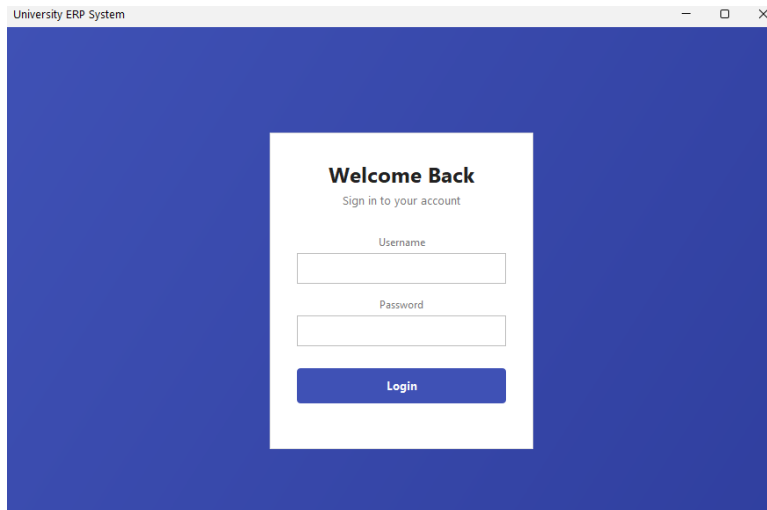
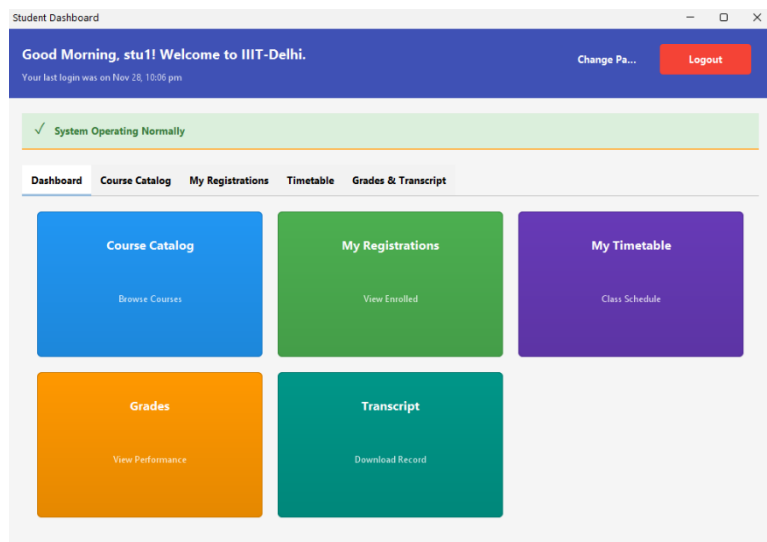


Short Report

These are some of the screenshots of how our ERP project works:



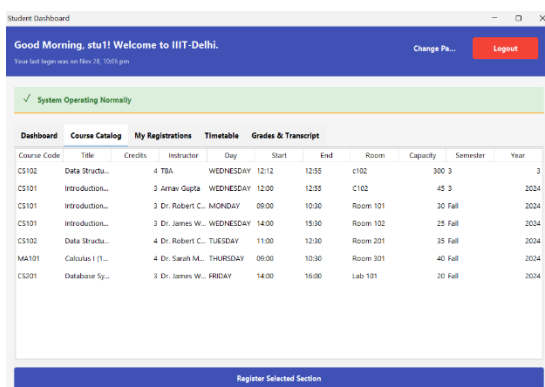
This is the login page



This is the student dashboard

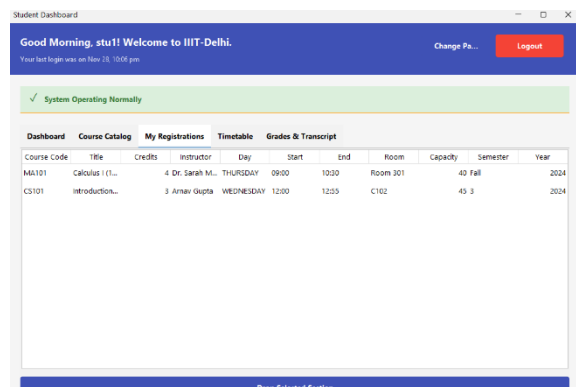
and some more screenshots..

Course Catalog



| Course Code | Title | Credits | Instructor | Day | Start | End | Room | Capacity | Semester | Year |
|-------------|------------------|---------|---------------|-----------|-------|-------|----------|----------|----------|------|
| CS102 | Data Struc... | 4 | TBA | WEDNESDAY | 12:12 | 12:55 | C102 | 300 | 3 | |
| CS101 | Introduction... | 3 | Arnav Gupta | WEDNESDAY | 12:00 | 12:55 | C102 | 45 | 3 | 2024 |
| CS101 | Introduction... | 3 | Dr. Robert C. | MONDAY | 09:00 | 10:30 | Room 101 | 20 | Fall | 2024 |
| CS101 | Introduction... | 3 | Dr. James W. | WEDNESDAY | 14:00 | 15:30 | Room 102 | 25 | Fall | 2024 |
| CS102 | Data Struc... | 4 | Dr. Robert C. | TUESDAY | 11:00 | 12:30 | Room 201 | 35 | Fall | 2024 |
| MA101 | Calculus I (I... | 4 | Dr. Sarah M. | THURSDAY | 09:00 | 10:30 | Room 301 | 40 | Fall | 2024 |
| CS201 | Database Sy... | 3 | Dr. James W. | FRIDAY | 14:00 | 16:00 | Lab 101 | 20 | Fall | 2024 |

My registration



| Course Code | Title | Credits | Instructor | Day | Start | End | Room | Capacity | Semester | Year |
|-------------|------------------|---------|--------------|-----------|-------|-------|----------|----------|----------|------|
| MA101 | Calculus I (I... | 4 | Dr. Sarah M. | THURSDAY | 09:00 | 10:30 | Room 301 | 40 | Fall | 2024 |
| CS101 | Introduction... | 3 | Arnav Gupta | WEDNESDAY | 12:00 | 12:55 | C102 | 45 | 3 | 2024 |

Student Dashboard

Good Morning, stu1! Welcome to IIIT-Delhi.

Your last login was on Nov 28, 10:06 pm

Change Pa...Logout

✓ System Operating Normally

DashboardCourse CatalogMy RegistrationsTimetableGrades & Transcript

| Course Code | Title | Component | Score | Final % | Letter |
|-------------|----------------------------|-------------|-------|---------|--------|
| CS101 | Introduction to Program... | Quiz 1 | 45.0 | | |
| CS101 | Introduction to Program... | Quiz 2 | 60.0 | | |
| CS101 | Introduction to Program... | Midsem | 39.0 | | |
| CS101 | Introduction to Program... | Endsem | 42.0 | | |
| CS101 | Introduction to Program... | Final Grade | 44.4 | 44.4 | F |

Download Transcript (CSV)

Instructor Dashboard

Instructor Dashboard - Dr.arnav

Manage your sections and student grades

Change Pa...Logout

✓ System Operating Normally

My Sections

Section 9 • 3 2024

| Roll Number | Quiz 1 (20.0%) [1/100] | Quiz 2 (15.0%) [1/100] | Midsem (30.0%) [1/100] | Endsem (35.0%) [1/100] | Final % | Letter |
|-------------|------------------------|------------------------|------------------------|------------------------|---------|--------|
| CS2024001 | 45 | 60 | 39 | 42 | 44.4 | F |

RefreshSave Select...Compute F...View Stats

Instructor Dashboard

Instructor Dashboard - Dr.arnav

Manage your sections and student grades

Change Pa...Logout

✓ System Operating Normally

My Sections

Section 9 • 3 2024

| Roll Number | Quiz 1 (20.0%) [1/100] | Quiz 2 (15.0%) [1/100] | Midsem (30.0%) [1/100] | Endsem (35.0%) [1/100] | Final % | Letter |
|-------------|------------------------|------------------------|------------------------|------------------------|---------|--------|
| CS2024001 | 45 | 60 | 39 | 42 | 44.4 | F |

InformationGrades saved.

RefreshSave Select...Compute F...View Stats

Instructor Dashboard

Instructor Dashboard - Dr.arnav

Manage your sections and student grades

Change Pa...Logout

✓ System Operating Normally

My Sections

Section 9 • 3 2024

| Roll Number | Quiz 1 (20.0%) [1/100] | Quiz 2 (15.0%) [1/100] | Midsem (30.0%) [1/100] | Endsem (35.0%) [1/100] | Final % | Letter |
|-------------|------------------------|------------------------|------------------------|------------------------|---------|--------|
| CS2024001 | 45 | 60 | 39 | 42 | 44.4 | F |

InformationEnrolled: 1
Average: 44.40
Highest: 44.40
Lowest: 44.40

RefreshSave Select...Compute F...View Stats

Instructor Dashboard

Instructor Dashboard - Dr.arnav

Manage your sections and student grades

Change Pa...Logout

✓ System Operating Normally

My Sections

Section 9 • 3 2024

| Roll Number | Quiz 1 (20.0%) [1/100] | Quiz 2 (15.0%) [1/100] | Midsem (30.0%) [1/100] | Endsem (35.0%) [1/100] | Final % | Letter |
|-------------|------------------------|------------------------|------------------------|------------------------|---------|--------|
| CS2024001 | 45 | 60 | 39 | 42 | 44.4 | F |

InformationFinal grades computed.

RefreshSave Select...Compute F...View Stats

Admin Dashboard - admin1

Administrator Dashboard - admin1

Manage users, courses, sections and system settings

Change Pa...Logout

✓ System Operating Normally

UsersCoursesSectionsMaintenanceBackup/Restore

Create Bac...Restore Sel...Delete Sel...Refresh List

| Backup Name | Created |
|--------------------------|-------------------|
| backup_2025-11-28_213907 | 2025-11-28 213907 |

Backup/Restore Information

- Backups save all data files (courses, sections, enrollments, grades, users)
- Restore will overwrite current data with backup data
- Create backups before major data changes
- Backups are stored in the 'backups' folder

- **Final-Grade Weighting Rule**

Each section uses four fixed assessment components:

- Quiz 1 – 20%
- Quiz 2 – 15%
- Mid-Sem – 30%
- End-Sem – 35%

Instructors enter scores per component; the system enforces that weights total 100% and computes each student's final percentage with

$$\text{Final} = (\text{Quiz1} \times 0.20) + (\text{Quiz2} \times 0.15) + (\text{MidSem} \times 0.30) + (\text{EndSem} \times 0.35).$$

Final percentages are translated to letter grades (A/B/C/D/F) and stored in `final_grades` for transcript/timetable displays.

- **Role & Maintenance Enforcement**

i) `DefaultAccessControlService` guards all service calls: `requireRole/requireRoleIn` restrict actions to `Admin/Instructor/Student` as appropriate; `requireOwnership` ensures students modify only their own records.

ii) Maintenance state lives in `maintenance_settings`. Admin toggles it via the dashboard, which updates the DB and a shared in-memory flag.

iii) `requireMaintenanceOff` blocks student/instructor write attempts when maintenance is ON, and the UI shows a red banner notifying read-only mode. Admin operations bypass this check so maintenance tasks can proceed.

- **Database Tables**

- **Auth DB (univ_auth_db)**

- auth_users: user_id (PK), username, role, password_hash, active, last_login.
- auth_login_attempts: attempt_id (PK), username FK, attempt_time, success.
- auth_password_history: history_id (PK), user_id FK, old_hash, changed_at.

- **ERP DB (univ_erp_db)**

- students: user_id (PK, FK → auth_users), roll_no, program, year.
- instructors: user_id (PK, FK → auth_users), name, department, title.
- courses: course_id (PK), code, title, credits.
- sections: section_id (PK), course_id FK, instructor_id FK, day, start/end time, room, capacity, semester, year.
- enrollments: enrollment_id (PK), student_id FK, section_id FK, status.
- assessments: assessment_id (PK), section_id FK, name, weight.
- grade_entries: entry_id (PK), enrollment_id FK, assessment_id FK, score.
- final_grades: grade_id (PK), enrollment_id FK, final_percentage, letter_grade.
- maintenance_settings: setting_key (PK), setting_value.

- **Extras Added**

- Login screen shows real-time failed-attempt warnings (bonus security visibility).
- Admin “Sections” tab redesigned with four-button toolbar plus modal dialog for section creation.
- Student dashboard supports transcript download (CSV) with format prompt.
- In-memory mode persists instructor and section data to data/ files so admin changes survive restarts without MySQL.
- Modern UI polish: FlatLaf theme, notification toasts, dashboard cards, shared [UIColors](#) palette for consistent styling.