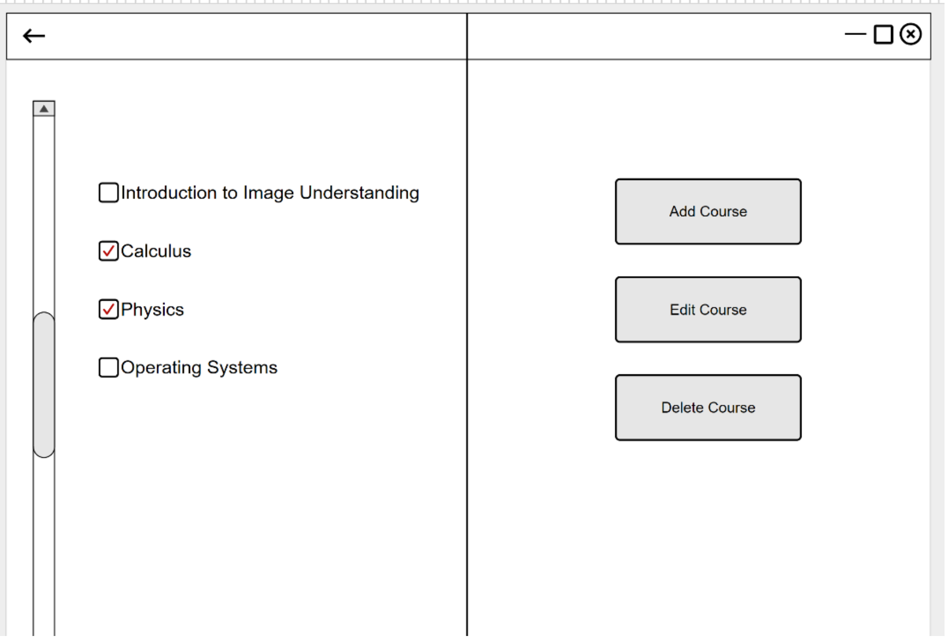


Figure 6 – Manage Courses

In this page we have 4 options which are manage courses, offered courses operations, set weekly schedule and publish. Note that publish button is only visible for admin.


☐ Introduction to Image Understanding

☑ Calculus

☑ Physics

☐ Operating Systems

Figure 7 – Course Management

This screen separated to two different areas which are course list and 3 buttons. Course List includes list of courses that are selectable by user, on the right side of the page the user can select one of the options which are add course, edit course and delete course.

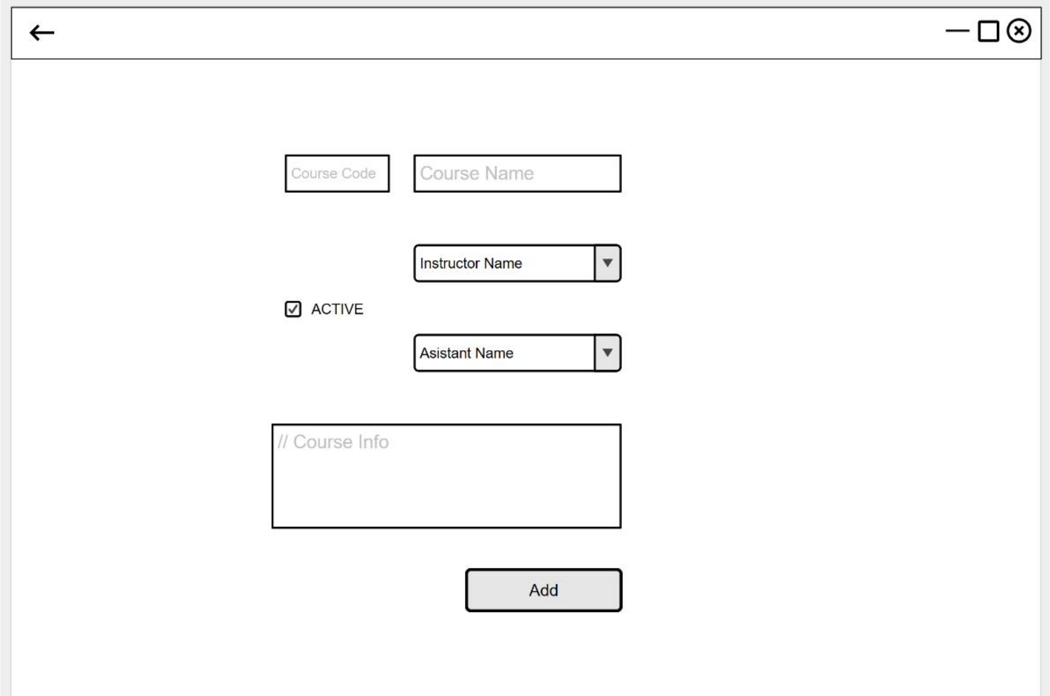


Figure 8 – Add Course

This screen consists of 7 areas which are informations about course. The active button is status of the course, it is either active or inactive. The user can click add button to add the course.

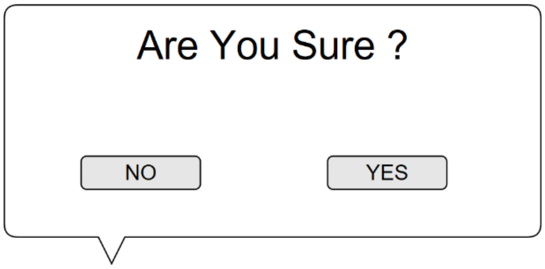
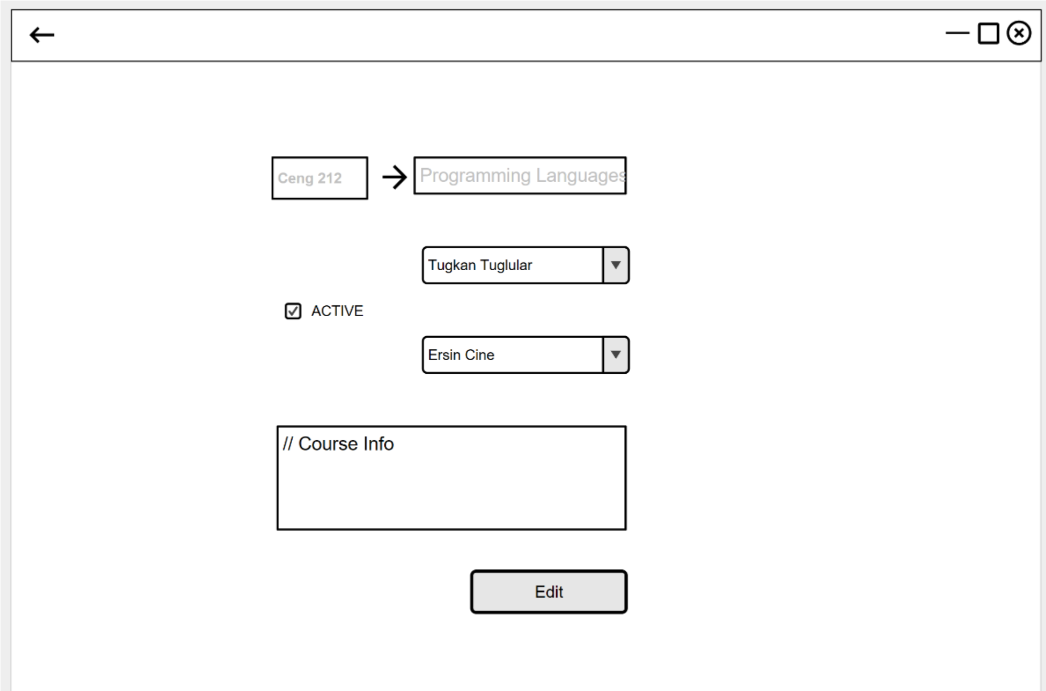


Figure 9 – Are you sure page

The user is asked if he/she is sure or not.


Ceng 212 → Programming Languages

Tugkan Tuglular

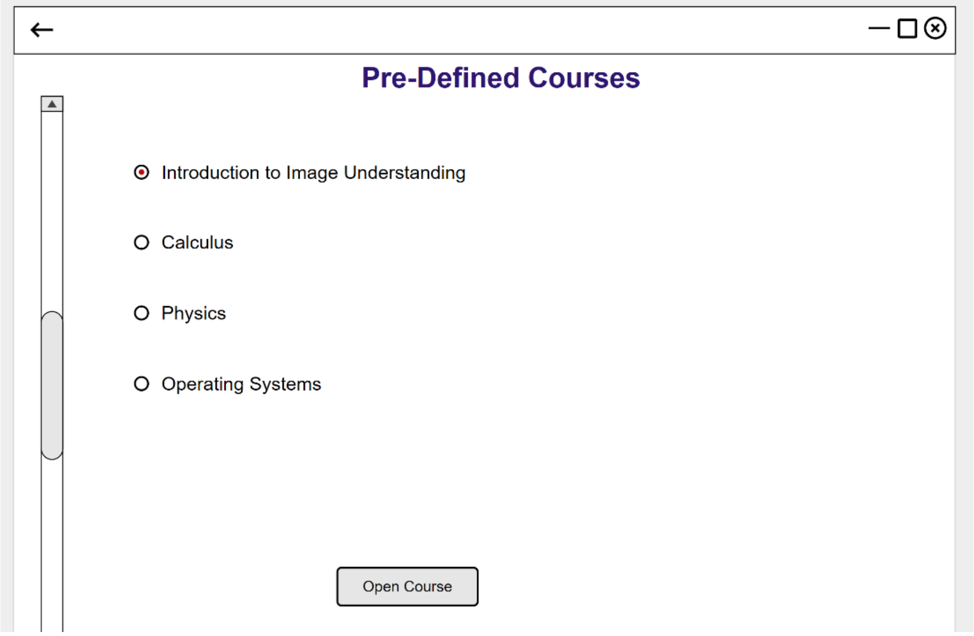
☑ ACTIVE

Ersin Cine

// Course Info

Figure 10 – Edit Course

This screen consists of 7 areas which are informations about course. The active button is status of the course, it is either active or inactive. The user can click edit button to edit the course.


Pre-Defined Courses

● Introduction to Image Understanding

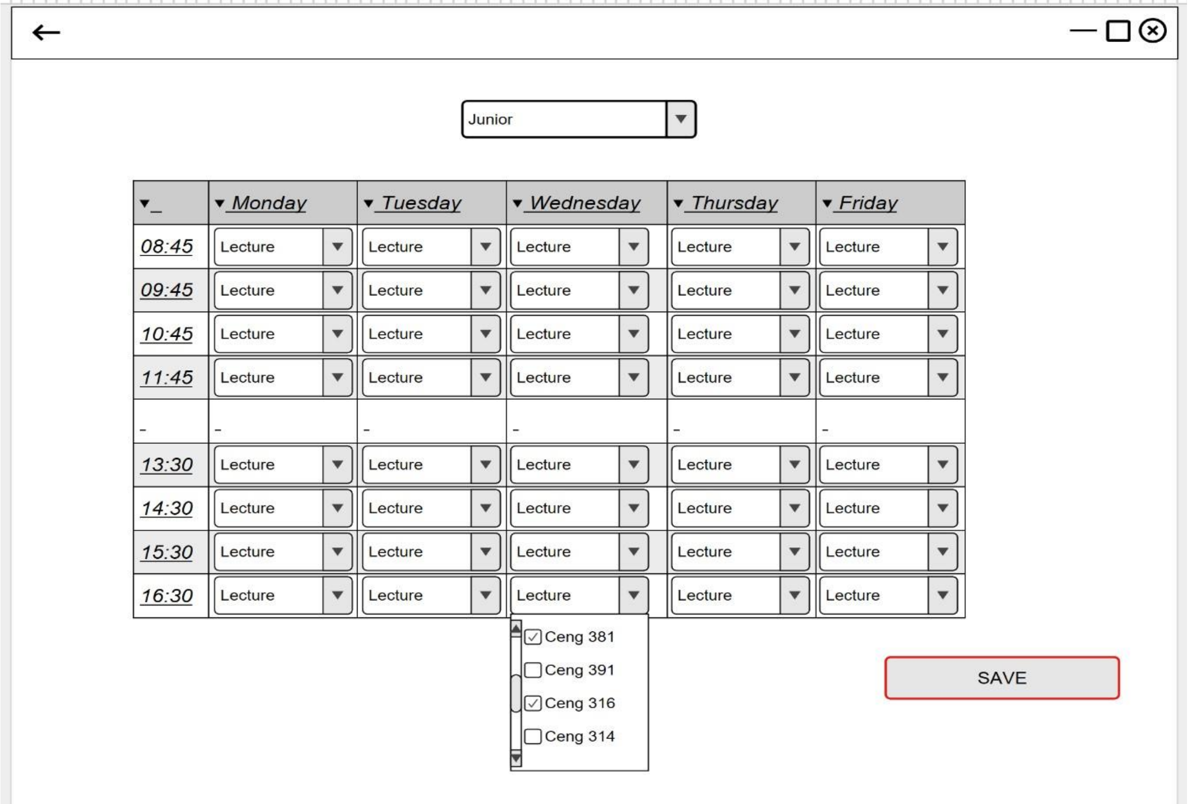
○ Calculus

○ Physics

○ Operating Systems

Figure 11 – Open Course

This page includes pre-defined course list. When user selects one of the courses from this list, user must edit that course (filling informations about the course). For each selected course this process is repeated. After selecting phase is over user can click open courses button and then selected courses will be opened.



Junior

▼_	▼ Monday	▼ Tuesday	▼ Wednesday	▼ Thursday	▼ Friday
08:45	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼
09:45	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼
10:45	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼
11:45	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼
-	-	-	-	-	-
13:30	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼
14:30	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼
15:30	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼
16:30	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼	Lecture ▼

☑ Ceng 381
□ Ceng 391
☑ Ceng 316
□ Ceng 314

Figure 12 – Set Weekly Schedule

Weekly schedule page consists of 40 inputs which are 8x5 matrix. User defines weekly schedule by selecting each entry of this matrix, after this operation is completed, user can save changes by clicking “save” button. Also there is category button to specify category of the weekly schedule.

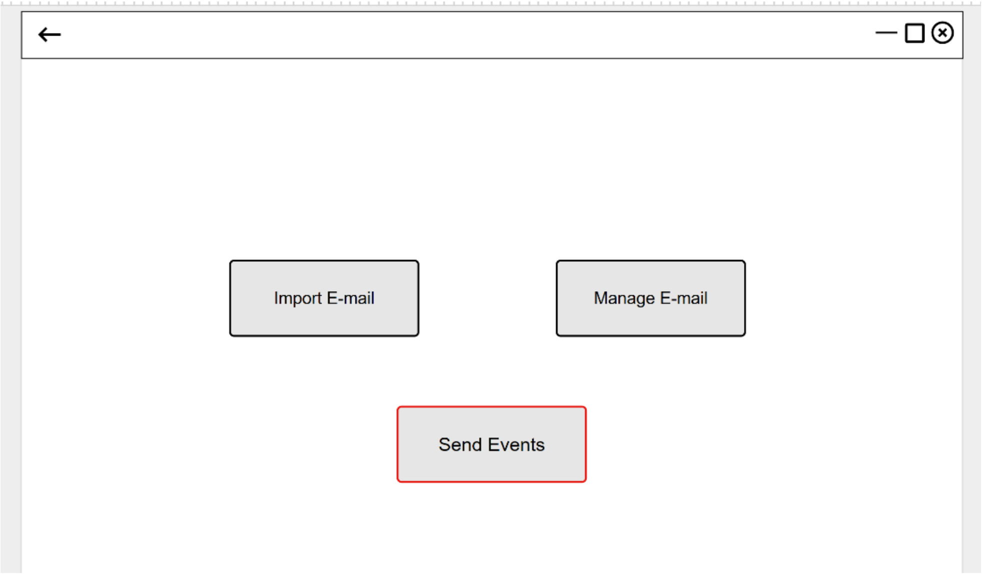


Figure 13 – E-mails and event

Notification management page is composed of 3 inputs that are Import E-Mail, Manage E-Mail and Send Events. The send events is only visible to admin.

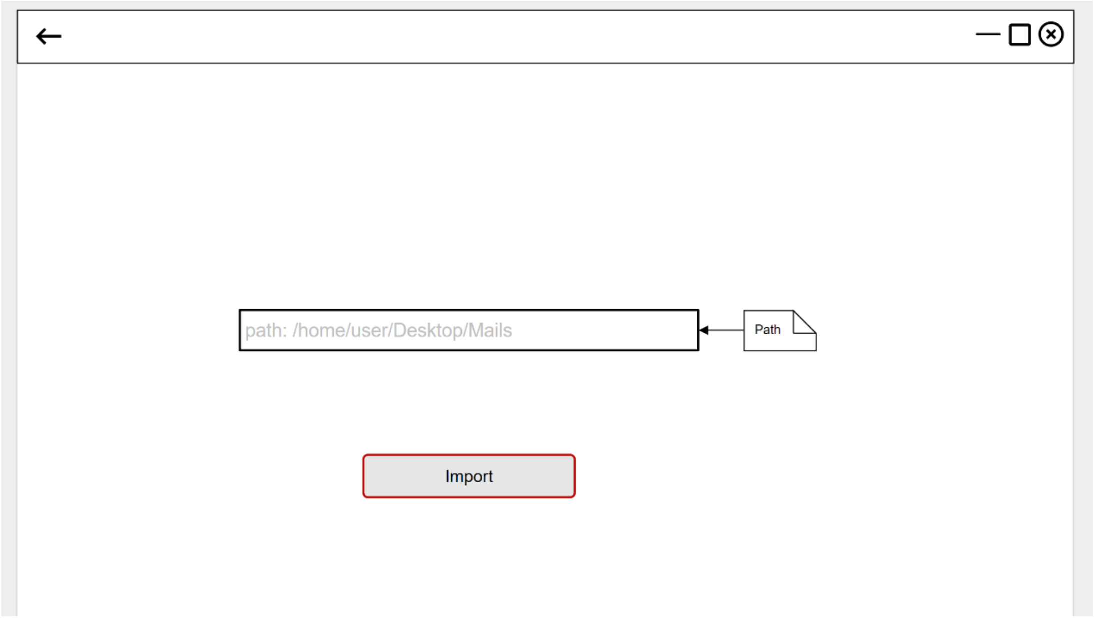
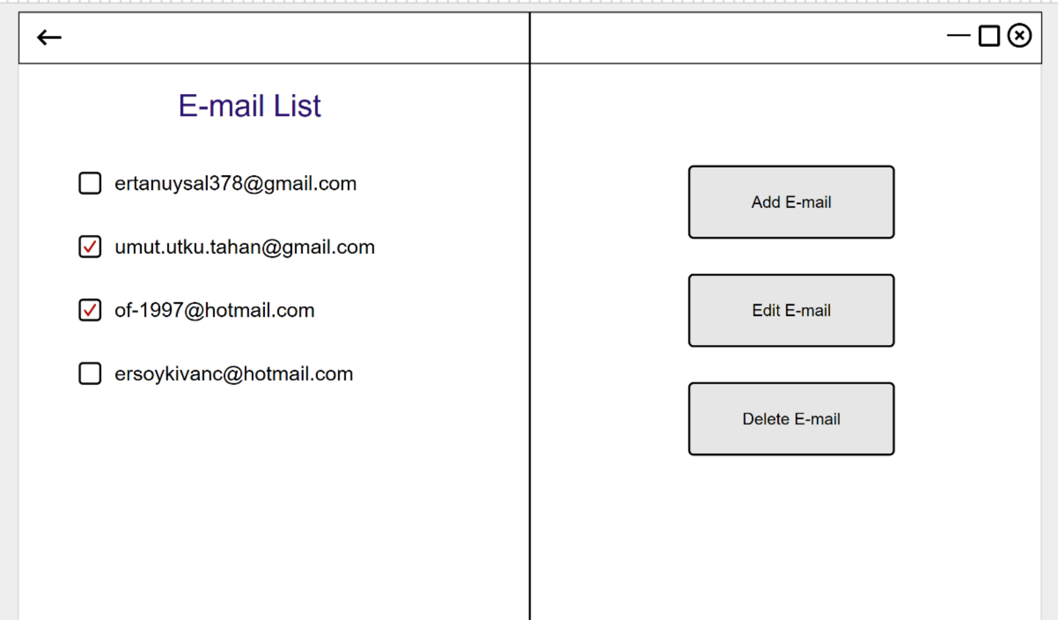


Figure 14 – Import File

In import file page user imports a file that consists of e-mails. Then user can click to import button and file gets imported to system.



E-mail List

- ☐ ertanuysal378@gmail.com
- ☑ umut.utku.tahan@gmail.com
- ☑ of-1997@hotmail.com
- ☐ ersoykivanc@hotmail.com

Figure 15 – Manage E-mail

Manage e-mail page separated to two different areas which are e-mail list and 3 buttons. E-Mail List includes list of e-mails that are selectable by user, after user selects the e-mails there are three input buttons that are add e-mail, edit e-mail, delete e-mail.

In manage e-mail page, If user want to delete e-mail, user can click delete e-mail button, this button provides deleting an e-mail from e-mail list.

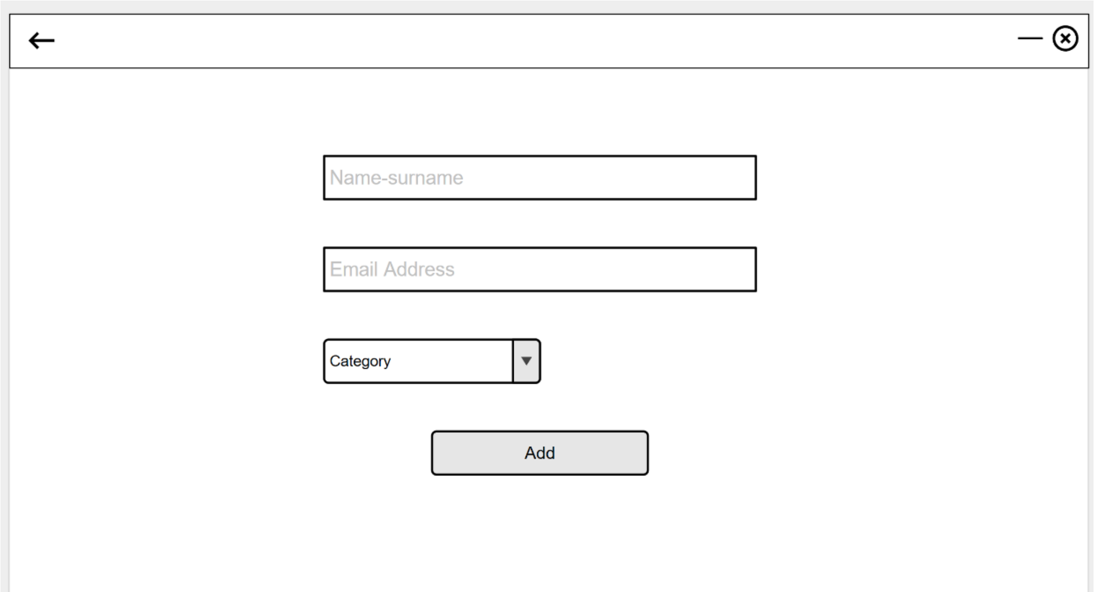
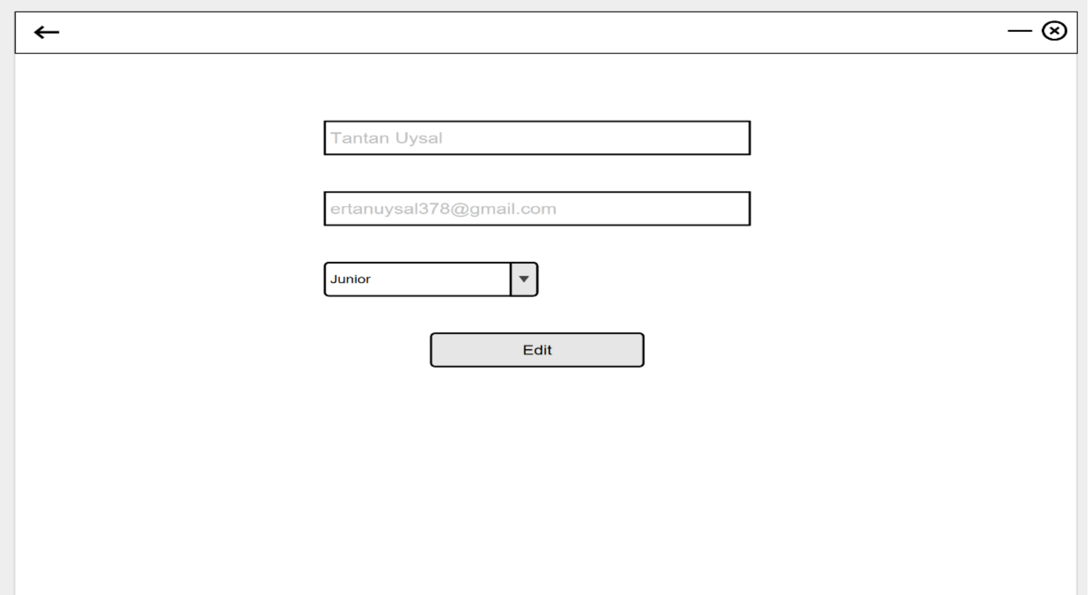


Figure 16 – Add E-mail

The add e-mail page consist of 3 inputs which are information about e-mail address and add button. The user can click add button to add the e-mail.



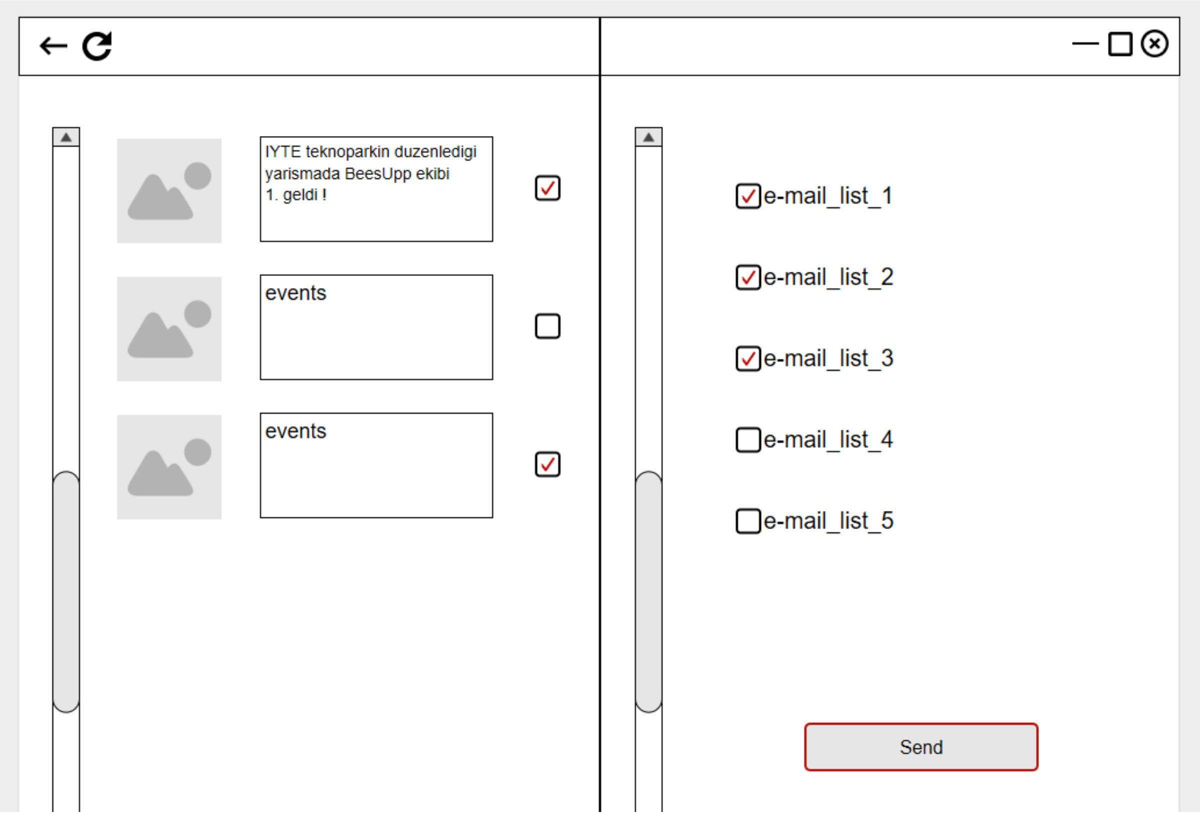
Tantan Uysal

ertanuysal378@gmail.com

Junior

Figure 17– Edit E-mail

The edit e-mail page consist of 3 inputs which are information about e-mail address and edit button. The user can click edit button to edit the e-mail.



IYTE teknoparkin duzenledigi yarismada BeesUpp ekibi 1. geldi ! ☑

events □

events ☑

☑e-mail_list_1

☑e-mail_list_2

☑e-mail_list_3

□e-mail_list_4

□e-mail_list_5

Figure 18 – Send E-mail

The send events page includes two list view, one of them is shown us events that are existed on the website. The other one shows e-mail lists. User can select events in order to send to e-mail list. Also user have refresh button to update the page.

3.2. Functions

3.2.1. LOG IN

This Use Case describes the process by which users log into the ceng manager system. It also sets up access permissions for users.

Actors

-Administrator

-CM

FLOW OF EVENTS

Success Path

1. The Use Case starts when the user starts the application.

2. The system will display the login screen.

3. The user enters a username and password.

4. The system will verify the information.

5. The system will set access permissions.

6. The system will display the main screen.

Failure Path

1. The Use Case starts when the user starts the application.

2. The system will display the login screen.

3. The user enters a username and password.

4. The system cannot verify the information.

5. The system shows a failure message.

3.2.2. ADD COURSE

This Use Case describes the process by how users add courses to the system.

Actors

-CM

-Administrator

FLOW OF EVENTS

Success Path

1. The Use Case starts when user enters correct username and password to log in.

2. The user clicks course management instead of notification management to open manage courses page.

3. The user clicks manage courses button to open course management page.

4. The user clicks add course button to open the add course page.

5. The user specifies the areas which are course code, course name, instructors, assistants, course information and press add button.

6. The system adds the given information to the database.

7. The system shows a success message.

Failure Path 1

1. The Use Case starts when user opens the add course page.

2. The user do not specifies one of the areas which are course code, course name, instructors, assistants, course information and press add button.

3. System gives failure message indicating that all areas must be filled.

Failure Path 2

1. The Use Case starts when user opens the add course page.

2. The user enters the code of an already existing course and specifies the other fields then clicks add button.

3. The system shows a failure message indicating that there is already existing course with this course code.

3.2.3. EDIT COURSE

This Use Case describes the process by how users edit courses on the system.

Actors

-CM

-Administrator

Precondition

There must be at least one course in the system.

FLOW OF EVENTS

Success Path

1. The Use Case starts when user enters correct username and password to log in.

2. The user clicks course management instead of notification management to open manage courses page.

3. The user clicks manage courses button to open course management page.

4. The user selects only one course from the list left on the page and clicks edit button.

5. The user specifies the areas which are instructor name, assistant name, course information and press edit button.

6. The system changes the information in the database according to user input.

7. The system gives a success message.

Failure Path

1. The Use Case starts when user opens the manage course page.

2. The user selects more than one course or not select any course from the list of courses and clicks edit button.

3. The system shows a failure message

3.2.4. DELETE COURSE

This Use Case describes the process by how users delete courses on the system.

Actors

-CM

-Administrator

Precondition

There must be at least one course in the system.

FLOW OF EVENTS

Success Path

1. The Use Case starts when user enters correct username and password to log in.

2. The user clicks course management instead of notification management to open manage courses page.

3. The user clicks manage courses button to open course management page.

4. The user selects the courses from list and clicks delete.

5. The user asked for last time about deleting the course.

6. The system delete the information in the database according to user input.

7. The system shows a success message.

Failure Path

1. The Use Case starts when user opens the manage courses page.

2. The user do not select anything from the list and clicks delete button.

3. The system shows failure message indicating that no course is selected.

3.2.5. OPEN COURSE

This Use Case describes how users select courses opening for that semester.

Actors

-CM

-Administrator

"Used" Use Cases

-Edit Course

FLOW OF EVENTS

Success Path

1. The Use Case starts when user enters correct username and password to log in.

2. The user clicks course management instead of notification management to open manage courses page.

3. The user clicks offered courses operations button to enter open course page.

2. The user select only one course from the course list and clicks open course.

3. Edit use case starts.

4. The system shows a success message.

3.2.6. SET WEEKLY SCHEDULE

This Use Case describes the process by how users construct a schedule

Actors

-CM

-Administrator

Preconditions

There must be at least one active and offered course in the system.

FLOW OF EVENTS

Success Path

1. The Use Case starts when user enters correct username and password to log in.

2. The user clicks course management instead of notification management to open manage courses page.

3. The user clicks set weekly schedule button to open set weekly schedule page.

4. The user specifies the courses on the schedule

5. The user enters the class information about the schedule, for example schedule can belong to 3th class students only, then clicks the save button.

6. The changes are saved to database.

7. The system shows a success message.

3.2.7. IMPORT FILE

This Use Case describes the process by how users imports an e-mail list to system.

Actors

-CM

-Administrator

FLOW OF EVENTS

Success Path

1. The Use Case starts when user enters correct username and password to log in.

2. The user clicks notification management instead of course management to open e-mails and event page.

3. The user clicks import e-mail button to open import file page.

4. The user selects a CSV file that consists of e-mail addresses and clicks import button.

5. Data gets saved to database, the system shows a success message.

Failure Path 1

1. The Use Case starts when user opens the import file page.

2. The user do not select any file or select a file without CSV extension and clicks import.

3. The system shows a failure message indicating that no file is selected.

3.2.8. PUBLISH CHANGES

This Use Case describes the process by how admin updates the information on iyte ceng website.

Actors

-Administrator

FLOW OF EVENTS

Success Path

1. The Use Case starts when user enters correct username and password to log in.

2. The user clicks course management instead of notification management to open manage courses page.

3. The user clicks publish button.

4. The changes are reflected to iyte ceng website, system shows a success message.

Failure Path

1. The Use Case starts when user opens the course management page.

2. The user lost internet connection.

3. The user clicks publish button.

4. The system shows a failure message indicating that no internet connection.

3.2.9. ADD E-MAIL INFORMATION

This Use Case describes the process by how user adds an e-mail to system.

Actors

-CM

-Administrator

FLOW OF EVENTS

Success Path

1. The Use Case starts when user enters correct username and password to log in.

2. The user clicks notification management instead of course management to open e-mails and event page.

3. The user clicks manage e-mail button to open manage e-mail page.

4. The user clicks add e-mail button to open add e-mail page.

5. The user enters e-mail, name, surname and category of e-mail, then clicks add button.

6. Changes are saved to database, system shows a success message.

Failure Path

1. The Use Case starts when user opens the add e-mail page.

2. The users enters invalid e-mail without ‘@’ or ‘.’ signs.

3. The system shows a failure message indicating that given e-mail is invalid.

3.2.10. EDIT E-MAIL INFORMATON

This Use Case describes the process by how user edits an e-mail on system

Actors

-CM

-Administrator

FLOW OF EVENTS

Success Path

1. The Use Case starts when user enters correct username and password to log in.

2. The user clicks notification management instead of course management to open e-mails and event page.

3. The user clicks manage e-mail button to open manage e-mail page.

4. The user clicks edit e-mail button to open edit e-mail page.

5. The users enters e-mail, name, surname and category of e-mail, then clicks add button.

6. Changes are saved to database, system shows a success message.

Failure Path

1. The Use Case starts when user opens the edit e-mail page.

2. The user enters invalid e-mail without '@' or '.' signs.

3. The system shows a failure message indicating that given e-mail is invalid.

3.2.11. DELETE E-MAIL INFORMATION

This Use Case describes the process by how user deletes an e-mail on system.

Actors

-CM

-Administrator

FLOW OF EVENTS

Success Path

1. The Use Case starts when user enters correct username and password to log in.

2. The user clicks notification management instead of course management to open e-mails and event page.

3. The user clicks manage e-mail button to open manage e-mail page.

4. The Use Case starts when user opens the manage e-mail page.

5. The user selects e-mails from the e-mail list located left on the page.

6. The user click delete button.

7. The data gets removed from database, the system shows a success message.

Failure Path

1. The Use Case starts when user opens the manage e-mail page.

2. The user do not select any e-mail from e-mail list.

3. The user clicks delete button.

4. The system shows a failure message indicating that no e-mail address is selected.

3.2.12. SEND EVENT AS E-MAIL

This Use Case describes the process by how user send e-mail to students.

Actors

-CM

-Administrator

Precondition

There must be at least one email list in the system.

FLOW OF EVENTS

Success Path

1. The Use Case starts when user enters correct username and password to log in.

2. The user clicks notification management instead of course management to open e-mails and event page.

3. The user clicks send events button to open send e-mail page.

4. The user selects one of the e-mail lists located right on the page.

5. The user selects events from the event list located left on the page.

6. The user clicks send button.

7. The events gets sent to e-mail addresses, the system shows a success message.

Failure Path 1

1. The Use Case starts when user opens the send e-mail page.

2. The user do not select any e-mail list or do not select any events.

3.The user clicks send button

4. The system shows a failure message indicating that no event or no e-mail list selected.

Failure Path 1

1. The Use Case starts when user opens the send e-mail page.

2. The user selects one of the e-mail lists located right on the page.

3. The user selects events from the event list located left on the page.

4. The user losts internet connection.

5. The user click send button.

6. The system shows a failure message indicating that no internet connection.

3.2.13. ADD CONTENT MANAGER

Actors

-Administrator

Precondition

There must be at least one admin in the system.

FLOW OF EVENTS

Success Path

1. The Use Case starts when admin enters correct username and password to log in.

2. Admin clicks add content manager button to open add content manager page .

3. Admin must fill username and password of new content manager.

4. Admin clicks add button.

5. Information of new content manager is added into database.

Failure Path 1

1. The Use Case starts when admin opens the “add content manager” screen.

2. Admin do not specifies one of the areas which are username, password and press add button.

3. System gives failure message indicating that all areas must be filled.

Failure Path 2

1. The Use Case starts when admin opens the “add content manager” screen.

2. Admin enters the same username of new content manager then clicks add button.

3. The system shows a failure message indicating that there is already existing content manager with same username.

3.3. Performance Requirements

One event should be pulled from IYTE Ceng Website within 10 seconds, assuming 3 Mbps internet connection speed.

The admin should publish changes within 5 seconds after successful log in, if it has internet connection.

In case of opening new windows and popping error messages, there is delay below 2 seconds.

Retrieval of text data from database should not take longer than a second.

Retrieval of image from database should not take longer than 3.2 seconds.

3.4. Logical Database Requirements

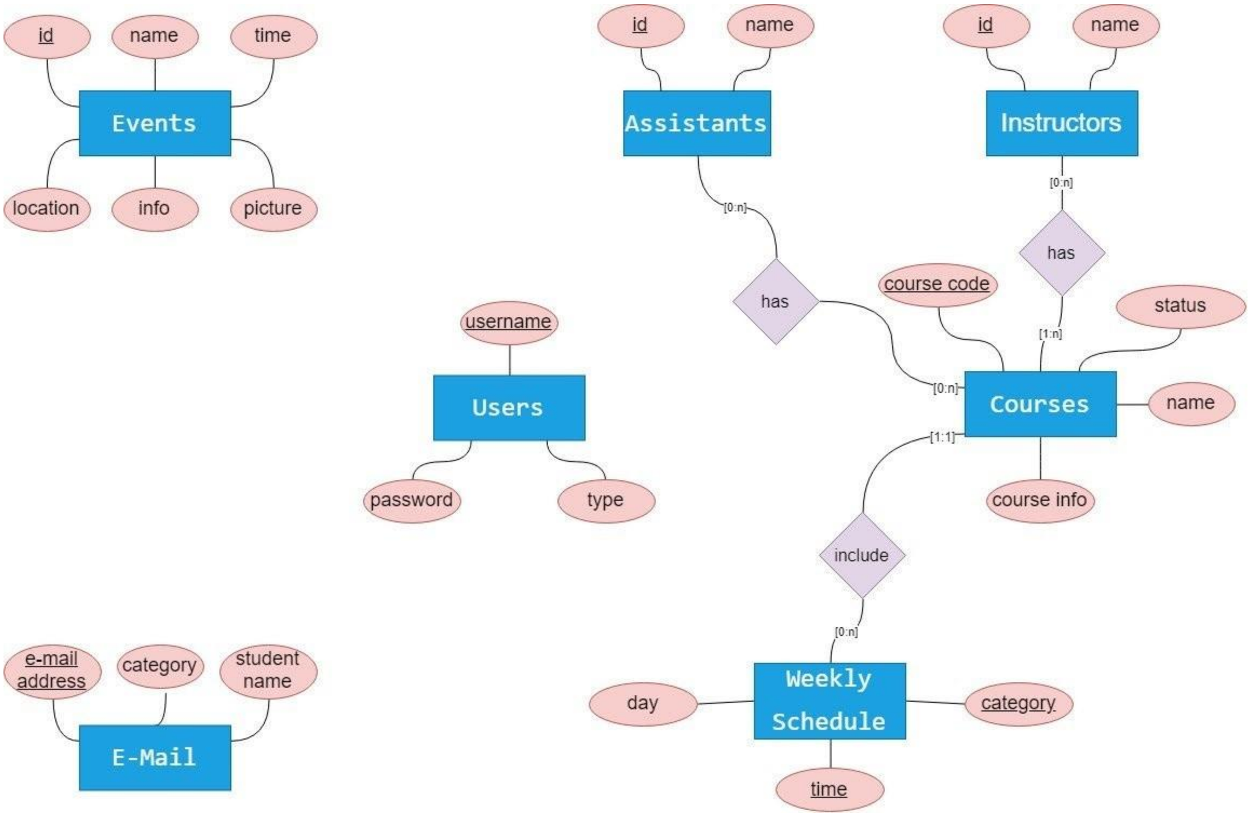


Figure 19 – ER Diagram

Most frequently used tables are events and e-mail. The reason is other tables requires 1 change per semester approximately, but events can be sent anytime.

In login screen, username and password correctness is done via database.

Weekly Schedule information stored in database.

3.5. Design Constraints:

Programming language that will be used during the project is Java. Since java is portable language that runs on many platforms.

Use of WordPress is obligated.

3.6. Software system attributes

Reliability:

The system will not have more than %1 crash rate assuming that there are no operating system errors.

Availability:

For program to publish changes and send events as e-mails, there must be internet connection. If there is no internet connection, other functionalities of the program can still be used.

Portability:

The software shall be run on operating systems that are Linux, Windows and Mac OS.