

National University of Computer and Emerging Sciences

Software Engineering

"Project Report"

Group Members:

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Degree Program: BS-CS

Section: A

Subject Name: Software Engineering

Introduction:

We've developed a One Stop Degree Issuance System for FAST Islamabad campus to help handle all degree-related needs in one place. Our online system lets students easily submit degree requests, track their progress, and receive feedback from the One Stop Team (administrators). The system makes sure the request gets processed quickly by involving all the necessary departments, like FYP, Finance, and Admin. Furthermore, the student is notified at every step until the degree is ready for pickup. It's a streamlined, hassle-free way to get degrees sorted out with reduced paperwork.

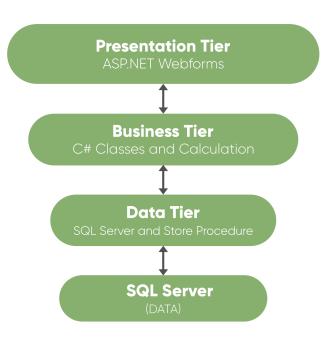
Project Rational:

The One Stop Degree Issuance System addresses the need for an all in one, efficient solution for managing student degree requests at the FAST Islamabad campus. Presently, Students face delays and communication gaps due to the fragmented process involving multiple departments. By centralizing the degree issuance process, we aim to simplify request submission, improve efficiency through real-time notifications, and get feedback from relevant departments like FYP, Finance, and Admin. This system ensures that students can resolve their degree-related issues quickly and conveniently while reducing administrative overhead and processing time for the One Stop Team. To provide the stated functionalities to the students we planned to design a web-based application with a 3-tier layered architecture using web technologies like ASP.net, C# and SQL. We utilized agile methodology for software development, in this case it was SCRUM. We divided the project into almost 25 user stories that will be implemented in three sprints..

Project Architecture:

TheOne Stop Degree Issuance System has a **three-tier layered** architecture with three different layers namely **presentation layer, business logic layer and database layer**. The presentation layer shows the user interface to the user and is implemented using ASP.NET, HTML, CSS and

Bootstrap. The business logic or application layer contains the logic to implement the functional requirements of the software. It has been implemented using C#. The Database layer is for storage of data in the database and has been implemented using SQL Relational Database. The reason for choosing this structure was that it is easier to implement and with separation of concerns. The overall organization of the code is consistent across all the layered projects. All objects are kept together hence it is easier to change something in all or some of the objects. Scalability is easier in layered structure. Layering also helps to differentiate tasks to each separate task thus the layer structure can be used to identify each task separately. Due to the lower coupling between the layers, the software is easier to maintain. Plus, it becomes easier to maintain when multiple people are working on the same project because each can work on separate layers at the same time.



Product Backlog:

Table 1: Product Backlog

Story ID: 1 Priority: 1 Estimate: 6 hrs

Feature	Admin Dashboard
As a	One Stop Admin
I want to	have centralized dashboard for all my tasks
so that	I can oversee all degree issuance activities and timely complete my responsibilities.
Acceptance Criteria	 Given that the One Stop Admin is logged into the system 1. When they access the centralized dashboard Then they should see a comprehensive view of all degree issuance activities (requests, alerts etc). 2. When they select a specific task or application Then they should be redirected to a detailed view of that task.

Story ID : 2 Priority: 1 Estimate: 1 hrs

Feature	Token Generation for Student Requests & Complaints
As a	One Stop Admin
I want to	generate tokens for each student request and student complaint
so that	Each query can be uniquely identified, tracked, and managed efficiently through the resolution process.
Acceptance Criteria	 Given that a new student request or complaint is submitted When the request or complaint is received by the system Then a unique token should be automatically generated for that request or complaint. When the token is generated Then the student should be notified of "received" and the request/complaint should appear on the admin's requests/complaints page.

Story ID: 3 Priority: 2 Estimate: 10 hrs

Feature	Manage Student Requests
As a	One Stop Admin
I want to	manage (all pending, processed and new) degree and transcript requests
so that	I can ensure timely responses, maintain a high standard of service, and effectively prioritize the tasks.
Acceptance Criteria	Given that the One Stop Admin is logged into the system 1. When they access the Manage Requests feature Then they should be able to view all pending, processed and new requests and filter them as well. 2. When they select a request to view more details Then they should be presented with all relevant information and actions/responses to be taken on that request.

Story ID : 4 Priority: 2 Estimate: 6 hrs

Feature	Manage Student Complaints
As a	One Stop Admin
I want to	I want to manage student complaints
so that	I can respond to and resolve them timely for students.
Acceptance Criteria	Given that a One Stop Admin is logged into the system When they access the Manage Student Complaints section Then they should be able to view all complaint forms submitted by students, and respond via comments or perform actions accordingly.

Story ID: 5 Priority: 3 Estimate: 7 hrs

Feature	Generate and Issue Degree Certificate
As a	One Stop Admin
I want to	generate digital degrees and issue them to particular students
so that	graduates receive their degrees promptly and the system accurately reflects the updated status of each request.
Acceptance Criteria	 Given that the Student has been approved for graduation When the admin selects the student for degree issuance Then the system should generate a digital degree certificate and send it to the student. When the degree is generated Then the system should update the student's status and the admin should be able to close the request.

Story ID: 6 Priority: 4 Estimate: 3 hrs

Feature	Student Academic Record Access
As a	One Stop Admin
I want to	have access to all academic records of students
so that	I can generate a degree and transcript with the correct student credentials.
Acceptance Criteria	Given that the One Stop Admin is logged into the system 1. When they search for a student by ID to access academic record of a student Then they should be able to view all records of the student, including courses taken, grades awarded etc. 2. When they update any academic record (spelling mistake etc) Then the system should update the record and integrate changes with the generated degree.

Story ID: 7 Priority: 5 Estimate: 6 hrs

Feature	Generate and Issue Student Transcript
As a	One Stop Admin
I want to	generate student transcripts and issue them to particular students
so that	graduates receive their comprehensive academic records and provide them to employers as per need.
Acceptance Criteria	Given that a student or graduate requests their transcript 1. When the admin initiates transcript generation Then the system should compile all academic records into transcript format. 2. When the admin issues the transcript to student Then the system should send it to the student and mark the request as processed.

Story ID : 8 Priority: 10 Estimate: 6 hrs

Feature	Objection Alerts
As a	One Stop Admin
I want to	inform students about any objection from FYP or Finance Department
so that	students are aware and can promptly address the problems preventing their degree issuance.
Acceptance Criteria	Given that an objection to degree issuance is raised by either the FYP or Finance Department, 1. When the objection is logged into the system Then the admin should be able to receive and view the objection. 2. When the admin informs the student about objection Then the system should send an alert to the student regarding the objection.

Story ID: 9 Priority: 10 Estimate: 6.5 hrs

Feature	Student Profile Verification
As a	One Stop Admin
I want to	verify student's information and eligibility for degree issuance
so that	degrees are issued accurately and only to candidates who have met all the necessary academic and financial requirements.
Acceptance Criteria	 Given that a student has applied for degree issuance, When the admin initiates the verification process, Then the system should automatically check the student's academic records (credit hours and CGPA) as well as financial records to ensure all dues are cleared. When the verification process is complete Then the system should notify admin about student's eligibility and allow them to continue.

Story ID : 10 Priority: 12 Estimate: 8 hrs

Feature	Batch Processing
As a	One Stop Admin
I want to	perform bulk actions and process requests in batches
so that	I can efficiently and timely manage requests during peak times such as, end of an academic term or semester.
Acceptance Criteria	 Given that there are multiple requests pending action, When the admin views these requests Then they should be able to select multiple requests at once for batch processing, using criteria such as request type, or status. Given that multiple requests have been selected, When admin selects a batch action (approve, issue, close etc) Then that action should be applied to all selected requests simultaneously.

Story ID: 11 Priority: 8 Estimate: 4 hrs

Feature	Reporting and Analytics
As a	One Stop Admin
I want to	generate reports (on the degree and requests statistics) and other analytics
so that	They help me identify patterns, monitor the system efficiency and recognize areas for improvement.
Acceptance Criteria	Given that the admin wants to understand the volume and types of requests 1. When they access the reporting feature Then the system should provide options to generate reports on degree issuance, transcript requests, student queries etc. 2. When they generate the report Then the system should show real-time current data.

Story ID: 12 Priority: 2 Estimate: 6.5 hrs

Feature	Degree Issuance Form Submission
As a	Student
I want to	submit my degree issuance form
so that	I can formally request the issuance of my degree from the university
Acceptance Criteria	Given that a student is logged into the system When they complete all required fields of the degree issuance form Then they should be able to submit the form successfully

Story ID: 13 Priority: 2 Estimate: 7 hrs

Feature	Complaint Form Submission
As a	Student
I want to	file a complaint for any spelling mistakes or errors in my documents
so that	I can ensure the accuracy of my academic records.
Acceptance Criteria	Given that a student is logged into the system When they access the Complaint Form section Then they should be able to submit a complaint specifying the errors found in their documents.

Story ID: 14 Priority: 4 Estimate: 3 hrs

Feature	Activity Tracking
As a	Student
I want to	track the activity of my degree issuance request
so that	I can stay informed about its progress.

Acceptanc	e
Criteria	

Given that a student is logged into the system
When they access the Activity Tracking section
Then they should be able to monitor the status of their degree issuance request, including pending, processing, and delivered.

Story ID : 15 Priority: 9 Estimate: 5 hrs

Feature	Degree Issuance Notification
As a	Student
I want to	receive a notification when my degree is ready for collection or delivery
so that	I can obtain it for further academic or professional purposes.
Acceptance Criteria	Given that a student's degree is ready for collection or delivery When they receive a notification from the university Then the notification should provide instructions for collecting or receiving the degree.

Story ID: 16 Priority: 8 Estimate: 2 hrs

Feature	Student Notification for Degree Issuance
As a	member of the FYP Department
I want to	notify students about the status of their degree issuance requests
so that	they can be informed about the progress of their degree.
Acceptance Criteria	Given that a decision is made regarding a degree issuance request When a member of the FYP Department provides a decision Then the system should automatically send a notification to the student regarding the outcome.

Story ID: 17 Priority: 4 Estimate: 5 hrs

Feature	Degree Issuance Decision Making
As a	member of the FYP Department
I want to	provide a decision on degree issuance requests
so that	the requests can be processed accordingly.

Acceptance Criteria

Given that a member of the FYP Department is logged into the system When they access the Manage Requests section

Then they should be able to select a request and provide a decision (accept, reject, or object with comments).

Story ID : 1 Priority: 12 Estimate: 7 hrs

Feature	Time Tracking for Degree Issuance
As a	member of the FYP Department
I want to	track the time taken by the FYP committee to process degree issuance requests
so that	We can monitor and improve our efficiency.
Acceptance Criteria	Given that a member of the FYP Department is logged into the system When they access the Manage Requests section Then they should be able to view the timestamp indicating when the request was received and when a decision was made.

Story ID: 19 Priority: 5 Estimate: 2 hrs

Feature	Request Details Reviewing
As a	member of the FYP Department
I want to	review all details provided by a student in their degree issuance request
so that	I can make informed decisions.
Acceptance Criteria	Given that a member of the FYP Department is logged into the system When they access the Manage Requests section Then they should be able to select a request and view all details provided by the student, including attachments and comments.

Story ID : 20 Priority: 4 Estimate: 7 hrs

Feature	Collaboration with Finance Department
As a	member of the FYP Department
I want to	collaborate with the Finance Department regarding financial aspects of degree issuance
so that	I can ensure all financial requirements are met.

Acceptance Criteria

Given that a member of the FYP Department is logged into the system When they access the Manage Requests section

Then they should be able to coordinate with the Finance Department by viewing the relevant financial records.

Story ID : 21 Priority: 7 Estimate: 3 hrs

Feature	Notification Center for Degree Issuance Requests
As a	Finance Accountant
I want to	access all the notifications for students' degree issuance requests
so that	I can further verify their respective credentials and respond to them accordingly.
Acceptance Criteria	 Given that an accountant is logged in, When he/she clicks on the notification button Then the system displays all the student requests received regarding degree issuance. Given that the accountant navigates to the notification tab, When wanting to sort requests according to the recently received, Then the topmost section displays the most recently received requests.

Story ID : 22 Priority: 7 Estimate: 1 hrs

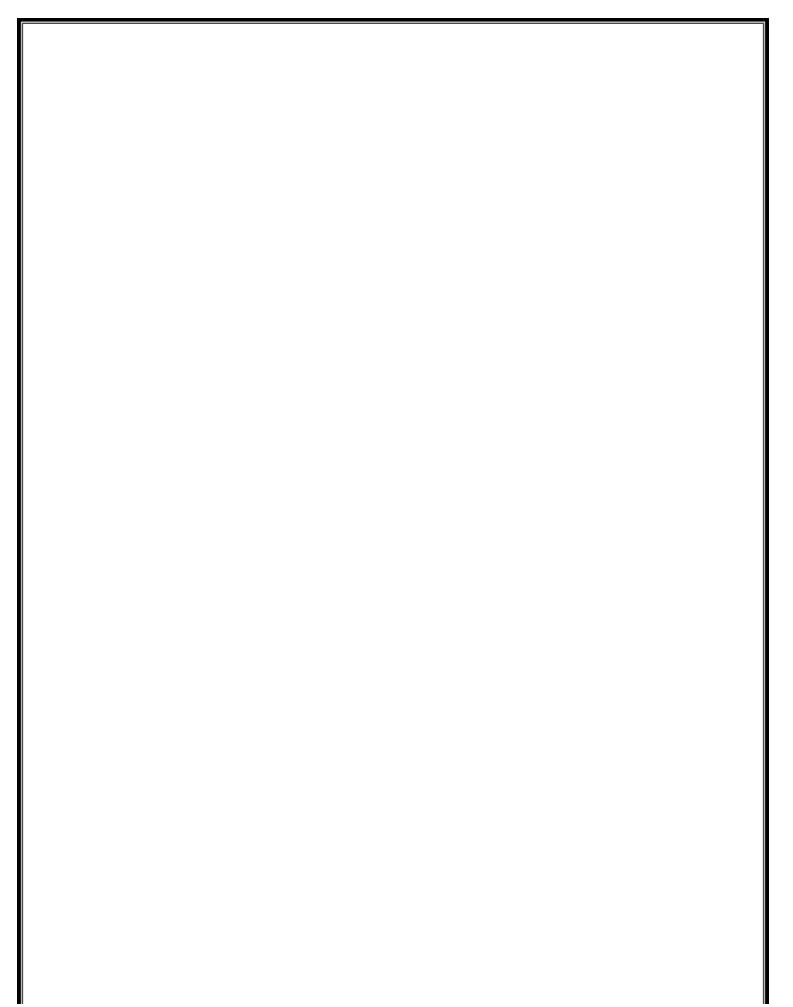
Feature	Roll Number Search for Financial Records
As a	Finance Accountant
I want to	search for specific student's financial records through roll number
so that	I can look up for their outstanding dues if any.
Acceptance Criteria	 Given that the accountant enters the roll number and batch number for a specific student. When he/she dives into the student financial records Then the system should highlight any outstanding fee the student has to pay along with further details such as the due date. Given that an accountant searches for a specific student in the list. When he/she tries to access the student's outstanding dues. Then then all the dues along with the due date and payment method should be visible to the accountant.

Story ID : 23 Priority: 5 Estimate: 5.5 hrs

Feature	Degree Issuance Fee Status
As a	Finance Accountant
I want to	check if the student has submitted the degree issuance fee
so that	I could ensure his/her eligibility for degree collection.
Acceptance Criteria	 Given that accountant enters the complete roll number for a specific student. When wanting to check the students submission of degree issuance fee Then the system displays the status of fee as paid or unpaid in the degree Issuance fee tab Given that the accountant searches for students that have paid the degree issuance fee. When he/she tries to access the any specific student in that list Then the details of the student along with the paid status should be displayed on the screen.

Story ID: 24 Priority: 7 Estimate: 3 hrs

Feature	Comment Functionality for Student Eligibility
As a	Finance Accountant
I want to	add comment regarding the student's eligibility for degree collection
so that	the students should get informed about the clearance issues that they have to fix for degree issuance.
Acceptance Criteria	 Given that the accountant dives into the student section. When he/she tries to comment the student on fee related matters Then a text box should pop up for him/her to write the details. Given that the accountant searches for student's roll number When he/she tries to write a comment to the student regarding fee matters Then the system opens up the comment section for the accountant and the student to interact through it and the student gets an email as a notification of the comment.



Story ID: 25 Priority: 7 Estimate: 3.5 hrs

Feature	Student Eligibility Status Update						
As a	Finance Accountant						
I want to	update the student status to eligible for degree after their dues' clearance.						
so that	the students who cleared their dues could receive their degrees on time without any further delay.						
Acceptance Criteria	 Given that the accountant dives into the student eligibility section. When he/she tries to update the student status for degree collection. Then a checkbox appears for the accountant to tick mark it after verifying the student's fee records. Given that the accountant searches for student's roll number When he/she tries to shift the student's status from ineligible to eligible Then the system gives access to the accountant to change the current status of the student along with sending a congratulations email to the student as a confirmation. 						

Story ID: 26 Priority: 5 Estimate: 5 hrs

Feature	Request Monitoring Director Dashboard
As a	Campus Director
I want to	view all requests that are generated throughout the day
so that	I could monitor all the internal operations of the One Stop system

Acceptance Criteria

1. **Given that:**the director opens up the requests page.

When: he/she wants to access the requests along with the details

Then: each and every request of the day along with the sender and receiver name, time and response duration should be visible

2. **Given that**: the director navigates into the requests channel of the system.

When he/she tries to see the request sent to One Stop Centre **Then:** the system shows the sorted list of requests for the day with the recent most at the top

Story ID: 27 Priority: 12 Estimate: 2 hrs

Feature	Request Inbox for Campus Director			
As a	Campus Director			
I want to	view all requests made directly to me			
so that	I could answer them quickly along with passing orders accordingly.			
Acceptance Criteria	 Given that the director opens up the private requests page. When he/she wants to read and answer the requests made directly to him/her. Then the system should show complete details of the requests and open up the reply mode for sending a response to that request after processing it. Given that the director navigates into the requests page. When he/she searches for a specific subject of request. Then the complete list of requests regarding that specific subject is visible to the Director. 			

Story ID: 28 Priority: 12 Estimate: 5 hrs

Feature	Time Taken to Respond (TTR) Metrics:
As a	Campus Director
I want to	view the TTR (time taken to respond) to each request
so that	I could configure the weaknesses of the system and reasons for the delay time along with ensuring that student queries are addressed promptly.

Acceptance Criteria

1. **Given that** the director opens up the made-requests page. **When** he/she wants to check the answered queries along with the time taken.

Then the system should display the sorted list to the Director for the answered requests along with response time in ascending order.

2. **Given that** the director navigates into the requests page. **When** he/she searches for the requests whose response was generated too late.

Then the system displays the request nature and receiver's name for the director to inquire about the delay.

Story ID : 29 Priority: 6 Estimate: 3 hrs

Feature	Notification System for Request Processing Initiation				
As a	Campus Director				
I want to	et notified for the initiation of the request processing by the One Stop				
so that	could stay informed about the progress of the request.				
Acceptance Criteria	 Given that the Director of the Campus is logged into the system When the One Stop Admin initiates the processing of a request Then the Director receives a notification indicating that the request is now in the processing phase. Given that multiple requests are in the processing phase, When the director wants to check the request dashboard Then the system makes an organized and clear list of requests available to the Director for tracking all the activities. 				

Story ID: 30 Priority: 12 Estimate: 8 hrs

Feature	Fee Clearance Request Dashboard					
As a	Campus Director					
I want to	eview requests sent to students for clearing their outstanding fees in a mely manner					
so that	I can ensure student's satisfaction upon updates and smooth system functioning regarding the financial matters.					
Acceptance Criteria	 Given that the Director wishes to view detailed information about a specific fee clearance request,, When clicking on the relevant request in the dashboard Then a detailed information page opens, showing fields as the student's name, outstanding amount and the due date. Given that the Campus Director requires an overview of all fee clearance requests, When navigating to the financial dashboard, Then a well-organized list of outstanding fee clearance requests is available, showcasing key details for each request. 					

Project Planner and Gantt Chart:

Figure : Work Breakdown Structure

Project Planner - Sprint 1

Time (Days)	1	2	3	4	5	6	7	8	9
Admin Dashboard	×	×	×	×					
Token Gen.		×	×	×					
Manage Requests		×	×	×					
Degree Form					×	×			
Complaint Form							×	×	
Profile Verify					×	×	×		
Notification							×	×	
Req. Monitoring							×	×	×

Project Planner - Sprint 2

Story ID	Feature	Duration (Days)	Start Day	Dependencies
5	Generate and Issue Degree Certificate	5	Day 1	None
6	Student Academic Record Access	4	Day 2	None
7	Generate and Issue Student Transcript	4	Day 3	Student Academic Record Access
8	Objection Alerts	3	Day 5	Student Academic Record Access
9	Student Profile Verification	3	Day 6	None
11	Reporting and Analytics	4	Day 7	All previous tasks

Project Planner - Sprint 3

Story ID	Feature	Duration (Days)	Start Day	Dependencies
14	Activity Tracking	2	Day 1	None
15	Degree Issuance Notification	3	Day 2	Activity Tracking
16	Student Notification for Degree Issuance	2	Day 4	Degree Issuance Notification
17	Degree Issuance Decision Making	4	Day 3	None
18	Time Tracking for Degree Issuance	2	Day 6	Degree Issuance Decision Making
19	Request Details Reviewing	3	Day 7	Degree Issuance Decision Making
20	Collaboration with Finance Department	2	Day 4	None
21	Notification Center for Degree Issuance	2	Day 6	None
22	Roll Number Search for Financial Records	1	Day 9	Collaboration with Finance
23	Degree Issuance Fee Status	1	Day 8	None
24	Comment Functionality for Student Eligibility	2	Day 5	None

Figure 2: Gantt Chart

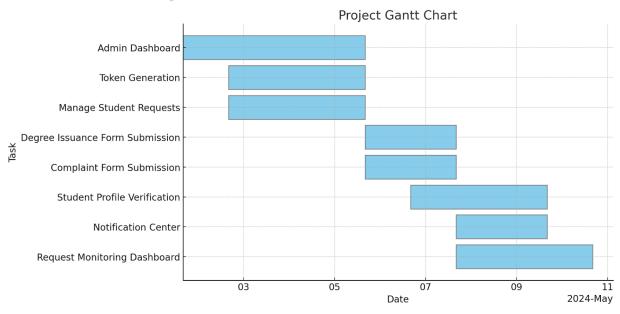
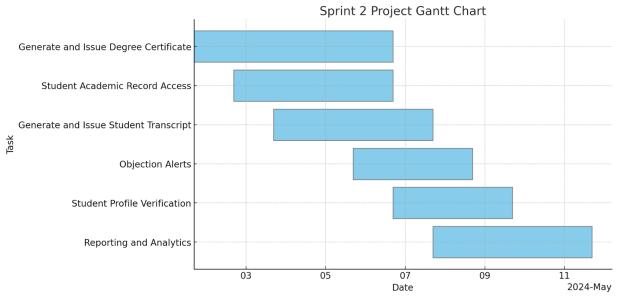
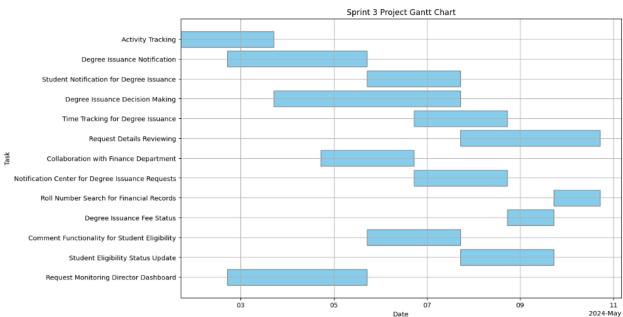


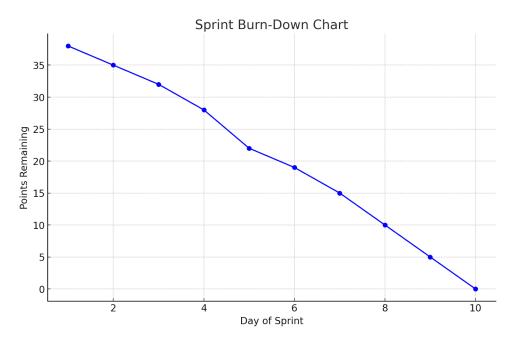
Figure 3: Gantt Chart

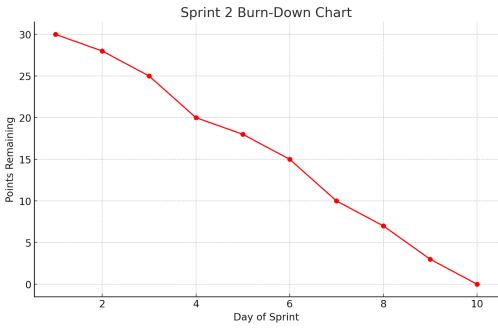




Product Burndown Chart:

Figure 18: Product Burndown Chart







Trello Snapshots:

Sprint-1:

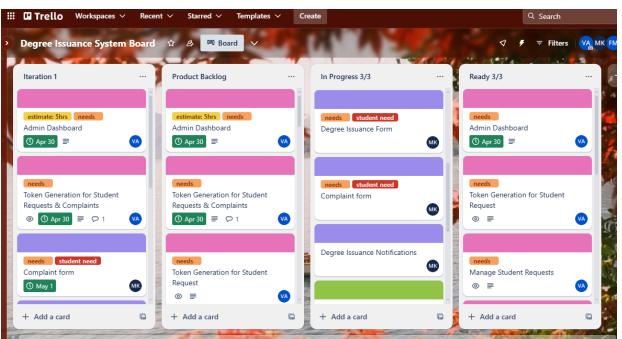
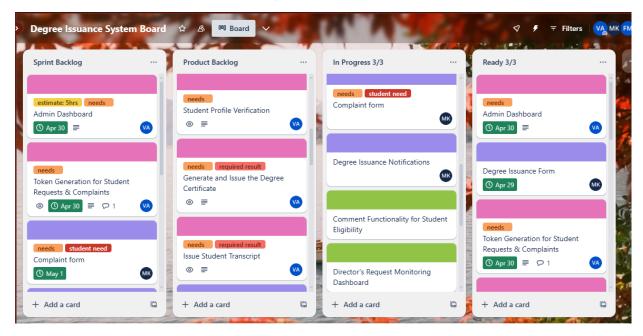


Figure 1: Snapshot-1 Sprint-1

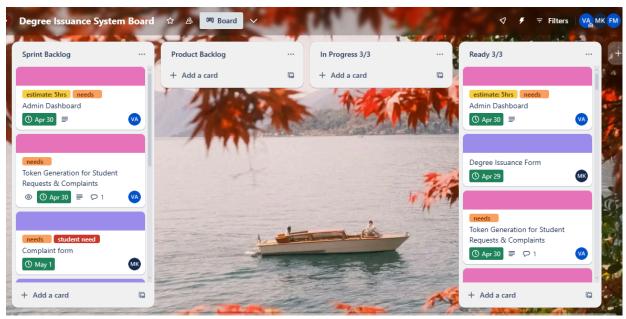
Sprint-2:

Figure: Snapshot-1 Sprint-2



Sprint-3 (Project Completion):

Figure: Snapshot-1 Sprint-3



Page 29

GUI of Project:



Degree Issuance System

This is a system that allows students to apply for their degree online.



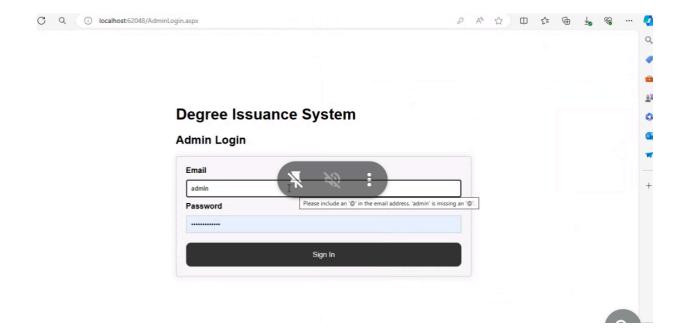
Fast NUCES copy right © 2021 Contact at: 123-456-789

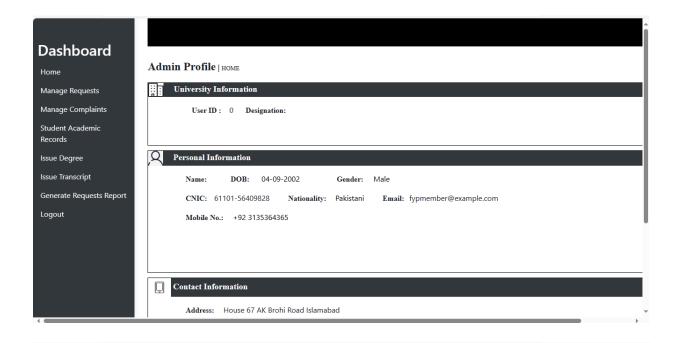
Degree Issuance System

Admin Login









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Manage Requests

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11:43:04 AM

4/30/2024

5/1/2024

10:44:55 PM

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Approved

Pending

Awaiting

Awaiting

Awaiting

3

View Details

Home

Manage Requests

Manage Complaints

Student Academic Records

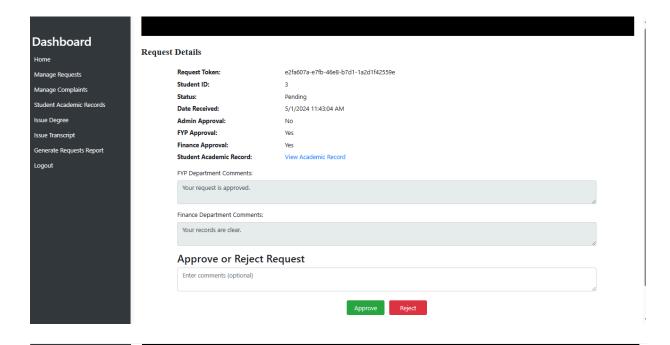
Issue Degree

Issue Transcript

Generate Requests Report

Logout

Token	Date Received	Status	Admin Approved	FYP Approved	Finance Approved	Student ID	Actions
e2fa607a-e7fb-46e8- b7d1-1a2d1f42559e	5/1/2024 11:43:04 AM	Pending	Awaiting	~	✓	3	View Details
d180de98-f80c-410a- 893e-30bfed28c102	5/1/2024 11:43:04 AM	Pending	Awaiting	Awaiting	Awaiting	4	View Details
c396856d-4015-416b- 8ba0-7e2329b7ca08	5/1/2024 11:52:32 AM	Pending	~	Awaiting	Awaiting	2	View Details
33ea0a1d-9c6a-4539- 8a2c-7e446ae42b80	5/1/2024 11:52:32 AM	Rejected	4	4	Awaiting	4	View Details
1cb903f6-8188-40ed-	5/1/2024	Pending	Awaiting	Awaiting	Awaiting	2	View Details



Dashboard

Home

Manage Requests

Manage Complaints

Student Academic Records

Issue Degree

Issue Transcript

Generate Requests Report

Logout

Student Academic Records

Search by Student ID:

Search

Course ID	Course Name	Record ID	Student ID	Grade	CGPA	Credit Hours
1	Introduction to Computer Science	1	1	А	3.5	120
12	Databases	1	1	А	3.5	120
13	Algorithms	1	1	В	3.5	120
14	Marketing Management	1	1	А	3.5	120
15	Artificial Intelligence	1	1	В	3.5	120
16	Data Structures	1	1	А	3.5	120

Showing search results for Student ID: 1



FAST National University of Computer and Emerging Sciences

(FAST-NUCES)

This is to certify that Alice Johnson has successfully completed the requirements for the degree of Computer Science with a cumulative GPA of 3.6. The degree was awarded on the May 01, 2023 by FAST-NUCES, recognizing the student's outstanding academic achievement and dedication.

Awarded under the seal of FAST National University of Computer and Emerging Sciences, this certificate serves as an official acknowledgment of Alice Johnson's accomplishments and grants all rights, privileges, and honors pertaining thereto.

Signed by:

John Smith Registrar



FAST National University of Computer and Emerging Sciences

(FAST-NUCES) INTERIM TRANSCRIPT

This is to certify that Alice Johnson (Roll Number: S10001) has successfully completed the following courses:

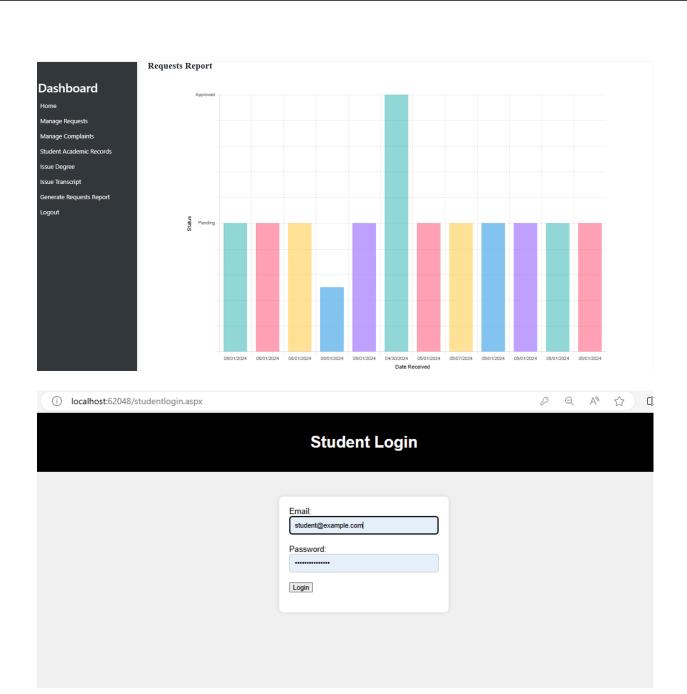
Course Name	Grade	Credit Hours
Introduction to Computer Science	Α	120
Databases	Α	120
Algorithms	В	120
Marketing Management	A	120
Artificial Intelligence	В	120
Data Structures	Α	120

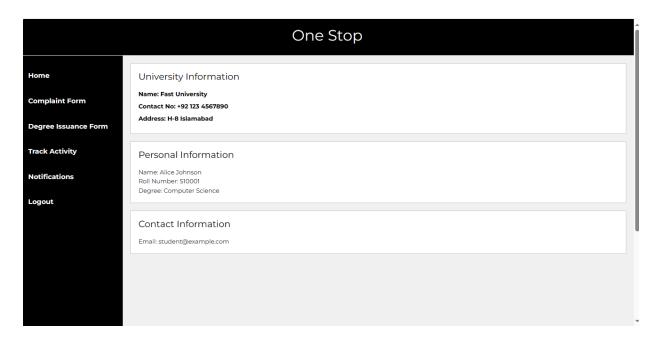
Total Credit Hours: 720

Signed by:

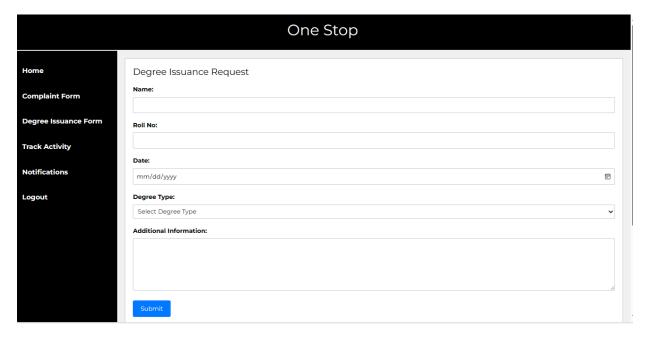
John Smith

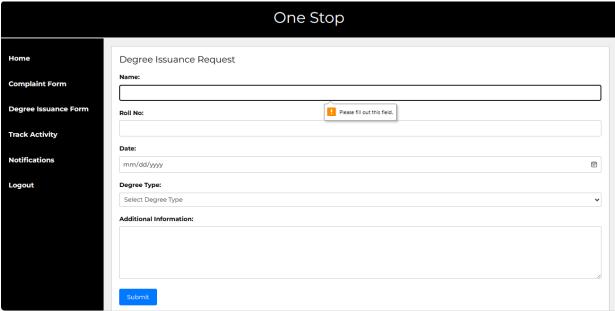
Registrar

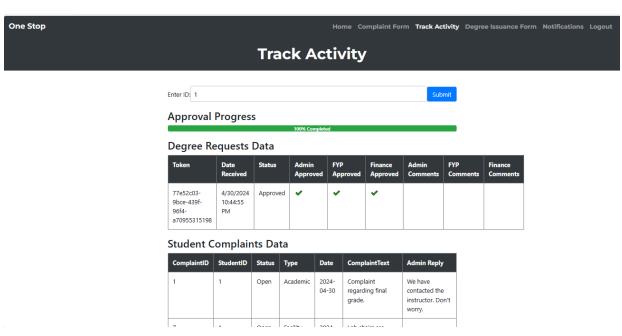


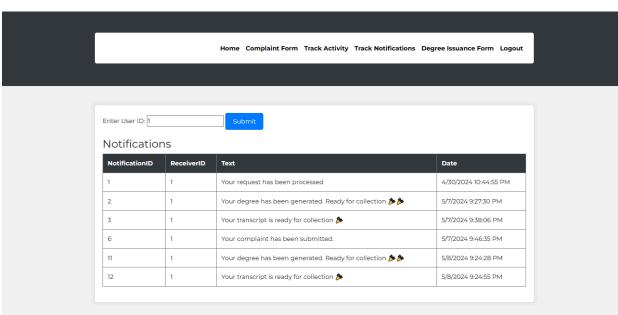


	One Stop	
Home	Complaint Form	
Complaint Form	Name: Enter your name	
Degree Issuance Form	Roll No:	
Track Activity	Enter your roll number Date:	
Notifications	Enter the date	
Logout	Complaint Type:	
	Technical/Academic/Facility Complaint:	
	Enter your complaint	
	Submit	







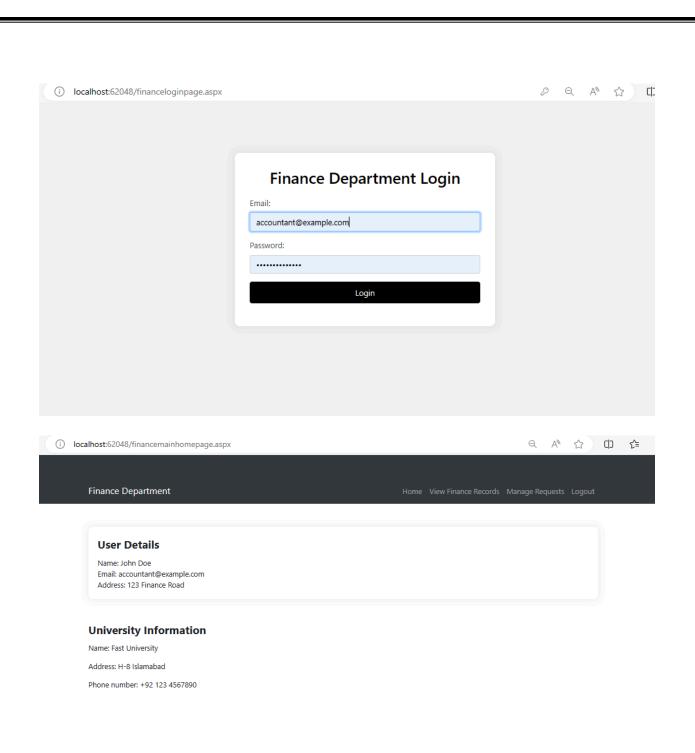


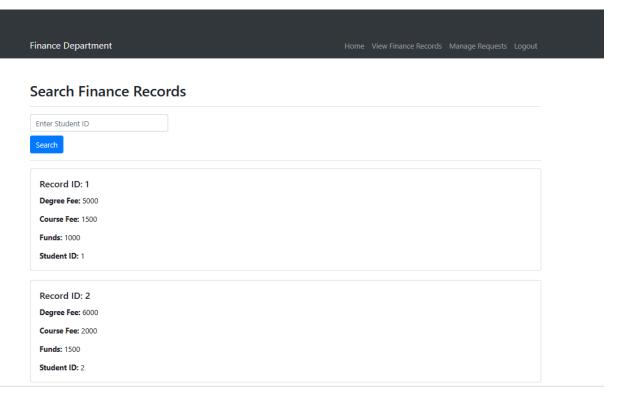
Degree Issuance System

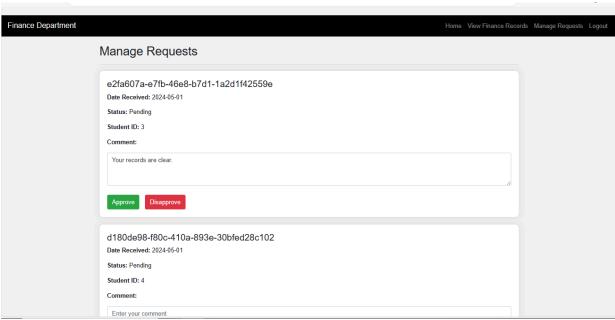
Director Login

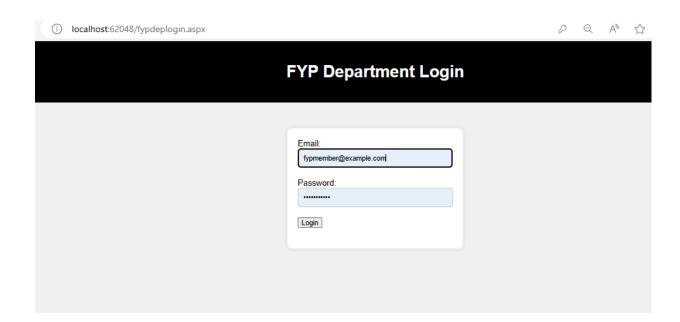


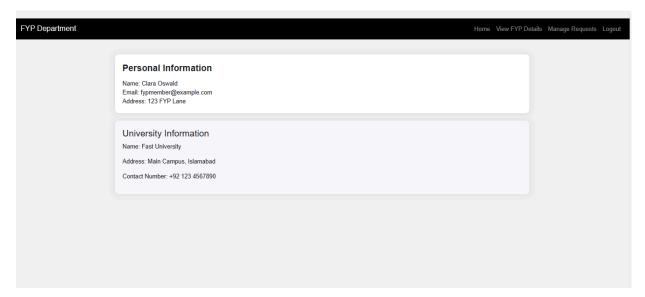
	One Stop							
Home	Monitor Requests							
Monitor Requests								
Generate Request	Token	Date Received	Status	Admin Approved	FYP Approved	Finance Approved		
Report	e2fa607a-e7fb-46e8-b7d1-1a2d1f42559e	5/1/2024 11:43:04 AM	Pending	Awaiting	✓	✓		
Logout	d180de98-f80c-410a-893e- 30bfed28c102	5/1/2024 11:43:04 AM	Pending	Awaiting	Awaiting	Awaiting		
	c396856d-4015-416b-8ba0- 7e2329b7ca08	5/1/2024 11:52:32 AM	Pending	~	Awaiting	Awaiting		
	33ea0a1d-9c6a-4539-8a2c- 7e446ae42b80	5/1/2024 11:52:32 AM	Rejected	•	~	Awaiting		
	1cb903f6-8188-40ed-8563- 974df001313a	5/1/2024 11:43:04 AM	Pending	Awaiting	Awaiting	Awaiting		
	77e52c03-9bce-439f-96f4- a70955315198	4/30/2024 10:44:55 PM	Approved	~	~	~		
	623df992-6c14-4fe2-bf2f-afcbe9ffca84	5/1/2024 11:52:32 AM	Pending	Awaiting	Awaiting	Awaiting		
	40aa5239-990d-4255-8766-	5/7/2024 12:00:00 AM	Pending	Awaiting	~	✓		

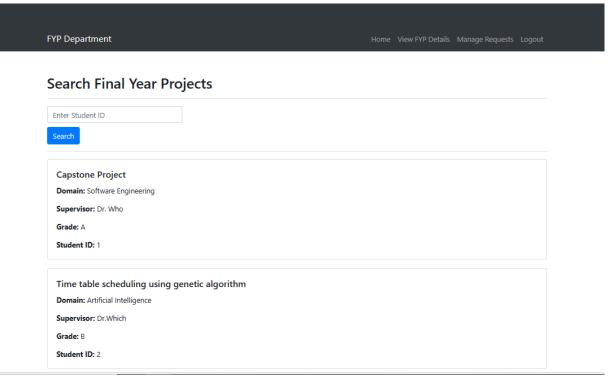


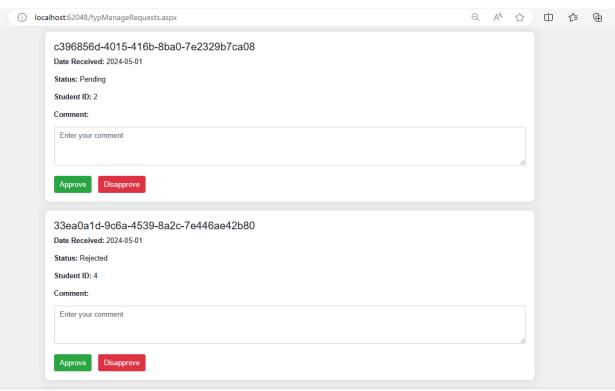












Equivalent Class Partitions:

User Story ID	Input Field	Valid Class	Invalid Class	Test Cases for Weak Equivalenc e	Test Cases for Strong Equivalenc e	Boundary Values
1	Admin Login	Valid email with @ . and valid password of length > 0	Invalid email without @ and password of length <=0	1 valid, 1 invalid login	2 valid, 2 invalid logins	Email must contain @. and Password must not be empty.
1	Dashboard Access	Dashboard loads	Dashboard fails to load.	1 valid, 1 invalid access	2 valid, 2 invalid accesses	Max number of users should be 1.
2	New Student Request/Compla int	Request/Complai nt logged	Request/Complai nt failed	1 valid, 1 invalid entry	2 valid, 2 invalid entries	Unique ID of Student is the boundary value and should be accepted
2	Token Generation	Token generated	Token not generated	1 valid, 1 invalid generation	2 valid, 2 invalid generations	All tokens should be unique.
3	Student Request Access	Access granted to Admin	Access denied to admin	1 valid, 1 invalid access	2 valid, 2 invalid accesses	Zero, one, and maximum requests handled

	3	View Request Details	Details displayed	Details not displayed	1 valid, 1 invalid view	2 valid, 2 invalid views	Viewing limits when multiple requests
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Story ID	Field Description	Equivalent Class Partition	Invalid Class Partition	Boundary Values	Test Cases for Weak Equivalence	Test Cases for Strong Equivalence
5	Digital Degree Certificate Issuance	Certificate generated and saved.	Certificate not generated or saved.	Certificate ID boundary at max value	1 valid, 1 invalid	2 valid, 2 invalid
5	Update Status	Status updated to 'closed'	Status not updated or incorrectly updated	Status update timing. (immediate)	1 valid, 1 invalid	2 valid, 2 invalid
6	Access Academic Records	Records accessible with valid student ID	Records not accessible with invalid ID	Student ID numeric limits	1 valid, 1 invalid	2 valid, 2 invalid
6	Update Academic Records	Correct update reflected in records	Incorrect update or update fails	Field length for course names	1 valid, 1 invalid	2 valid, 2 invalid

7	Generate Transcript	Transcript compiled and formatted correctly	Transcript missing data or incorrectly formatted	Number of records (from few to many)	1 valid, 1 invalid	2 valid, 2 invalid
7	Issue Transcript	Transcript saved and notification sent to student.	Transcript not sent or sent to wrong student	Transcript ID boundary at max value.	1 valid, 1 invalid	2 valid, 2 invalid
8	View Objection	Objection details correctly displayed	Objection details incorrect or not displayed	Number of objections (1 to many)	1 valid, 1 invalid	2 valid, 2 invalid
8	Alert Notification	Alert sent to student	Alert not sent or details incorrect	Alert priority settings	1 valid, 1 invalid	2 valid, 2 invalid
9	Verify Student Profile.	Profile verified, all checks passed	Verification fails, data mismatch	Student record count (zero, many)	1 valid, 1 invalid	2 valid, 2 invalid
11	Generate Reports	Report generated with current data	Report outdated or fails to generate	Data range (current month, year)	1 valid, 1 invalid	2 valid, 2 invalid

Story ID	Field Description	Equivalent Class Partition	Invalid Class Partition	Boundary Values	Test Cases for Weak Equivalence	Test Cases for Strong Equivalence
14	Activity Tracking	Correctly displays activity states: pending, processing, delivered	States not displayed or incorrect	Status change instantaneity	1 valid, 1 invalid	2 valid, 2 invalid
15	Degree Issuance Notification	Notification received with correct collection/deliver y instructions	No notification or incorrect instructions	Timing of notification after status change	1 valid, 1 invalid	2 valid, 2 invalid
17	Degree Issuance Decision Making	Correct decision recorded (accept, reject, object) and comments saved	Decision not recorded or saved incorrectly	Number of simultaneous decisions	1 valid, 1 invalid	2 valid, 2 invalid
18	Time Tracking for Degree Issuance	Timestamps correctly logged for receiving and decision-making	Incorrect or missing timestamps	Accuracy of timestamps.	1 valid, 1 invalid	2 valid, 2 invalid
19	Request Details Reviewing	All details and comments correctly visible	Details missing or incorrectly displayed	Number of details visible per request	1 valid, 1 invalid	2 valid, 2 invalid

20	Collaboration with Finance Department	Correct financial records accessible.	Access issues or outdated financial records	Real-time access of financial records	1 valid, 1 invalid	2 valid, 2 invalid
21	Notification Center for Degree Issuance	All notifications for degree issuance requests correctly displayed	Notifications missing or incorrect	Search by student id	1 valid, 1 invalid	2 valid, 2 invalid
22	Roll Number Search for Financial Records	Correct financial records retrieved through roll number search	Incorrect records or failure to retrieve	Unique valid roll number	1 valid, 1 invalid	2 valid, 2 invalid
24	Comment Functionality for Student Eligibility	Comments correctly added and visible to students	Comments not added or visible	Button clicked for submitting comments.	1 valid, 1 invalid	2 valid, 2 invalid
26	Request Monitoring Director Dashboard	All requests of the day correctly displayed with details	Requests not displayed or missing details	Number of requests displayed at once	1 valid, 1 invalid	2 valid, 2 invalid

Product Review:

- The product can be improved by using advanced technologies like React or other libraries for GUI. This can make the UI more enhanced and divided into multiple components for reusability and easy debugging.
- The layers of the layered architecture product can be increased to improve security and management of the system.