

CS 319 - Object-Oriented Software Engineering

Deliverable 2

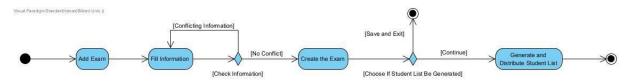
Spring 2025

Team 12

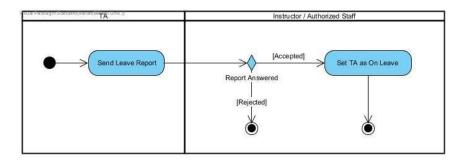
Ahmet Kenan Ataman <22203434>
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Erdem Uğurlu <22203391>
Gülferiz Bayar <21901442>
Mehmet Emre Şahin <22201765>

1. ACTIVITY DIAGRAMS

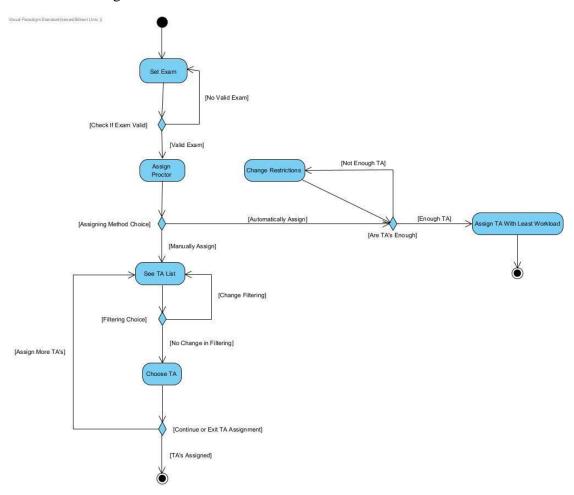
1.1 Exam Management



1.2 TA Leave Form

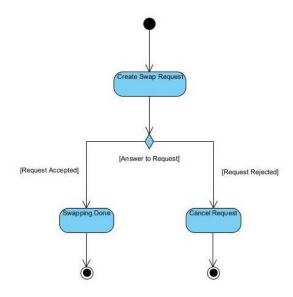


1.3 Proctor Assignment

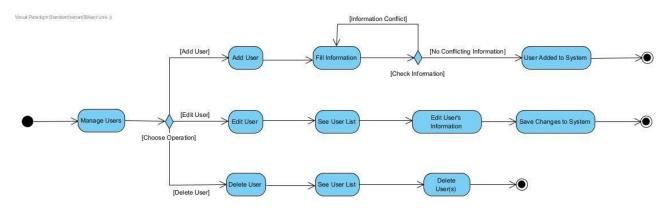


1.4 Proctor Swapping by Instructor Choose TA to Be Replaced Find Available TA [Choose TA Automatic] [Automatic or Manual Swapping] [Swapping is Not Possible for Chosen TA's] [Choose TA Manually] See TA List [No TAs Found] [Is TA Found] [If Swapping Possible] [Change Filtering Options] [Change Filtering] [TA Found] No TA to Select [Filtering Options Choice] [No Change In Filtering]

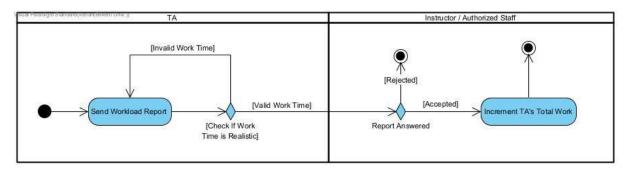
1.5 Proctor Swapping by Proctors



1.6 User Management

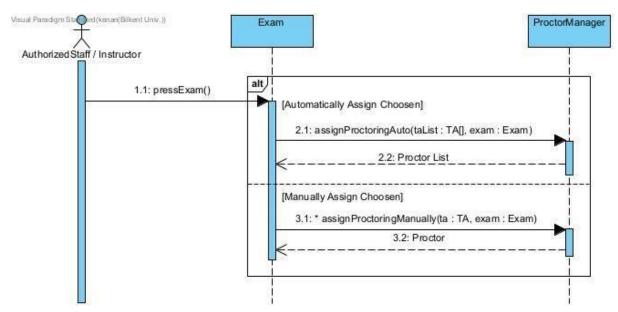


1.7 Workload Report Form

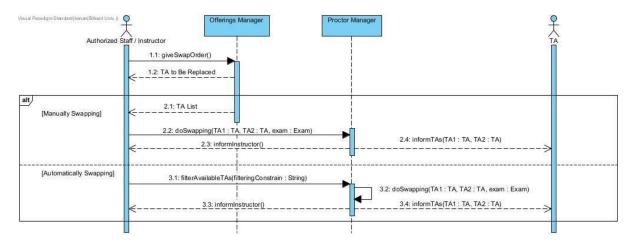


2. SEQUENCE DIAGRAMS

2.1 Proctor Assignment Sequence

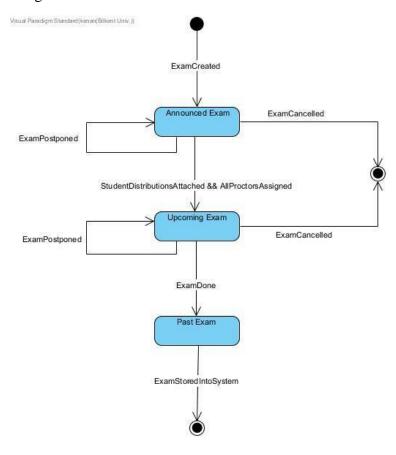


2.2 Proctor Swapping Sequence

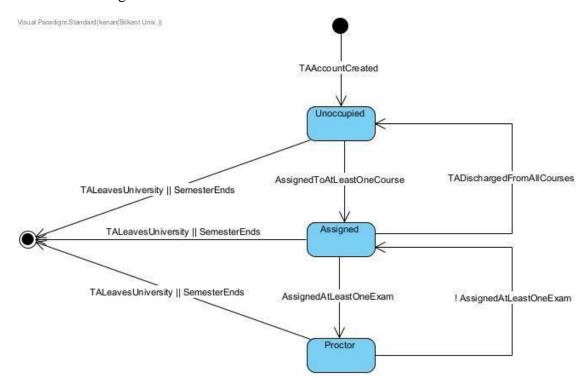


3. STATE DIAGRAMS

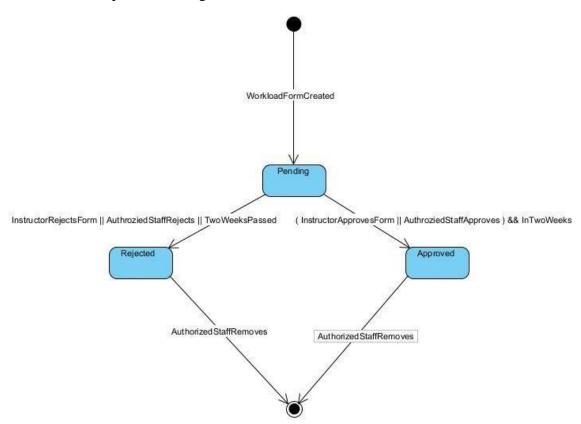
3.1 Exam State Diagram



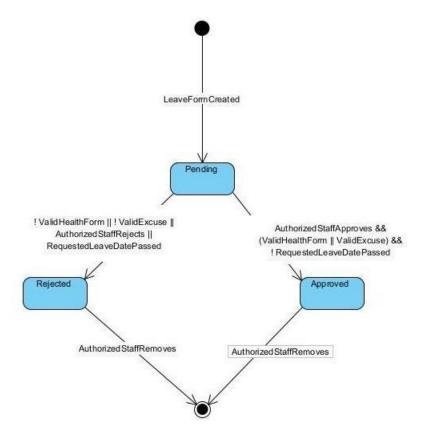
3.2 TA State Diagram



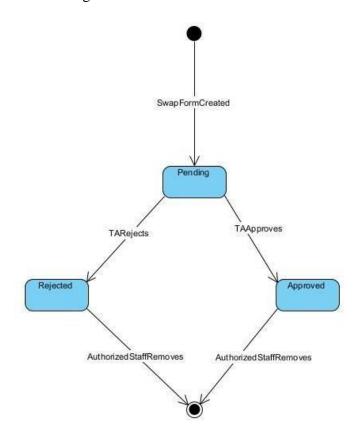
3.3 Workload Report State Diagram



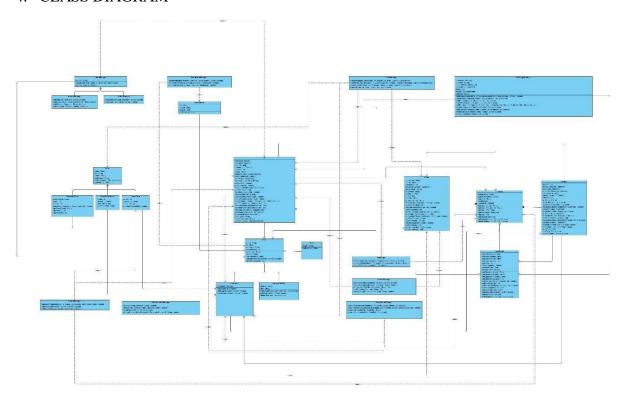
3.4 Leave Form State Diagram



3.5 Swapping Form State Diagram



4. CLASS DIAGRAM



5. NON-FUNCTIONAL REQUIREMENTS

Quality Requirements:

Usability:

- •The system should provide a **clear and structured UI**, allowing users to **navigate easily** (i.e., complete key tasks in under 3 interactions) between functionalities such as "Workload," "Notifications," and "Settings."
- Key actions (logging workload, requesting leave, checking assignments) should be accessible within 3 clicks from the main dashboard, ensuring a smooth user experience.
- •The **menu layout should be responsive**, ensuring that options like "Proctoring" and "Course Assisting" are easily clickable across **different screen sizes**, including:
 - Desktop (1280x720+)
 - Tablet (600x800+)
 - Mobile (320x480+)

Reliability:

- The system should store TA workload, assignments, and notifications reliably, by:
- · Performing automatic daily backups
- Using transactional database operations
- ·Implementing redundancy in data storage
- •Ensuring recovery is possible within 30 minutes in case of failure
- Session management: Users should be automatically logged out after 15 minutes of inactivity for security purposes.
- •A graceful error handling mechanism should notify users of any issues (e.g., failed workload entry, network errors) with clear, actionable messages, such as "Check your internet connection and try again."

Performance:

•The backend should handle 100+ simultaneous requests from TAs, instructors, and admin staff.

Constraints or Pseudo Requirements:

Implementation:

•The system must be compatible with modern web browsers, including:

- Chrome (117.0+)
- Firefox (122+)
- Safari (15+)
- Microsoft Edge (latest versions)
- •The design should be fully responsive, adapting to:
 - Desktop (1280x720+)
 - Tablets (600x800+)
 - Mobile (320x480+)
- •Frontend: React.js for a dynamic UI.
- •Backend: Django (Python) for handling authentication, workload processing, and notifications.
- Database: MySQL for storing TA workload, course assignments, and logs.
- Web Server: Apache2 on Linux (Ubuntu).

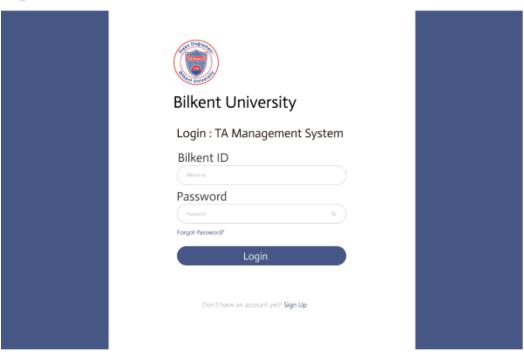
Security & Compliance:

- •Role-Based Access Control (RBAC): Ensure that only authorized users (TAs, instructors, admins) can access specific functionalities.
- Data Privacy & GDPR Compliance: Users must be able to:
 - •View a cookie consent banner before non-essential cookies are stored.
- Data Encryption: Store sensitive information (TA contact details, login credentials) using industry-standard encryption.

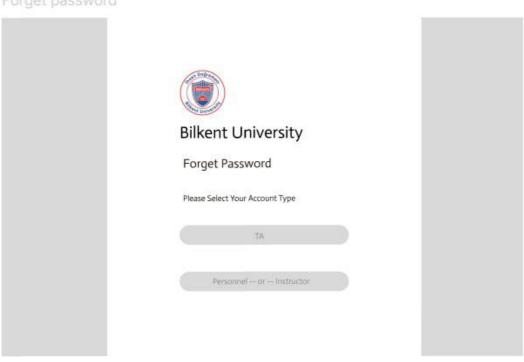
Enhancements Based on Wireframe:

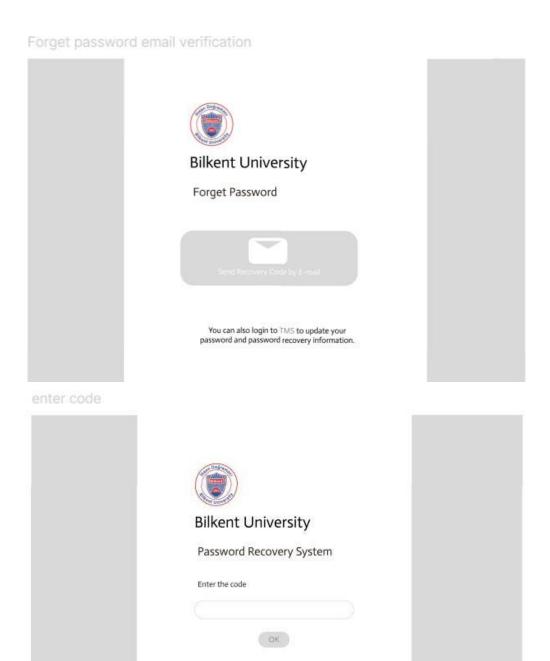
- ·Left Sidebar: Ensure that the sidebar (profile details, settings, logout) is accessible on all screens without excessive scrolling.
- •Top Navigation Buttons: Ensure buttons like "Home," "Workload," and "Notifications" are prominently visible and clickable.

Login

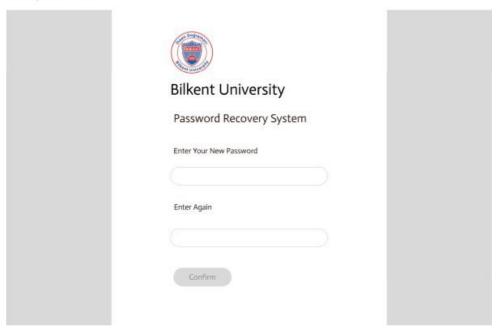


Forget password





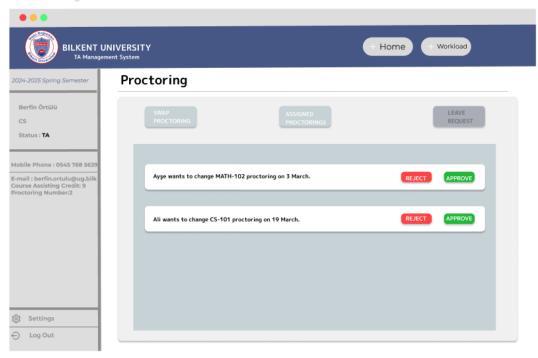
new password



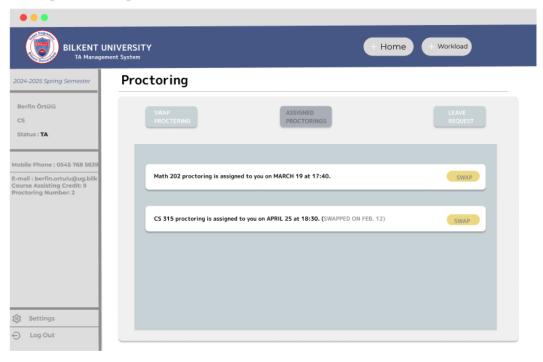
TA MAIN PAGE



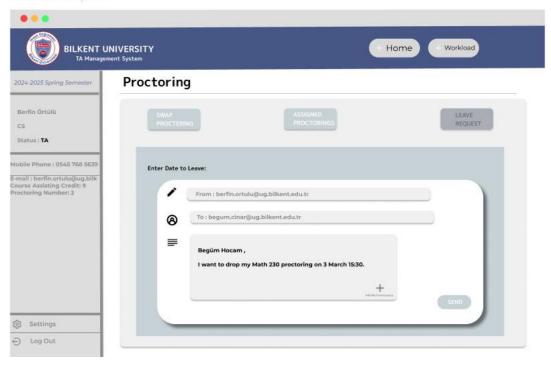
TA Proctoring



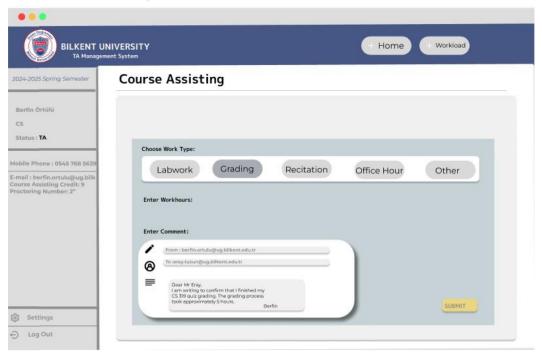
TA Assigned Proctorings



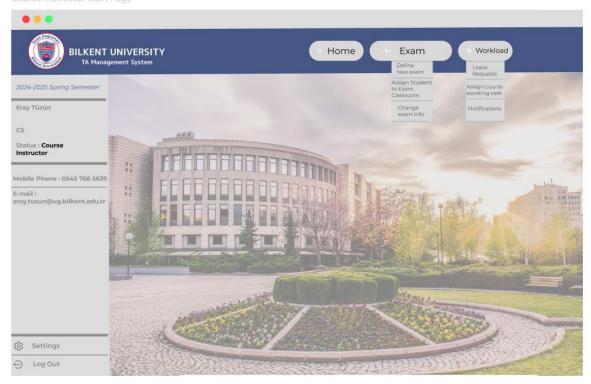
TA Leave Request



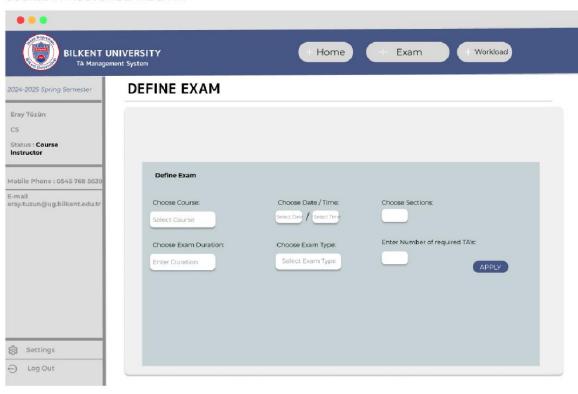
TA Submit Course Assisting Task



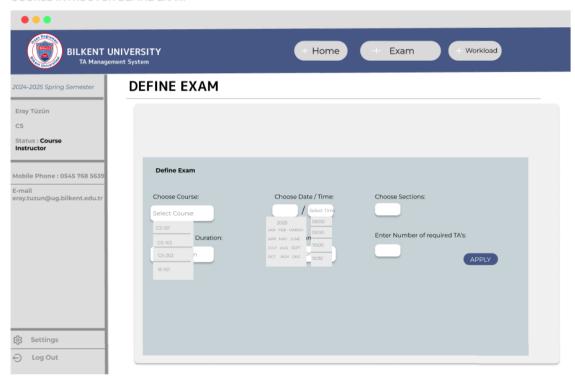
Course Instructor Main Page



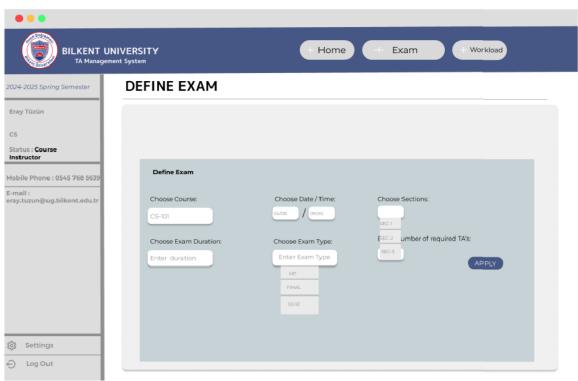
COURSE INTRUCTOR DEFINE EXAM



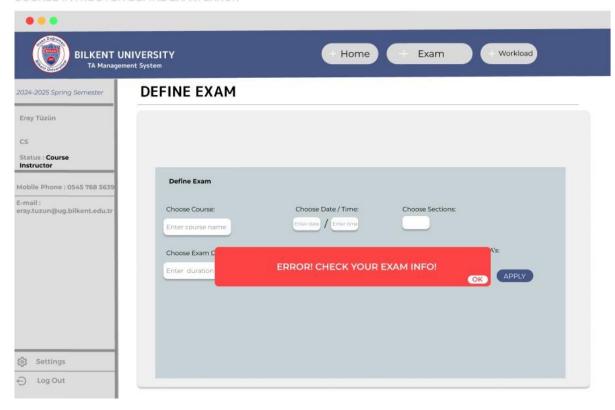
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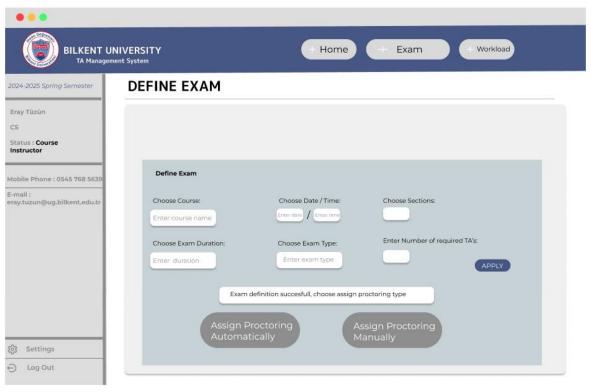
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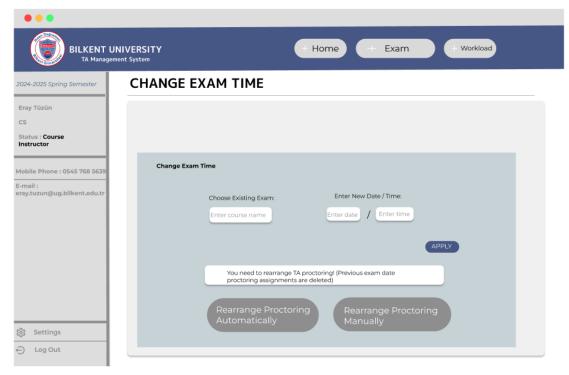
COURSE INTRUCTOR DEFINE EXAM ERROR



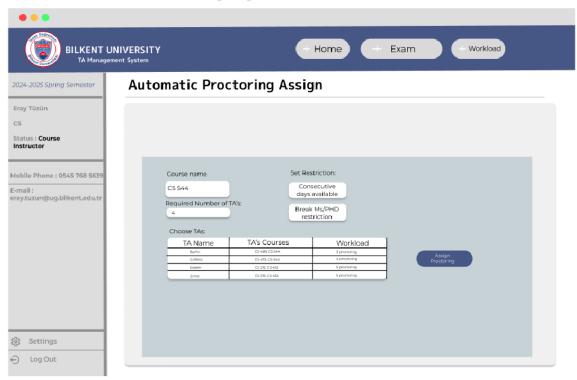
COURSE INTRUCTOR DEFINE EXAM/ ASSIGNING PROCTORING TYPE SELECT

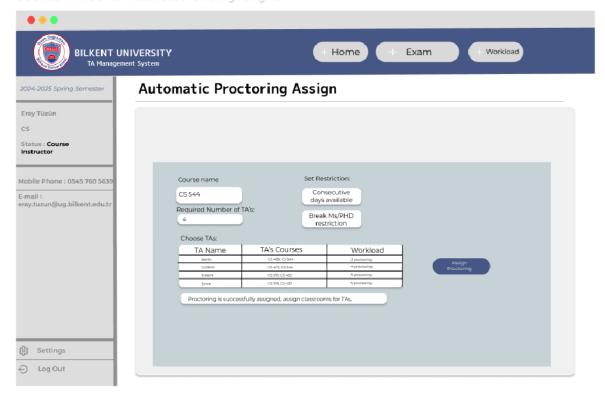


COURSE INTRUCTOR CHANGE EXAM DATE

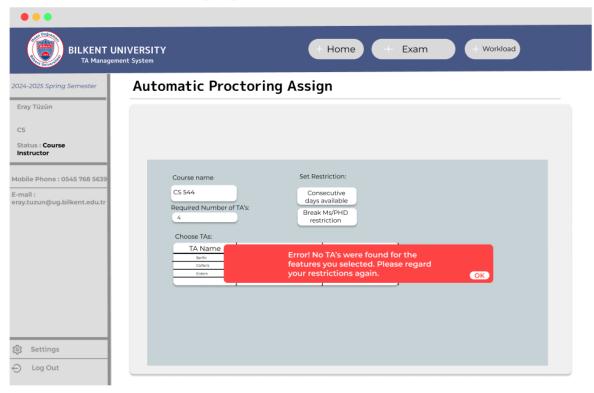


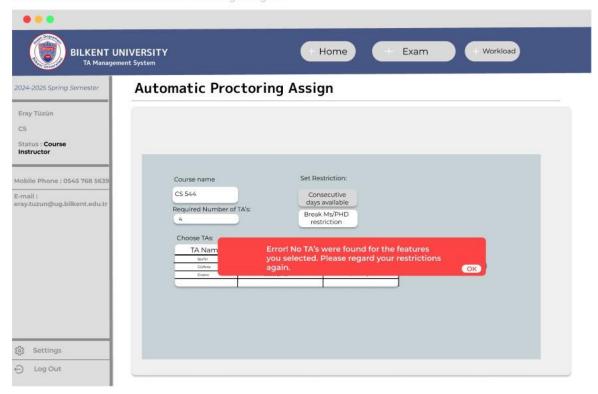
COURSE INTRUCTOR Automatic Proctoring Assign



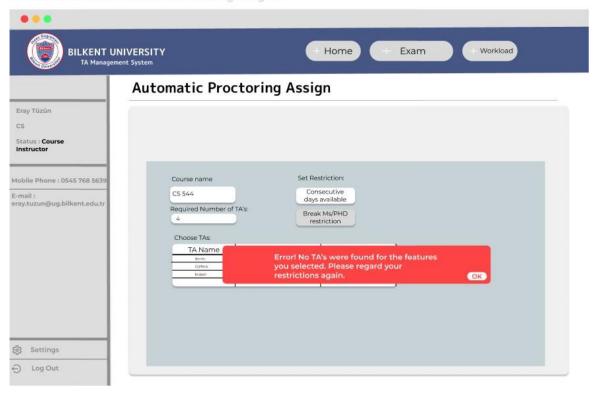


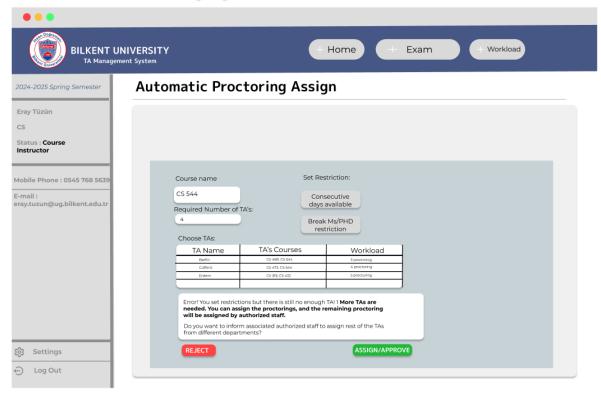
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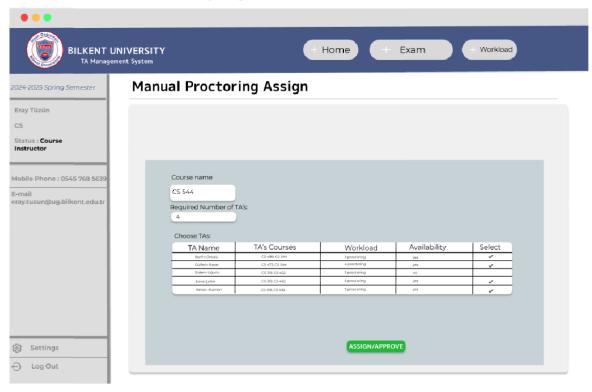


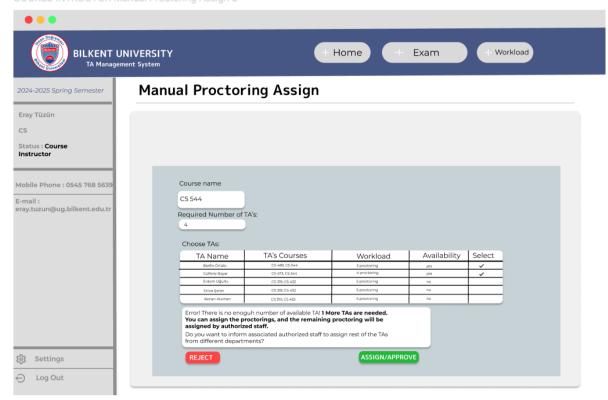
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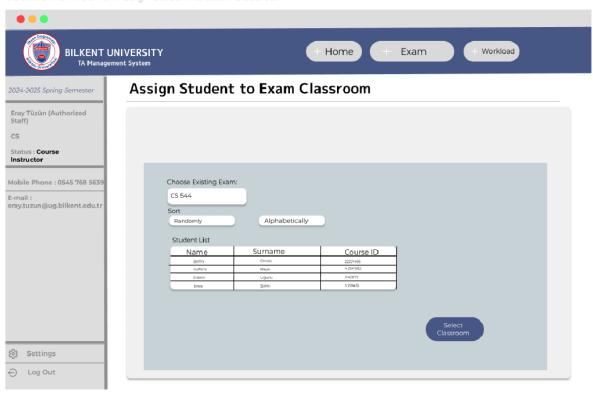


COURSE INTRUCTOR Manual Proctoring Assign

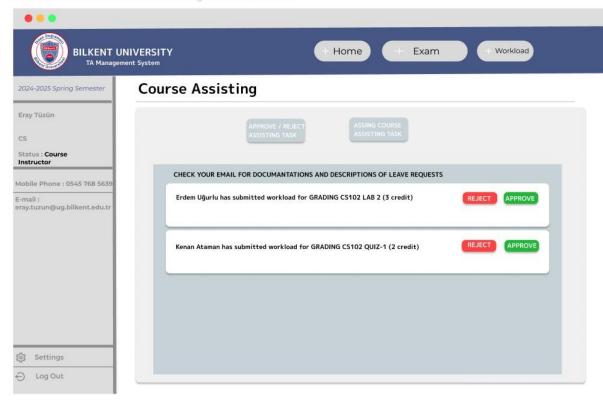




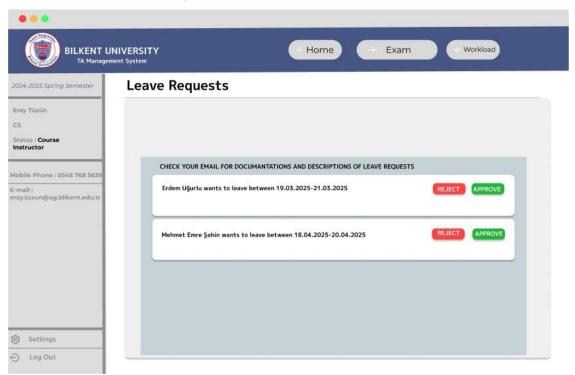
COURSE INSTRUCTOR Assign Student to Exam Classroom



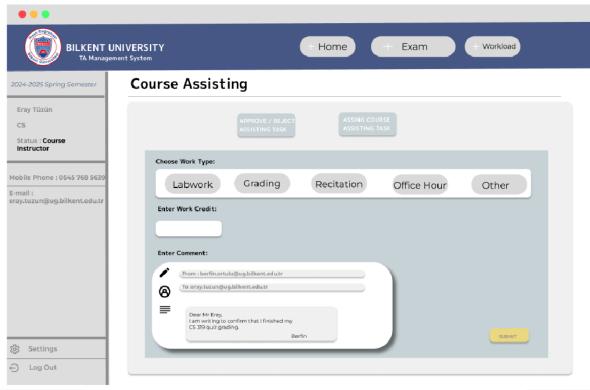
COURSE INSTRUCTOR Course Assisting APPROVE/REJECT



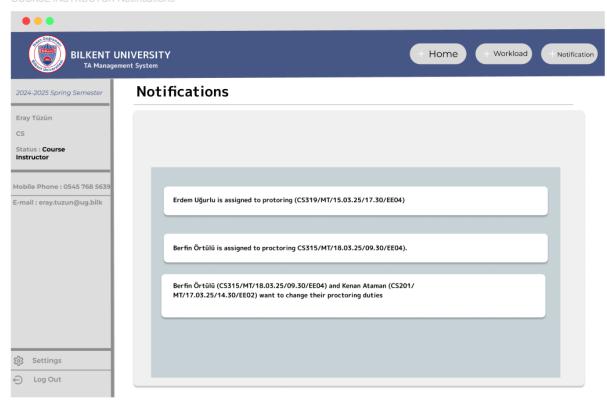
COURSE INSTRUCTOR Leave Requests APPROVE/REJECT



COURSE INSTRUCTOR ASSIGN A COURSE ASSISTING TASK



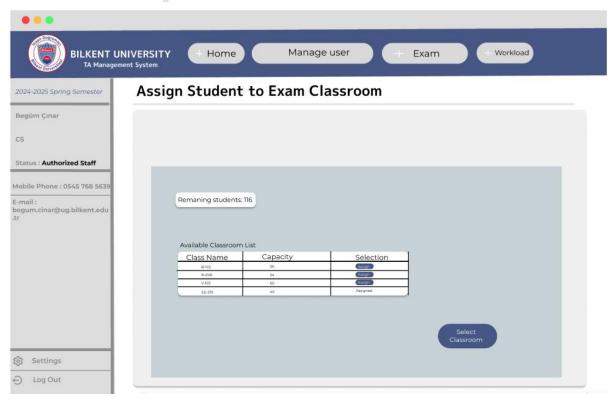
COLIRSE INSTRUCTOR Notifications



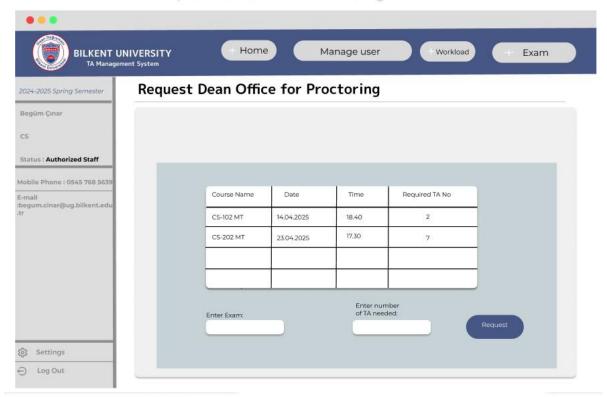
AUTHORIZED STAFF MAIN PAGE



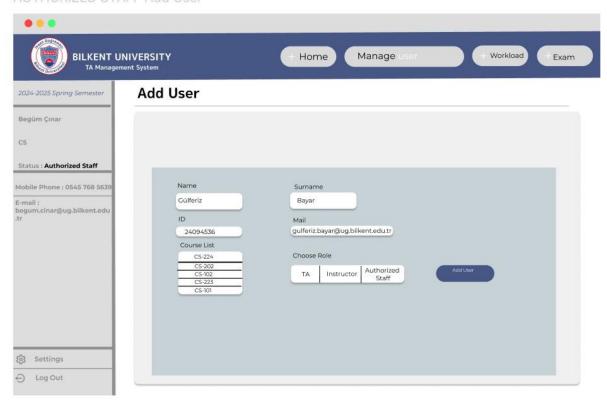
AUTHORIZED STAFF Assign Student to Exam Classroom



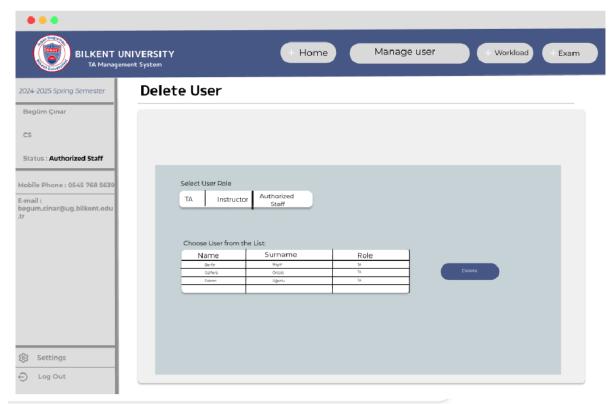
AUTHORIZED STAFF Request Dean Office for Proctoring



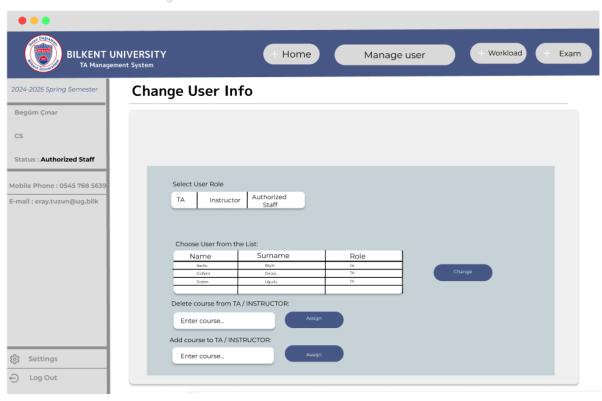
ALITHORIZED STAFF Add User



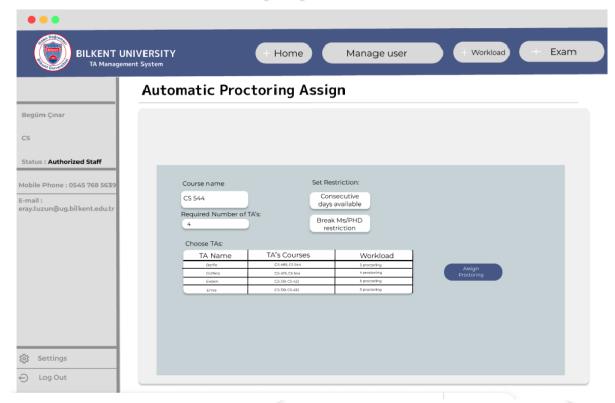
AUTHORIZED STAFF Delete User



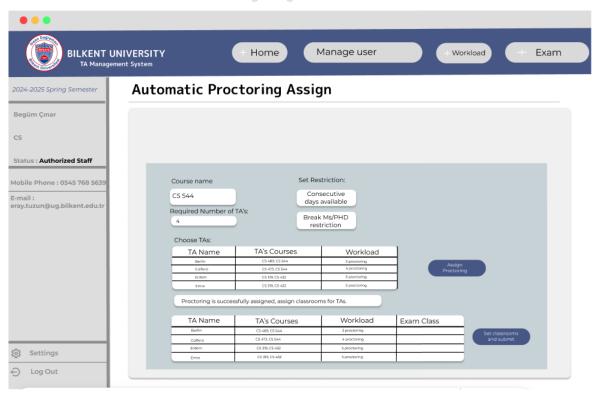
AUTHORIZED STAFF Change User Info



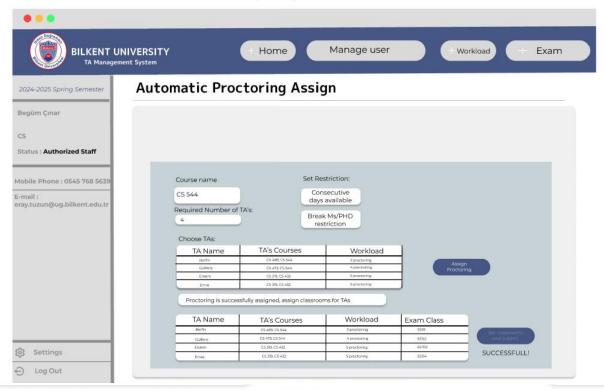
AUTHORIZED STAFF Automatic Proctoring Assign



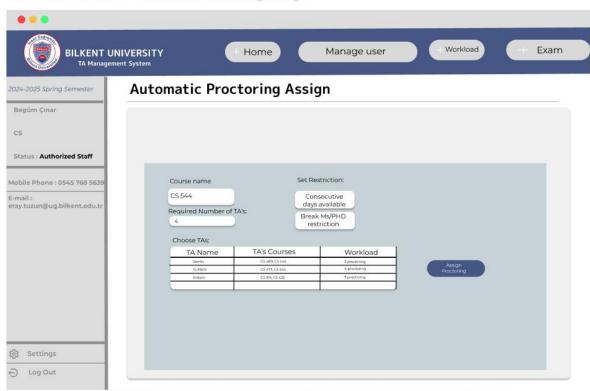
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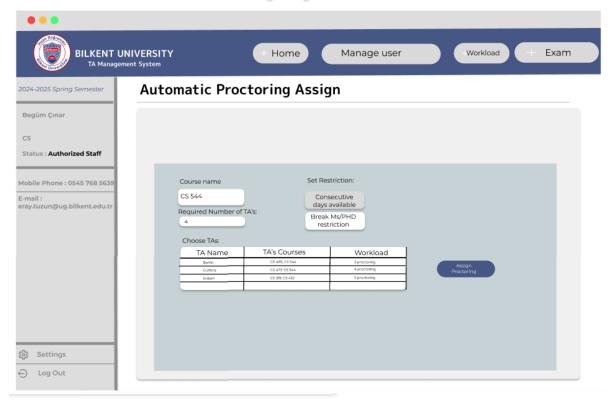
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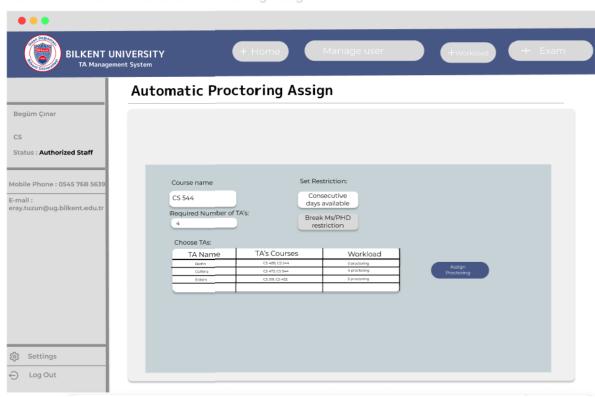
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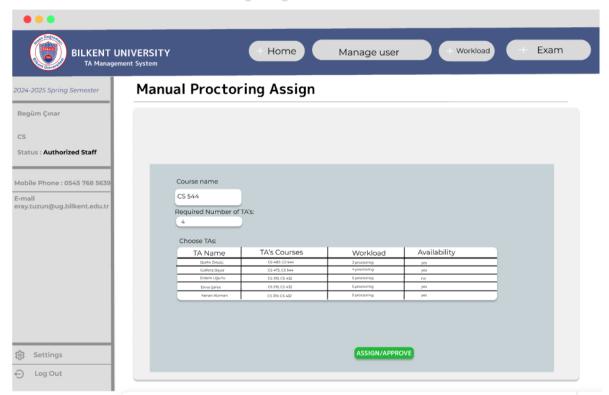
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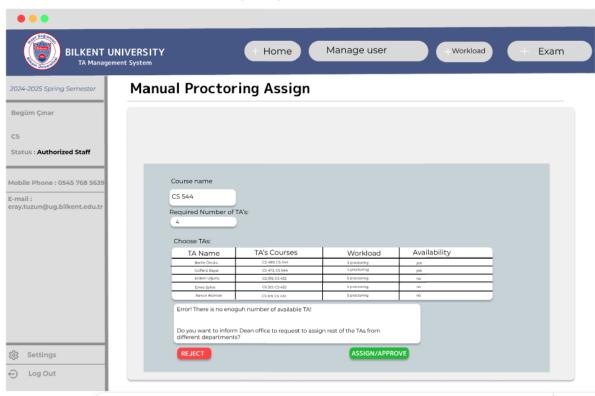
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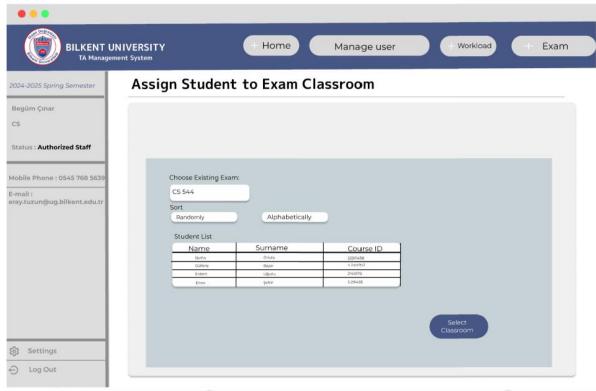
AUTHORIZED STAFF Manual Proctoring Assign



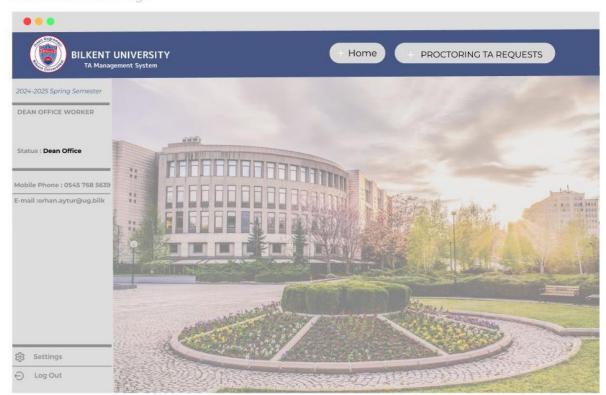
AUTHORIZED STAFF Manual Proctoring Assign 2



AUTHORIZED STAFF Assign Student to Exam Classroom



Dean Office Main Page



Approve/Reject Leave Requests

