



CS 319  
Object Oriented Software Engineering

Final Report  
May 28, 2023

**Instructor:** Eray Tüzün  
**Project:** Student Internship System

**Group Name:** Quaso  
**Members:**  
Zeynep Doğa Dellal 22002572  
Yağız Alkılıç 22003281  
Muhammad Ali Waris 22001037  
Yağız Berk Uyar 21902318  
Mustafa Hamit Dölek 21703136

<b>1. Introduction</b>	<b>3</b>
<b>1.1 State of the System</b>	<b>3</b>
1.1.1 Improvements	3
1.1.2 Missing Properties	4
<b>2. Project Experience</b>	<b>4</b>
<b>3. User's Guide</b>	<b>5</b>
<b>3.1 Login &amp; Registration Pages</b>	<b>6</b>
Login Page	6
Registration Pages	6
Student Registration Page	6
Evaluator-TA- Coordinator Registration Page	7
Admin Registration Page	7
<b>3.2 Students</b>	<b>8</b>
Student Home Page	8
Internship Company Page for Students	8
Company List Page	9
Upload Reports Page	10
<b>3.3 Evaluators</b>	<b>11</b>
Evaluator Home Page	11
View Student List & Grade Student Page	11
Give Feedback Pop-Up	12
View Uploaded Acceptance Letter Pop-Up	12
Give Grade After Feedback Pop-Up	13
Evaluator Company List Page	13
<b>3.4 Technical Assistants(TA)</b>	<b>15</b>
TA Home Page	15
<b>3.5 Admins</b>	<b>16</b>
Admin Home Page	16
Announcement Page of Admins & Coordinators	17
View Student List Page	17
View TA List Page	19
View Company List Page	19
Add/Delete User Page of Admins & Coordinators	20
Assign Users Page of Admins & Coordinators	21
<b>3.6 Coordinator</b>	<b>22</b>
Coordinator Home Page	22
View Company List Page for Coordinators	22
Assign User Page	23
<b>3.7 Common Pages</b>	<b>24</b>
Course Descriptions Page	25
Summer Training Coordinators Page	25

Profile Page	26
Other	26
Contact Page	27
FAQ Page	27
Announcements Page	28
Company Work Report Upload Page	28
Company Work Report Request Email	29
<b>3.8 Design Preferences</b>	<b>29</b>
Light Mode	29
Dark Mode	30
<b>4. Build Instructions</b>	<b>30</b>
Please Follow these instructions to start the server on your OS.	30
Important file notes and their content	31
API Logic for serving other files (Images / CSS Files / JS Files / Components)	31
<b>5. Work Allocations</b>	<b>31</b>

# **1. Introduction**

We are pleased to announce that the final version of the Bilkent Internship System (BIS) has successfully accomplished a majority of the goals we set out to achieve. BIS is designed as a web application that integrates various platforms such as the "mfstaj" site, information on the engineering faculty site, and the internship courses on Moodle. This consolidation has resulted in a single site that offers improved accessibility and control for both users and academic staff. Although there are some areas that could be further improved, we are proud of the overall success of the BIS.

## **1.1 State of the System**

### **1.1.1 Improvements**

- The Bilkent Internship System has successfully established a seamless connection between the back-end and front-end components, resulting in a fully functional system. All necessary information can be stored and retrieved from the database without any issues.
- To enhance user-friendliness, we made improvements to the initial design by adjusting colors and fonts. This ensures a proper contrast between the website's background and content, catering to the preferences of all users.
- We have introduced a notifications feature that was not mentioned in previous reports. This feature allows users to stay updated on any relevant changes or updates related to their reports.
- Additionally, we have implemented a dark and light mode preference option, giving users the flexibility to customize their system's design mode according to their preferences.
- Previously planned redirects to external sites, such as Frequently Asked Questions, Announcements, and Summer Training Coordinators, have been integrated into the Bilkent Internship System. This eliminates the need for users to be redirected to another site, providing a more streamlined and cohesive user experience.

### **1.1.2 Missing Properties**

- Different departments related logic
- Language settings
- Input validations at different forms
- Admin Delete User Functionality does not cover all user saved data

## **2. Project Experience**

First of all, it was a long journey to create a project group and to discover different members with different skills required by the project. With the earthquake disaster that befell our country, our classes could not be taught for a while, and being online made this process even more difficult. However, the right methods of communication with students who want to join the group, the possibility to communicate on the Slack page of the course, and Peerpanda made this process a bit easier.

At the beginning of the process, after the groups were formed, we sometimes stumbled while planning the meetings. The fact that the lessons did not continue face-to-face made it difficult to get to know each other. This situation caused us to check and reference the wrong course resources due to a miscommunication at the beginning of the course and inconsistencies in the report-writing process

Even though we had such problems during the group formation and the submission of the first report, after receiving the first feedback, we met again and took the reins in our hands. We have scrutinized everything we need to do to improve the previous report and future reports. Then we determined the tools and coding languages we would use in the project according to the skills of our group members and the needs/requirements of the BIS. This process showed us the importance of decision and action processes in project development phases and taught us to act responsibly and consistently toward the project

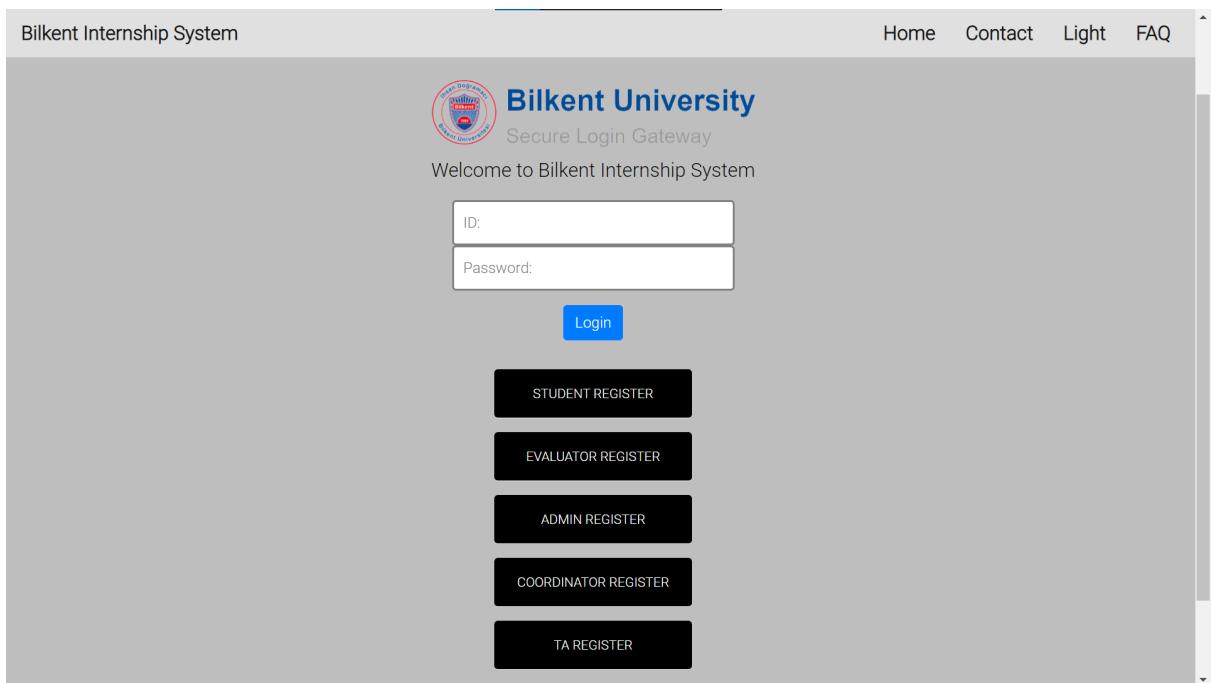
Analyzing how we would develop the project and what we would need to develop it gave us critical information about where to start and how to allocate tasks. After completing and reporting the design phase of the project, we set to work to develop the project. Since this was the first project that most of us developed in this dimension, we had some minor adaptation problems. Still, we looked for solutions to the problems we encountered together and collectively thought about who could solve the problem and how, and we have adjusted our meeting programs according to everyone's individual schedule so that members of our group also had time to fulfill the responsibilities of non-common lessons. Adjusting our schedules to each other, tackling common problems, and then coming together for a common goal taught us deeply the basics of group work.

### 3. User's Guide

The user interface designs of our system adhere to a consistent and parallel structure. This means that user homepages, login pages, and user-specific pages share similar and non-confusing design choices. By adopting this approach, we ensure that the pages accessible to different users maintain a harmonious and cohesive design throughout the system.

#### 3.1 Login & Registration Pages

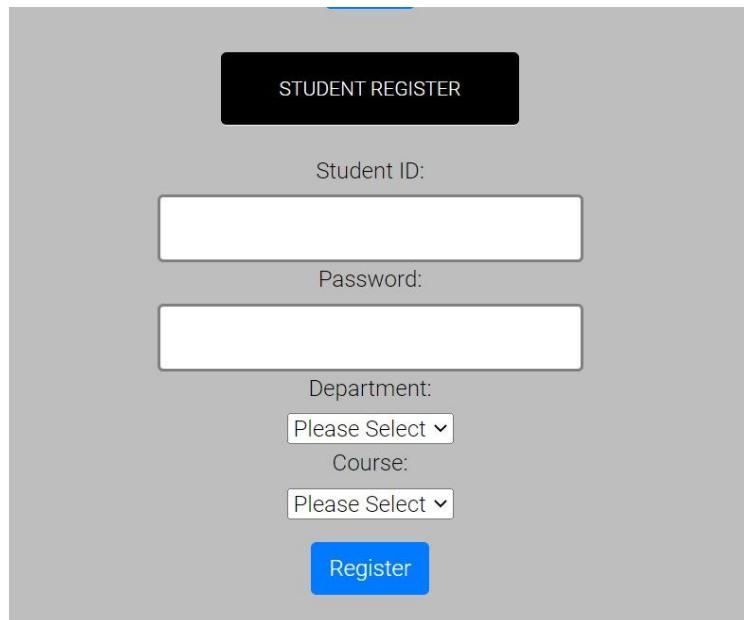
##### Login Page



##### Registration Pages

Registration pages were added to properly test the first version of our project and to separate user types. It will be removed when our system connects to the srs database and receives user information from there.

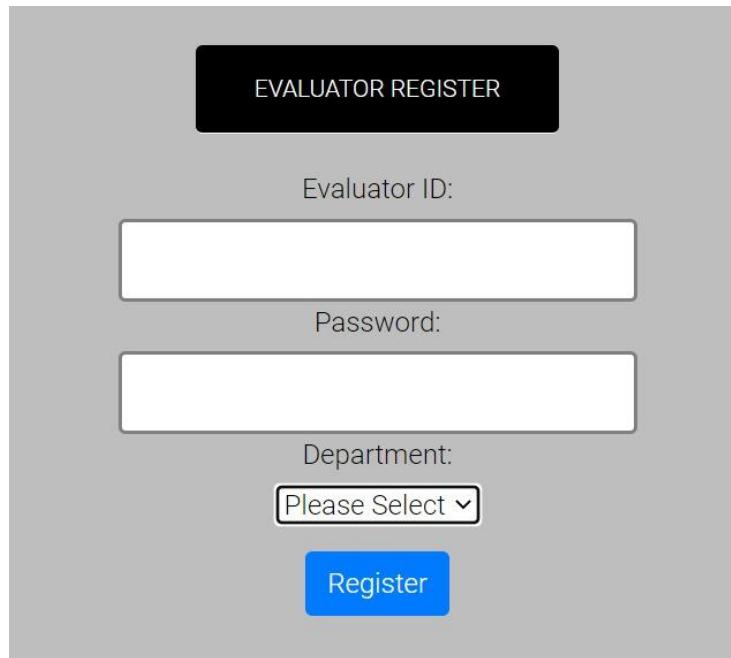
## Student Registration Page



The screenshot shows a registration form titled "STUDENT REGISTER". It includes fields for "Student ID" (input box), "Password" (input box), "Department" (dropdown menu with placeholder "Please Select"), "Course" (dropdown menu with placeholder "Please Select"), and a "Register" button.

On this page, the student determines his/her password using their student id, they must also specify their department and the 299/399 coded internship course they're taking.

## Evaluator-TA- Coordinator Registration Page



The screenshot shows a registration form titled "EVALUATOR REGISTER". It includes fields for "Evaluator ID" (input box), "Password" (input box), "Department" (dropdown menu with placeholder "Please Select"), and a "Register" button.

The Evaluator/TA/Coordinator determines his/her password using their id, they must also specify their department.

## Admin Registration Page

The screenshot shows a registration form titled "ADMIN REGISTER". It includes fields for "Admin Username" containing "22002574" and "Password" containing "\*\*\*\*\*". A blue "Register" button is at the bottom.

It is enough for the administrators to set a username and password for themselves to register

## 3.2 Students

### Student Home Page

The screenshot shows the "Bilkent Internship System" student home page. The sidebar contains links for Main Menu, Course Descriptions, Announcements, Summer Training Coordinators, Upload Reports, Grades, Profile, Internship Company, Company List, and Other. The main content area is titled "Welcome to the Student Internship Management System" and features six cards: Course Descriptions, Announcements, Summer Training Coordinators, Upload Reports, Grades, and Profile.

Student home page is the first page that students encounter after logging in, this page allows students to check most of the things they can do in the system as headings and check their descriptions to understand what they can do on that page.

## Internship Company Page for Students

The screenshot shows the 'Your Current Internship Company Details' section with a table:

Name	City	Email	Sector	Approval Status	Acceptance Letter	Actions
Amazon	New York	amazon@amazon.gmail.com	Software	Approved		<a href="#">View File</a> <a href="#">Remove Company</a>

Below it is the 'Approved Companies in the System' section with another table:

Name	City	Email	Sector	Accepted Departments	Actions
Google	Istanbul	google@gmail.com	Software	CS	<a href="#">View Details</a> <a href="#">Choose Company</a>
Amazon	New York	amazon@amazon.gmail.com	Software	CS	<a href="#">View Details</a> <span style="color: red;">Already registered in your account.</span>

At the bottom, there's a section for 'Submit A New Internship Company Request' with fields for Company Name, Email, Phone, City, Sector, and Acceptance Letter (PDF).

This page provides students to check their current internship company details as a form of a list and see their previously approved companies in the system on this page. Also, users can access more information about the company by clicking the view details button next to the companies. In the Approved Companies section, if no selection has been made, there is a Choose Company button to choose the company where the internship is currently being done.

The screenshot shows the 'Submit A New Internship Company Request' form:

Fields include:

- Company Name (required)
- Company Email (required)
- Company Phone (required)
- Company City
- Company Sector
- Company Acceptance Letter (PDF) (with a file selection button labeled 'Dosya Seç' and a message 'Dosya seçilmedi')

A 'Register' button is at the bottom.

At the bottom of the same page, there is a form that allows the student to create a new Internship Company Request. Users can create requests by filling in the necessary information from here.

## Company List Page

COMPANY NAME	CITY	STUDENT RATING	EVALUATOR RATING	ACCEPTED DEPTS.	SECTOR	APPROVAL STATUS	ACTIONS
Google	Istanbul	undefined	undefined	CS	Software	Approved	<button>View Details</button>
Amazon	New York	undefined	undefined	CS	Software	Approved	<button>View Details</button>
Fake Company	Ankara	undefined	undefined		Fake Sector	Rejected	<button>View Details</button>
Meta	Chicago	undefined	undefined		Software	Pending	<button>View Details</button>

Students can check the companies that are already present in the Bilkent Internship System. The “View Details” button provides more information about the companies.

## Upload Reports Page

Report File Name	Eval/TA Feedback Status	Iteration	Revision Required	Upload Date	Deadline	Actions
1685384721576-revision-2nd iteration report.pdf	true	2	true	2023-05-29T18:23:06.312Z	2024-05-27T01:00:17.475Z	<button>View Report</button>

Report File Name	Eval/TA Feedback Status	Iteration	Revision Required	Upload Date	Deadline	Actions
1685384721576-revision-2nd iteration report.pdf	<button>View Feedback</button>	2	true	2023-05-29T18:23:06.312Z	2024-05-27T01:00:17.475Z	<button>Dosya Seç</button> <button>Dosya seçilmedi</button> <button>Submit Revision</button>

Students can upload their internship reports from this page and follow up on the updates of their uploaded reports.

At the top of the page, there is the "Choose File" button, which allows the user to select and upload files from their computer. Just below that button, there is a table of

information about the submitted report, including the feedback status of the report, the number of iterations, and the deadline for the submissions.

At the bottom of the page, there is a table of information about the report that requires revision. The student can check the feedback given to him/her here and upload and submit the report for the second time.

### 3.3 Evaluators

#### Evaluator Home Page

The screenshot shows the 'Evaluator Home Page' of the Bilkent Internship System. At the top, there is a navigation bar with links for 'Home', 'Contact', 'Light', 'FAQ', and 'Logout'. On the left, a vertical sidebar titled 'Main Menu' lists several options: 'Course Descriptions', 'Announcements', 'Summer Training Coordinators', 'View Students List / Give Feedback / Grade Student', 'Profile', 'Company List', and 'Other'. The main content area is titled 'Welcome to the Evaluator Internship Management System'. It features four cards: 'Course Descriptions' (describes detailed course descriptions), 'Announcements' (describes staying updated with program announcements), 'Summer Training Coordinators' (describes contacting coordinators for assistance), and 'View Students List' (describes viewing student lists and performing various actions like giving feedback or grading). The 'View Students List' card includes a bulleted list of actions: reports, submission date, reports, iteration counts, give feedback, grade student, see acceptance letter, and see company work report.

Evaluator home page is the first page that evaluators encounter after logging in, this page allows evaluators to check most of the things they can do in the system as headings and check their descriptions to understand what they can do on that page.

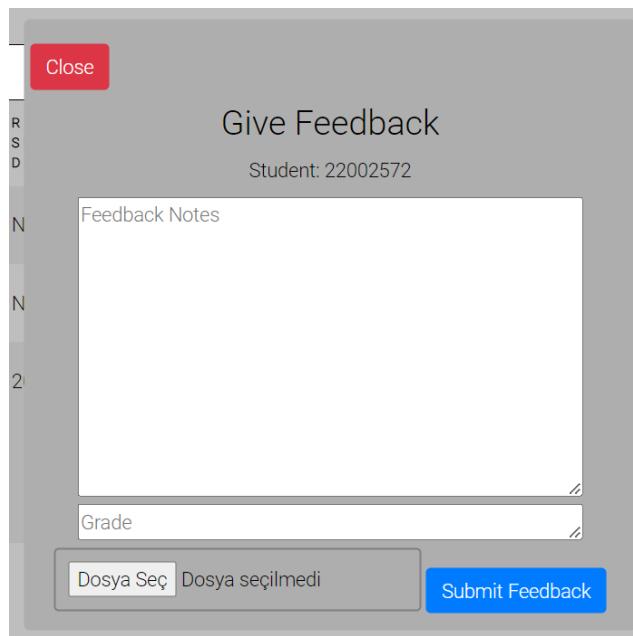
## View Student List & Grade Student Page

The screenshot shows the Bilkent Internship System interface. On the left, there is a sidebar with a main menu and course descriptions. The main content area displays a table of student records. The table has columns for STUDENT ID, COURSE NAME, REPORT SUBMISSION DATE, REPORT, ITERATION #, GIVE FEEDBACK, GRADE STUDENT, ACCEPTANCE LETTER, and COMPANY WORK REPORT. There are three rows of data:

STUDENT ID	COURSE NAME	REPORT SUBMISSION DATE	REPORT	ITERATION #	GIVE FEEDBACK	GRADE STUDENT	ACCEPTANCE LETTER	COMPANY WORK REPORT
22001037	CS399	No report	No report	No report	No report	No report	No letter	No form
22002572	CS299	2023-05-29	<a href="#">View Report</a>	2	Feedback given.	Grade given.	<a href="#">View Acceptance Letter</a>	<a href="#">View Work Report</a>
21703136	CS399	2023-05-29	<a href="#">View Report</a>	1	<a href="#">Give Feedback</a>	<a href="#">Give Grade</a>	<a href="#">View Acceptance Letter</a>	<a href="#">View Work Report</a>

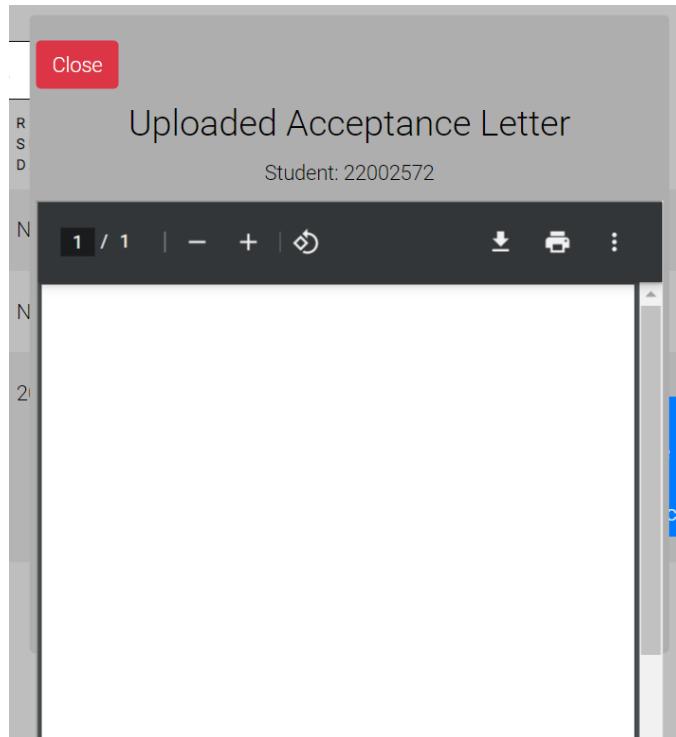
On this page, evaluators can see the list of students assigned to them, find the student by typing the student's id in the search bar, check the student's information, and give feedback and grades. The View Report button allows the evaluator to check the report of the student. Evaluators can also be informed about the student's activities in the internship company with the acceptance letter and company work letter buttons at the end of the list.

## Give Feedback Pop-Up



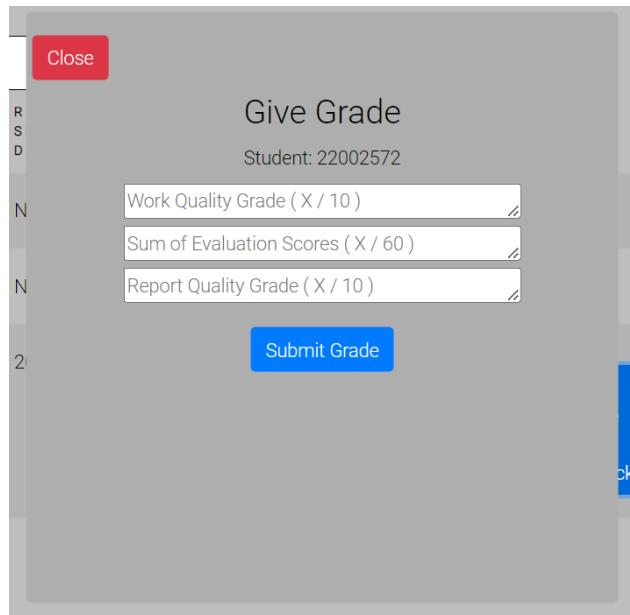
When the user presses the "Give Feedback" button, the user will see this pop-up. From here the user can upload the feedback as a file, as well as leave a note to the student and inform them of their pass/fail status.

### **View Uploaded Acceptance Letter Pop-Up**



When the "View Uploaded Acceptance Letter" button is pressed, the acceptance form uploaded by the student opens in pdf format on this pop-up above.

### **Give Grade After Feedback Pop-Up**



After pressing the “Give Grade” button, the relevant student's grade can be submitted from this page

## Evaluator Company List Page

The screenshot shows the Bilkent Internship System interface for an evaluator. The left sidebar contains a main menu with links to Main Menu, Course Descriptions, Announcements, Summer Training Coordinators, View Students List / Give Feedback / Grade Student, Profile, Company List, and Other.

**Pending Companies:** A table with one row for Meta, located in Chicago, with an email of meta@meta.com. The sector is Software and accepted departments are undefined. Actions include View Details, Approve, and Reject.

Company Name	City	Email	Sector	Accepted Depts.	Actions
Meta	Chicago	meta@meta.com	Software	undefined	<a href="#">View Details</a> <a href="#">Approve</a> <a href="#">Reject</a>

**Approved Companies:** A table with two rows: Google (Istanbul) and Amazon (New York). Both are in the Software sector and accepted into the CS department. Actions for each row include View Details and Reject.

Company Name	City	Email	Sector	Accepted Depts.	Actions
Google	Istanbul	google@gmail.com	Software	CS	<a href="#">View Details</a> <a href="#">Reject</a>
Amazon	New York	amazon@amazon.gmail.com	Software	CS	<a href="#">View Details</a> <a href="#">Reject</a>

**Rejected Companies:** A table with one row for a fake company, located in Ankara, with an email of fake.company@gmail.com. The sector is Fake Sector and accepted departments are undefined. Actions include View Details and Approve.

Company Name	City	Email	Sector	Accepted Depts.	Actions
Fake Company	Ankara	fake.company@gmail.com	Fake Sector	undefined	<a href="#">View Details</a> <a href="#">Approve</a>

Evaluators view three different tables on this page, Pending Companies, Approved Companies, and Rejected Companies. The Pending Companies table shows information about company addition requests sent by other users the coordinator can observe the details of this request and approve it if he/she finds it appropriate.

Just below the table of pending companies, there is a table of approved companies, the user can check the details of the company with the "View Details" button and unapproved these companies with the "Reject" button.

Lastly, at the bottom of the page, there is a table of "Rejected Companies" where the user can recheck the details of previously rejected companies and approve them if necessary



When evaluators click on the "add a new company" button, they are presented with a pop-up page where they have to fill in the company information to be added. This will add a company with a 'pending' state.

### 3.4 Technical Assistants(TA)

#### TA Home Page

Bilkent Internship System

Home Contact Light FAQ Logout

- Main Menu
- Course Descriptions
- Announcements
- Summer Training Coordinators
- [View Students List / Give Feedback](#)
- Profile
- Other

## Welcome to the Teaching Assistant Internship Management System

**Course Descriptions**

Here you can find detailed descriptions of the courses related to the internship program.

**Announcements**

Stay updated with the latest announcements regarding the internship program and related activities.

**Summer Training Coordinators**

Contact the summer training coordinators for any assistance or inquiries related to your internship.

**View Students List / Give Feedback**

Access the list of students participating in the internship program. Provide feedback and evaluations for the students based on their internship performance.

**Profile**

Manage your personal profile and update your information.

**Other**

Access additional resources and information related to the internship program.

TA home page is the first page that TAs encounter after logging in, this page allows TAs to check most of the things they can do in the system as headings and check their descriptions to understand what they can do on that page.

The screenshot shows the TA Home Page of the Bilkent Internship System. The left sidebar contains a 'Main Menu' with links: Course Descriptions, Announcements, Summer Training Coordinators, View Students List / Give Feedback, Profile, and Other. The main content area has a search bar with placeholder 'Search by Student ID...' and a 'Search' button. Below the search is a table with columns: STUDENT ID, COURSE NAME, REPORT SUBMISSION DATE, REPORT, ITERATION #, and GIVE FEEDBACK. Three rows of data are shown:

STUDENT ID	COURSE NAME	REPORT SUBMISSION DATE	REPORT	ITERATION #	GIVE FEEDBACK
22001037	CS399	No report	No report	No report	<a href="#">Give Feedback</a>
21703136	CS399	No report	No report	No report	<a href="#">Give Feedback</a>
22002572	CS299	2023-05-29T18:23:06.312Z	<a href="#">View Report</a>	2	Feedback given

As with evaluators, assistants can see the list of students they are responsible for, check their reports by pressing the "view report" button, and give feedback if necessary.

## 3.5 Admins

### Admin Home Page

The screenshot shows the Admin Home Page of the Bilkent Internship System. The left sidebar contains a 'Main Menu' with links: Course Descriptions, Announcements, Summer Training Coordinators, View Students List, View Evaluator List, View Coordinator List, View Company List, View TA List, Assign Users, Add/Delete User, and Other. The main content area features a large heading 'Welcome to the Admin Internship Management System'. Below it are several cards with information:

- Course Descriptions**: Here you can find detailed descriptions of the courses related to the internship program.
- Announcements**: Stay updated with the latest announcements regarding the internship program and related activities.
- Summer Training Coordinators**: Contact the summer training coordinators for any assistance or inquiries related to the internship.
- View Students List**: Access the list of students participating in the internship program.
- View Evaluator List**: Access the list of evaluators involved in the internship program.
- View Coordinator List**: Access the list of coordinators overseeing the internship program.

Similar to other home pages, the administrators can see the features offered by the system on the home page with their descriptions after logging in.

## Announcement Page of Admins & Coordinators

The screenshot shows the announcement page for administrators and coordinators. The left sidebar contains links for Main Menu, Course Descriptions, Announcements, Summer Training Coordinators, View Company List, Assign Students to Evaluators, Add/Delete User, Profile, and Other. The main content area has a title "Summer Training Summer 2022" and a message: "If you did summer training in Summer 2022, you will register for the related course (CS299, CS399) in Fall 2022. If you did two trainings in Summer 2022, you will register for both of the courses in Fall 2022. You may need to create an override form for registering for CS399." Below this is a "Delete" button and an "Add Announcement" button. A modal window titled "Summer Training Summer 2023" contains the same message about summer training and course registration. At the bottom is an "Add" button.

There is an "add announcement" button at the bottom of the announcements page for administrators and coordinators to add announcements. These two user types can enter the announcements that will appear for each user and remove outdated announcements with the "Delete" button.

## View Student List Page

The screenshot shows the student list page. The left sidebar contains links for Main Menu, Course Descriptions, Announcements, Summer Training Coordinators, View Students List, View Evaluator List, View Coordinator List, View Company List, View TA List, Assign Users, Add/Delete User, and Other. The main content area has a title "Students" and a search bar "Search Student by Name or ID". Below is a table with columns: STUDENT NAME, STUDENT ID, ASSIGNED EVALUATORS, and ASSIGNED TAS. The table lists five students:

STUDENT NAME	STUDENT ID	ASSIGNED EVALUATORS	ASSIGNED TAS
Zeynep Doğa Dellal	22002572	22002573	22002576
Yağız Alkılıç	22003281	21991234	21002566
Muhammad Ali Waris	22001037	22002573	22002576
Yağız Berk Uyar	21902318	21991234	21002566
Mustafa Hamit Dölek	21703136	22002573	22002576

This page contains a list of students, searchable by name or id at the top of the page.

## **View Evaluator List Page**

The screenshot shows a web application interface for managing evaluators. On the left is a vertical sidebar with a dark background containing a list of navigation links. At the top of the main content area is a header bar with the system name and various navigation links. The main content area has a title "Evaluators" and a search bar. Below the search bar is a table listing evaluators with columns for "Evaluator Name", "Evaluator ID", and "Assigned Students".

Evaluator Name	Evaluator ID	Assigned Students
John Wick	22001037	123, 5434223
Jhon Doe	2544552	123213

This page contains a list of evaluators, searchable by name or id at the top of the page.

## **View Coordinator List Page**

The screenshot shows a web application interface for managing coordinators. It features a similar layout to the evaluator page, with a sidebar, a header bar, and a main content area titled "Coordinators". A search bar is present at the top of the main area. Below it is a table with columns for "Coordinators Name" and "Coordinators ID".

Coordinators Name	Coordinators ID
Andrew Anderson	22002575

This page contains a list of coordinators, searchable by name or id at the top of the page.

## View TA List Page

The screenshot shows the 'Teaching Assistants' section of the Bilkent Internship System. The left sidebar contains a 'Main Menu' with various options like 'Course Descriptions', 'Announcements', and 'View Students List'. The main content area has a title 'Teaching Assistants' and a search bar 'Search TAs by Name or ID'. Below is a table with columns 'TA Name', 'TA ID', and 'Assigned Students'. Two entries are shown: David Jones (TA ID 22002576) assigned to students 22002572, 22001037, 21703136; and Emily Bronte (TA ID 21002566) assigned to student 22003281.

TA Name	TA ID	Assigned Students
David Jones	22002576	22002572, 22001037, 21703136
Emily Bronte	21002566	22003281, 21902318

This page contains a list of TAs, searchable by name or id at the top of the page.

## View Company List Page

The screenshot shows the 'Companies' section of the Bilkent Internship System. The left sidebar contains a 'Main Menu' with various options like 'Course Descriptions', 'Announcements', and 'View Students List'. The main content area has a title 'Companies' and a button 'Add a new Company'. Below is a search bar 'Search Companies by Name' and a table with columns 'Coordinators Name', 'City', 'Student Rating', 'Evaluator Rating', 'Accepted Depts', 'Sector', and 'Actions'. Three companies are listed: Disney World (Ankara), WBC Studios (Istanbul), and Google (Beijing). Each company row includes 'View Details' and 'Remove' buttons.

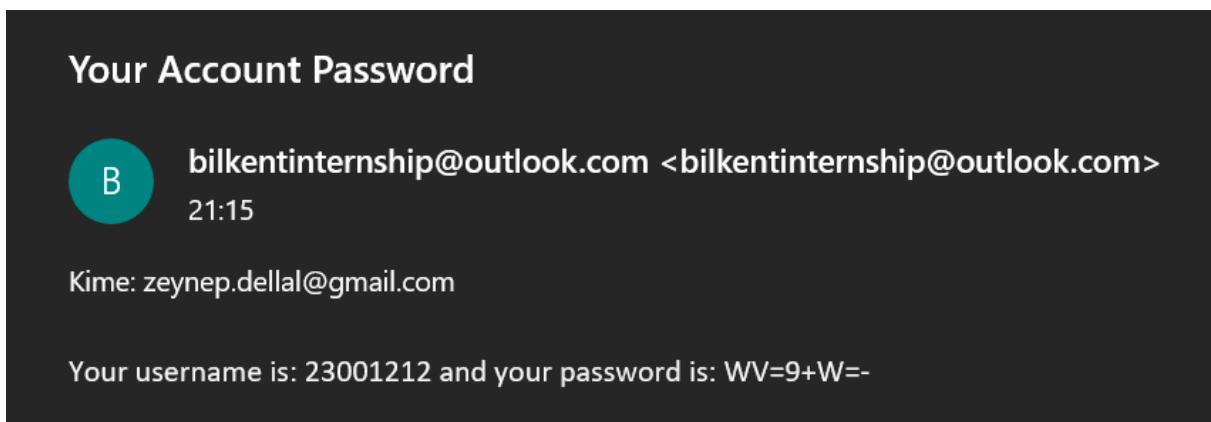
Coordinators Name	City	Student Rating	Evaluator Rating	Accepted Depts	Sector	Actions
Disney World	Ankara	undefined	undefined	undefined	IT	<button>View Details</button> <button>Remove</button>
WBC Studios	Istanbul	undefined	undefined	undefined	IT	<button>View Details</button> <button>Remove</button>
Google	Beijing	undefined	undefined	undefined	IT	<button>View Details</button> <button>Remove</button>

On this page, all companies in the system can be displayed with their information. Administrators can remove any company from the list and the system.

## Add/Delete User Page of Admins & Coordinators

The screenshot shows the 'Add User' section of the Bilkent Internship System. On the left, there is a sidebar with a dark background containing a list of menu items: Main Menu, Course Descriptions, Announcements, Summer Training Coordinators, View Students List, View Evaluator List, View Coordinator List, View Company List, View TA List, Assign Users, Add/Delete User, and Other. The main content area has a light gray background. It features two forms: 'Add User' and 'Delete User'. The 'Add User' form requires fields for User ID\*, Email\*, Full Name\*, Department (Shortcode)\*, and User Type (Student, Evaluator, TA, Admin, Coordinator). A button labeled 'Add User and Send Email to User with Password' is present. The 'Delete User' form requires a User ID\*. A 'Delete User' button is also present.

The ability to add and delete users from the system is exclusive to coordinators and administrators. After the administrators correctly fill in the name, email, department, and ID of the user owner, they determine the user type of the user to be added. After all the information is filled in correctly, a new user can be created by clicking the "Add User and Send Email to User with Password" button.



After the admin presses the "Add User and send Email to User with Password" button, login information is sent to the email address of the new user.

## Assign Users Page of Admins & Coordinators

The screenshots illustrate the 'Assign Users' feature in the Bilkent Internship System. Both pages share a common header with links for Home, Notifications, Contact, Light, FAQ, and Logout.

**Top Screenshot (Students Section):**

- Left Sidebar:** Main Menu, Course Descriptions, Announcements, Summer Training Coordinators, View Students List, View Evaluator List, View Coordinator List, View Company List, View TA List, Assign Users, Add/Delete User, Other.
- Top Bar:** Students
- Content Area:** Search Student by Name or ID: Yağız Berk Uyar, 21902318, 21991234, 21002566. Buttons: Assign Evaluator/TA, Close, Assign Evaluator/TA (with Student: 21902318), Evaluator/TA ID input field, Assign button, De Assign Evaluator/TA.

**Bottom Screenshot (Teaching Assistants Section):**

- Left Sidebar:** Main Menu, Course Descriptions, Announcements, Summer Training Coordinators, View Students List, View Evaluator List, View Coordinator List, View Company List, View TA List, Assign Users, Add/Delete User, Other.
- Top Bar:** Teaching Assistants
- Content Area:** Search TAs by Name or ID: David Jones, 22002576, 22002572, 22001037, 21703136. Emily Bronte, 21002566, 22003281, 21902318. Buttons: Assign All, Sequential Assignment warning message.

Admins&Coordinators can assign Students to Evaluators & TAs on this page. Under the “Students” heading at the top, students can be assigned individually to the assistants or evaluators, and with the “Assign All” button at the bottom, an equal number of students can be assigned to all evaluators and assistants. It should be noted that the assignment made with the Assign All button will not be random but sequential. Assignments will be made according to the student list, and also pressing this button does not change the assignment of previously assigned students. Also under the “Evaluators” and “Teaching Assistants” headings, it is possible to check how many students the evaluators and TAs are responsible for.

## 3.6 Coordinator

### Coordinator Home Page

The screenshot shows the 'Coordinator Home Page' of the 'Bilkent Internship System'. The page has a dark sidebar on the left containing a 'Main Menu' with options like 'Course Descriptions', 'Announcements', 'Summer Training Coordinators', etc. The main content area is titled 'Welcome to the Coordinator Internship Management System' and contains a grid of six boxes:

- Course Descriptions**: Here you can find detailed descriptions of the courses related to the internship program.
- Announcements**: Stay updated with the latest announcements regarding the internship program and related activities.
- Summer Training Coordinators**: Contact the summer training coordinators for any assistance or inquiries related to the internship.
- View Company List**: Explore the list of companies participating in the internship program and their details.
- Assign Students to Evaluators**: Assign students to evaluators for the internship program.
- Add/Delete User**: Add or delete users from the internship program.
- Profile**: Manage your personal profile and update your information.
- Other**: Access additional resources and information related to the internship program.

The Coordinator home page is the first page that coordinators encounter after logging in, this page allows coordinators to check most of the things they can do in the system as headings and check their descriptions to understand what they can do on that page

### View Company List Page for Coordinators

The screenshot shows the 'View Company List Page for Coordinators' of the 'Bilkent Internship System'. The page has a dark sidebar on the left containing a 'Main Menu' with options like 'Course Descriptions', 'Announcements', 'Summer Training Coordinators', etc. The main content area is divided into two sections:

**Pending Companies**

Your Company Not In the list? [Add a new Company](#)

Search Companies by Name or Email

Company Name	City	Email	Sector	Accepted Depts.	Actions
Meta	Chicago	meta@meta.com	Software	undefined	<a href="#">View Details</a> <a href="#">Approve</a> <a href="#">Reject</a>

**Approved Companies**

Search Companies by Name or Email

Company Name	City	Email	Sector	Accepted Depts.	Actions
Google	Istanbul	google@gmail.com	Software	CS	<a href="#">View Details</a> <a href="#">Reject</a>
Amazon	New York	amazon@amazon.gmail.com	Software	CS	<a href="#">View Details</a> <a href="#">Reject</a>

Company list for Coordinators and Evaluators are very similar. Coordinators view three different tables on this page, Pending Companies, Approved Companies, and Rejected

Companies. The Pending Companies table shows information about company addition requests sent by other users the coordinator can observe the details of this request and approve it if he/she finds it appropriate.

Just below the table of pending companies, there is a table of approved companies, the users can check the details of the company with the “View Details” button and unapproved these companies with the "Reject" button.

Company Name	City	Email	Sector	Accepted Depts.	Actions
Google	Istanbul	google@gmail.com	Software	CS	<button>View Details</button> <button>Reject</button>
Amazon	New York	amazon@amazon.gmail.com	Software	CS	<button>View Details</button> <button>Reject</button>

Company Name	City	Email	Sector	Accepted Depts.	Actions
Fake Company	Ankara	fake.company@gmail.com	Fake Sector	undefined	<button>View Details</button> <button>Approve</button>

Lastly, at the bottom of the page, there is a table of "Rejected Companies" where the user can recheck the details of previously rejected companies and approve them if necessary

## Assign User Page

Evaluator Name	Evaluator ID	Assigned Students
0000	1111	22002573

The screenshot shows the Bilkent Internship System's interface. On the left is a dark sidebar with a white header 'Bilkent Internship System' and a 'Main Menu' containing links like 'Course Descriptions', 'Announcements', 'Summer Training Coordinators', 'View Company List', 'Assign Students to Evaluators', 'Add/Delete User', 'Profile', and 'Other'. The main content area has a light gray background. At the top right are links for 'Home', 'Notifications', 'Contact', 'Light', 'FAQ', and 'Logout'. Below these are two sections: 'Evaluators' and 'Teaching Assistants'. Each section has a search bar ('Search Evaluators by Name or ID' and 'Search TAs by Name or ID'), a table with columns 'Evaluator Name', 'Evaluator ID', and 'Assigned Students', and a note '22002573' below it. At the bottom of each section is a warning message about sequential assignment and an 'Assign All' button.

Coordinators can assign Students to Evaluators & TAs on this page. Under the “Students” heading at the top, students can be assigned individually to the assistants or evaluators, and with the “Assign All” button at the bottom, an equal number of students can be assigned to all evaluators and assistants. It should be noted that the assignment made with the Assign All button will not be random but sequential. Assignments will be made according to the student list and also pressing this button does not change the assignment of previously assigned students.

Under the “Evaluators” and “Teaching Assistants” headings, it is possible to check how many students the evaluators and TAs are responsible for.

### 3.7 Common Pages

Pages under this heading usually include informational pages that are common to all user types

## Course Descriptions Page

Bilkent Internship System

Main Menu  
Course Descriptions  
Announcements  
Summer Training Coordinators  
View Students List / Give Feedback  
Profile  
Other

**CS299**  
**Summer Training I Description:**

Description: Conducted in a company setting with involvement in real projects for a minimum of four weeks (20 working days). Application of knowledge and skills learned at school to solve engineering problems related to computer systems in the real-world. Familiarization with professional and ethical responsibility while working in multidisciplinary teams. Understanding the impact of engineering solutions in a global, economic, environmental and societal context. Learning to find relevant resources to access information. Observation of the use of contemporary tools, techniques, standards and methods. Preparing technical documentation. Credit units: None. ECTS Credit units: 6. Prerequisite: CS 202.

**CS399**  
**Summer Training II Description:**

Conducted in a company setting with involvement in real projects for a minimum of four weeks (20 working days). Application of knowledge and skills learned at school to solve engineering problems related to computer systems in the real-world. Familiarization with professional and ethical responsibility while working in multidisciplinary teams. Understanding the impact of engineering solutions in a global, economic, environmental and societal context. Learning to find relevant resources to access information. Observation of the use of contemporary tools, techniques, standards and methods. Preparing technical documentation. Credit units: None. ECTS Credit units: 6. Prerequisite: CS 202.

Here users can access the detailed descriptions of the internship courses of their related departments.

## Summer Training Coordinators Page

Bilkent Internship System

Main Menu  
Course Descriptions  
Announcements  
Summer Training Coordinators  
Upload Reports  
Grades  
Profile  
Internship Company  
Company List  
Other



**Shervin Arashloo**  
Assistant Professor  
Computer Engineering  
[Personal Page](#)  
Office Phone:  
+90 (312) 290 3440



**Özgür S. Oğuz**  
Assistant Professor  
Computer Engineering  
[Personal Page](#)  
Office Phone:  
+90 (312) 290 3398

Users can access the information of Summer Internship Coordinators from this page

## Profile Page

The screenshot shows the 'User Profile' section of the Bilkent Internship System. On the left, a vertical sidebar menu lists various options: Main Menu, Course Descriptions, Announcements, Summer Training Coordinators, View Students List / Give Feedback / Grade Student, Profile, Company List, and Other. The main content area is titled 'User Profile'. It features a user icon and fields for 'Full Name:' and 'Email:', both with empty input boxes. A 'Edit Profile' button is located below these fields. Below this, there is a 'Change Password' section with fields for 'Current Password', 'New Password', and 'Confirm Password', each with an empty input box. A 'Change Password' button is at the bottom of this section. At the very bottom of the page, there is a 'Current Resume:' field with an empty input box.

This page allows users to update their own information. After connecting to the stars database, the function to change some information such as Full Name and Email can be limited.

## Other

The screenshot shows the 'Other' page of the Bilkent Internship System. The left sidebar menu includes: Main Menu, Course Descriptions, Announcements, Summer Training Coordinators, View Company List, Assign Students to Evaluators, Add/Delete User, Profile, and Other. The main content area contains a bulleted list of resources:

- Summer Training Grade Form PDF, Word
- Summer Training Guidelines: Guidelines
- Report Template: in Word Open XML Document Template
- Technical Writing Style: in MS Word format
- Summer Training System: mfstaj
- Seminar Slides: PDF
- Reaching to Coordinators (after checking FAQ): staj@cs.bilkent.edu.tr

Users can access additional information and resources from this page.

## Contact Page

The screenshot shows the 'Mails' section of the Bilkent Internship System. It includes a sidebar with navigation links like Main Menu, Course Descriptions, Announcements, etc. The main content area has a heading 'Mails' and text about contacting administrative assistants for summer training application matters. It lists email addresses: staj@cs.bilkent.edu.tr, mfstaj@bilkent.edu.tr, and mf@bilkent.edu.tr. Below this is the 'Contact People' section with names and phone numbers: İlkan Sara (2902354), Gizem Ballı (2901261), Shervin Arashloo (assistant professor, 290 3440), Özgür S. Oğuz (assistant professor, 290 3398), Aykut Koç (assistant professor, 266 1477), Y. Ziya İder (professor, 290 2339), Özlem Çavuş (associate professor, 290 1264), Nil ŞAHİN (instructor, 290 3442), and Şakir Baytaroğlu (laboratory coordinator, 266 3067).

From this page, users can find the official phone numbers (optional) and email addresses of the people in charge of the summer internship

## FAQ Page

The screenshot shows the 'Policies and Frequently Asked Questions (FAQs) for Summer Training' section. It includes a sidebar with navigation links. The main content area has a heading 'Policies and Frequently Asked Questions (FAQs) for Summer Training'. It provides a link to the 'Frequently Asked Questions (2023)' document. The 'Application Process for Summer Internships' section explains that it consists of two stages: approval by the CS Department summer training coordinators and arrangement of paperwork by the Dean's Office. It states that the document answers questions about internships and directs them to the correct people. The 'CS Department links' section lists: CS 299/399 home page, details for the current academic year (due dates for reports), summer training guidelines, and summer training seminar slides. The 'Dean's Office links' section lists: summer training information (specific details regarding this particular year) and the summer training system (mfstaj).

Users can familiarize themselves with the principles and rules of the internship system with the help of the FAQ on this page.

## Announcements Page

The screenshot shows a dark-themed user interface for the 'Bilkent Internship System'. On the left is a vertical navigation menu with white text links: Main Menu, Course Descriptions, Announcements (which is currently selected), Summer Training Coordinators, Upload Reports, Grades, Profile, Internship Company, Company List, and Other. The main content area has a light gray background and displays the title 'Summer Training Summer 2022' in large bold letters. Below the title, there is a message: 'If you did summer training in Summer 2022, you will register for the related course (CS299, CS399) in Fall 2022. If you did two trainings in Summer 2022, you will register for both of the courses in Fall 2022. You may need to create an override form for registering for CS399.' At the top right of the main area, there is a horizontal navigation bar with links: Notifications, Home, Contact, Light, FAQ, and Logout.

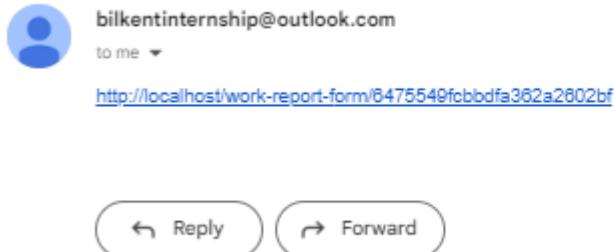
This page will show updates from coordinators and admins so that every user type can be informed about important updates regarding the internship system and related activities.

## Company Work Report Upload Page

The screenshot shows a light gray-themed user interface for the 'Bilkent Internship System'. At the top, there is a horizontal navigation bar with the 'Bilkent Internship System' logo on the left and links for Home, Notifications, Contact, Light, and FAQ on the right. The main content area contains several input fields and dropdown menus. On the left, there is a text area with the placeholder 'Uploading work report for: 22001037'. Above this text area, there is a text input field labeled 'Company Evaluation Form Grade Average: (0 to 10)' with a value of '8'. Below the text area, there is a dropdown menu labeled 'Is the work done related to the student's department?' with the option 'Please Select'. Further down, there is another dropdown menu labeled 'Does the supervisor have Engineering Background?' with the option 'Please Select'. A note below the dropdowns says 'Please upload the work report file, that states all work the student has done:'. There is a file input field with the placeholder 'Choose File' and the message 'No file chosen'. At the bottom of the form, there is a blue 'Upload' button.

This page is accessed from a unique link that is sent to the selected internship company in a student's account. The company can upload a work report pdf explaining what the student did in the internship and fill out the form for the required grading data.

## Company Work Report Request Email



A snippet showing how the unique URL sending works. As seen in the image, the link can be clicked by the company, and upload related student data there.

## 3.8 Design Preferences

Users can choose between Light Mode and Dark Mode according to their own wishes and eye tastes and continue to use the system in that way.

### Light Mode

A screenshot of the Bilkent Internship System interface in Light Mode. The background is light gray. At the top, there is a navigation bar with links for Notifications, Home, Contact, Light, FAQ, and Logout. On the left, there is a dark sidebar menu with options like Main Menu, Course Descriptions, Announcements, Summer Training Coordinators, Upload Reports, Grades, Profile, Internship Company, Company List, and Other. The main content area has a heading "Policies and Frequently Asked Questions (FAQs) for Summer Training". It contains text about reaching the FAQ document and the application process for summer internships. There are also sections for CS Department links and Dean's Office links, each with a bulleted list of links.

In Light Mode, the background color is light gray, and the font color is usually black.

## Dark Mode

The screenshot shows the Bilkent Internship System interface in Dark Mode. The background is dark gray, and the text is white. The left sidebar contains a navigation menu with links: Main Menu, Course Descriptions, Announcements, Summer Training Coordinators, Upload Reports, Grades, Profile, Internship Company, Company List, and Other. The main content area has a title 'Policies and Frequently Asked Questions (FAQs) for Summer Training'. It includes a note about reaching the FAQ document from a link, a section on the Application Process for Summer Internships, and a note about the application process consisting of two stages. It also includes a note about providing answers to frequently asked questions about internships and a section on CS Department links (CS 299/399 home page, details for the current academic year, summer training guidelines, summer training seminar slides). At the bottom, there is a section on Dean's Office links.

In Dark Mode, the background color is dark gray, and font colors are usually white.

## 4. Build Instructions

**Please Follow these instructions to start the server on your OS.**

- First, install node.js globally on your OS.
- Then, install NPM globally on your OS.
- Clone this group's development git repository to your machine.
- Then come to this project's root dir, and run npm install. This will install all required packages on your OS.
- Install MongoDB on your machine. (You can use MongoDB Atlas. It provides a GUI for modifying the database manually etc.  
<https://www.mongodb.com/atlas/database>)
- Then run npm start in the root directory to start the server locally and make it handle API requests. This starts the server at <http://localhost>.
- Upon a successful start, you should see the following message in your terminal where you ran 'npm start':

```
Current limit: 50mb (JSON) / 50mb
Server started at http://localhost
Database Connected: internship-system
```

## **Important file notes and their content**

- All new pages that will be accessed by any user will be included in the publicrouter.js file to make it accessible for global broadcast and be in the local web cluster.
- All API endpoints for database logic will be in the apirouter.js file.
- The server details are in the server.js file.
- The database details are in the /routes/apirouter.js file.
- The database model is in the /routes/dbmodel.js file.

## **API Logic for serving other files (Images / CSS Files / JS Files / Components)**

- The image serving structure is as follows using the URL. /assets/(FILE NAME HERE), for example /assets/logo.png and this will go in the src of the img element.
- The CSS file serving structure is as follows using the url. /css/(FOLDER NAME HERE)/(FILENAME HERE), for example /css/home/StyleHome.css and this would go in the href of the link element.
- The JS file serving structure is as follows using the url. /js/(FOLDER NAME HERE)/(FILENAME HERE), for example /css/home/HomePageJS.js and this would go in the src of the script element.
- The component files are js files. Their serving structure is as follows using the url. /components/(FOLDER NAME HERE)/(FILENAME HERE), for example components/Navbar/navbar.js and this would go in the src of the script element. eg: <script src="components/Navbar/navbar.js" type="text/javascript" defer></script>

## **5. Work Allocations**

### **Zeynep Doğa Dellal**

Requirement Analysis Report:

- Functional Requirements
- UI Design of some components on Figma

Design Report:

- Deployment Diagram
- Access Control and Security
- Boundary Conditions
- Packages

Implementation:

- Created user-friendly UI designs, elevating the user experience on logic pages (all of non-reusable components), home pages, FAQ sections, and contact interfaces
- Used Bootstrap framework to craft responsive designs
- Incorporated and fine-tuned user components, enhancing the system's versatility and usability
- Devised and implemented an email sending system, enabling smooth and efficient communication with users
- Reimagined sidebars and navbars, infusing them with intuitive navigation and captivating aesthetics, amplifying user engagement
- Reshaped and redesigned with a logical yet artistically inspired touch, ensuring a seamless user experience
- Merged the frontend and backend realms, connecting the database and user interface
- Subjected the UI system to meticulous testing to guarantee flawless performance and user satisfaction.
- Exercised oversight over the entire UI system

#### Final Report

- Provided necessary screenshots and information for group members to write the report smoothly

### **Yağız Alkılıç**

#### **Requirement Analysis Report:**

- Designed and modeled the use case model diagram.
- Wrote the Use Case Model Textual Descriptions
- Designed and modeled the activity diagrams.
- Designed and modeled the state diagrams.
- Did the mock-ups for TA and Coordinator. (Most components were done by others, just combined them.)
- Helped with the general formatting of the document.

#### **Design Report:**

- Designed and modeled the subsystem decomposition diagram.
- Designed and modeled the final object design diagram.
- Designed and modeled the user interface layer diagram.
- Designed and modeled the web server layer diagram.
- Designed and modeled the entities diagram.
- Designed and modeled the database diagram.
- Did the class interfaces section.
- Decided on design patterns with Zeynep, chose examples, wrote some of the descriptions.

#### **Implementation:**

##### **Back-End and Front-End Implementations**

- Implemented statistics page.

- Implemented final grades page.

### **Back-end Development**

- Developped the back-end logic for announcements.
- Developped the back-end logic for notifications.
- Developped the back-end logic for all grading systems.
- Database setup for some entities(GradingForm, Announcement).
- Partial development of report related logic.
- Partial development of assignment logic (automatic assignment of all users).
- Partial development of feedback logic.
- Implemented queries to retrieve, update, and delete data.

### **Non-specific Additions**

- Comprehensive testing of functionalities.
- Bug fixes and improvements(type verification for text-field entries, small fixes on UI element sizes/positions, processing null values etc.).
- Discussions regarding improvement and problem solving with team mates and peer-to-peer review of our code snippets.

## **Muhammad Ali Waris**

### **Requirement Analysis Report:**

- Object and Class Models:
- Created comprehensive object and class models to represent the entities and relationships within the BIS.
- Writing descriptions for dynamic models:
- Documented detailed descriptions of the dynamic models, capturing the behavior and interactions of components during runtime.
- Screen Mockup Designs: Evaluator Pages, Student Pages, TA Pages:
- Designed visually appealing and intuitive mockup designs for evaluator, student, and TA pages to enhance user experience.
- Writing some of the conclusion:
- Summarized findings and outcomes of the BIS project, highlighting accomplishments and limitations.
- Improvement Summary:
- Provided an overview of potential areas for improvement in the BIS system based on user feedback and evaluations.
- References:
- Cited relevant sources and references used during the requirement analysis phase.

### **Design Report:**

- Object Design Trade-Offs:

- Identified and documented trade-offs made during the object design phase, considering performance, maintainability, and scalability.
- Packages:
- Defined package structure and dependencies to organize and manage the BIS system components effectively.
- Design Patterns:
- Applied suitable design patterns to address design challenges and ensure a robust architecture.
- Glossary and References:
- Created a glossary of terms and cited references used in the design report.

**Final Report:**

- Wrote build instructions.
- Provided step-by-step instructions for building and deploying the BIS system.

**Implementation:**

**Front-End:**

- Developed user-specific navbar components to facilitate navigation.
- Set up public routers to handle HTTP requests.
- Implemented AJAX requests and response handling for seamless communication with the backend.
- Applied design refinements and tweaks for an improved user interface.
- Utilized Bootstrap framework for responsive and consistent styling.
- Implemented logic for overlays, table rendering, and various helper functions.
- Developed reusable navbars for enhanced code modularity.
- Implemented PDF file rendering and upload processes.
- Developed user-specific logic for actions such as administration, student tasks, evaluation, etc.
- Implemented loading screen logic and fixed JavaScript errors.
- Set up session storage for maintaining user state.

**Back-End:**

- Initialized npm and Node.js for the project.
- Created comprehensive readme files for easy project setup.
- Established project and folder structure for organized development.
- Configured API routers and server startup files.
- Integrated required npm packages for backend functionality.
- Implemented public HTTP request handlers and their engine.
- Defined database models for data storage.
- Set up backend and frontend connection mechanisms.
- Configured MongoDB connection for data persistence.
- Implemented server settings and related components.
- Established module exports for reusability.
- Developed reusable components for code modularity.

- Configured package.json settings.
- Implemented user registration and authorization.
- Developed functionality for administrative tasks, assignment, and feedback.
- Implemented features for student, coordinator, evaluator tasks and processes.
- Developed logic for company-related operations, file uploads, and email communication.
- Implemented file upload processes using multer and fs libraries.
- Developed multiple API endpoints for seamless frontend-backend interaction.
- Conducted API endpoint testing using Postman.

## **Yağız Berk Uyar**

### **Requirement Analysis Report:**

- Contributed to the creation of a comprehensive report
- Wrote an Introduction that provides an overview of the project and its objectives.
- Navigational Path Design
- Most of the User Interface Design on Figma
- Provided explanations for interface elements and functionalities

### **Design Report:**

- Documented the hardware/software components required for the Hardware/Software Mapping part
- Provided an explanation of the system decomposition part
- Persistent Data Management
- Explanation of the role and functioning of the Data Management Layer
- Detailed the Web Service Layer and its communication mechanisms
- Provided an overview of the user interface layer and its components.

### **Implementation:**

#### **Front-end:**

- Contributed to the User Interface Design of the system
- Improved the Responsive Design of the system by using CSS media queries.
- Making the system more understandable for users by adjusting the background colors and fonts with CSS.
- Applied CSS styles to the HTML elements to enhance the visual presentation of the website.
- Contributed to the creation of the page templates or skeletons, defining the overall structure and layout of the web pages
- Structured the HTML markup to ensure proper hierarchy and organization

### **Final Report:**

- Introduction and State of the System part
- Explanation of our Project Experience
- User's Guide part and explanations of the Pages of all users

## **Mustafa Hamit Dölek**

Requirement Analysis Report:

- Current system
- Proposed system
- Contribution to overall non-functional requirements

Design Report:

- Introduction
- Explanation of the purpose of the system
- design goals
- Functionality Information part
- Security & Privacy part

Implementation:

- Page Design
- Back-end to front-end integration.