



IT314: Software Engineering Group-33

Lab-3: Task-3

GROUP MEMBERS:

ID	Name
202201470	Priyank Asodariya
202201471	Dhwani Joshi
202201472	Kaushik Prajapati
202201475	Krutarth Kadia
202201476	Parv Patel
202201483	Neel Tandel
202201501	Jish Chanchapra
202201524	Yash Rathod
202201525	Heer Shah
202201527	Zenil Rupareliya

Online Learning Portal : LearnIt

Task 3:

- Develop Sprints from the Product Backlog.
- Specify your sprint details with an estimated timeline for development (use FP or OP for the estimation).
- Estimate how many sprints you can develop in your course project.

SPRINTS:

Sprint 1: Setup and Basic User Authentication (Week 1: Sept 15 - Sept 25)

Objectives:

- Set up the project structure (frontend and backend).
- Implement user registration and login/logout functionality.
- Ensure basic security (password hashing, encrypted connections).

Deliverables:

- Basic project structure with authentication flow complete.

Component Type	Description	Count	Weight	Total FP
ILF	User Profiles Data	1	10	10
EIF	Global State Table	1	7	7
EI	User Registration Form, Login Form	2	4	8
EO	Registration Confirmation, Logout Confirmation	2	5	10
EQ	Registration and Login Verification Query	2	4	8
Total unadjusted FPs				43 FPs

User Stories to Consider:

1. As an unregistered user i want to register to the platform so that i can take courses / i can create courses.
2. As a registered user I want to login to the platform so that I can take courses or I can create courses.
3. As a system administrator, I want to securely store and view login credentials so that I can authenticate users.
4. As an admin, I want to manage user accounts so that I can maintain the integrity and security of the platform.

Sprint 2: Profile Management (Week 2: Sept 26 - oct 6) - 2 weeks

Objectives:

- Implement "Update Profile Details" functionality.
- Create "View Profile" functionality for all roles.
- Ensure data validation and error handling for profile updates.

Deliverables:

- Functional user profiles with update and view capabilities.

Component Type	Description	Count	Weight	Total FP
ILF	User Profile Data	1	10	10
EIF	Roles Data	1	7	7
EI	Update Profile Input Form	1	4	4
EO	Profile View	1	5	5
EQ	Query Profile Data for Display and Update Validation	2	4	8
Total unadjusted FPs				34 FPs

User Stories to Consider:

1. As a user I want to update my profile page so that my profile has up-to-date information.
2. As a registered user I want to login to the platform so that I can take courses or I can create courses.
3. As a Student, I want my personalized dashboard so that I can see my progress and upcoming live lecture and quiz.

Sprint 3: Course Management (Week 3: Oct 07 - Oct27)

Objectives:

- Implement course creation and management by instructors.
- Develop functionality for course previews, and filtering.
- Ensure course approval and moderation by admin.

Deliverables:

- Functional course management features including previews and filtering.

Component Type	Description	Count	Weight	Total Fp
ILF	Course Data	1	10	10
EIF	Course Catalog	1	7	7
EI	Course Creation Form, Course Filtering Form, Roadmap Input	3	4	12
EO	Course Preview, Search Results, Roadmap Results	3	5	15
EQ	Course Approval Query, Roadmap Query	2	4	8
Total unadjusted FPs				52 FPs

User Stories to Consider:

1. As a user I want to search and filter courses so that I can see available courses of my preference.
2. As a user I want to preview a course and watch demo lectures of a course before purchasing a course so that I can make better decisions for a course to take or not to take.
3. As an instructor, I want to create a course so that I can share my knowledge with learners.
4. As an instructor, I want a dashboard so that I can efficiently manage all course-related details from one place.
5. As an instructor, I want to collaborate with other instructors to develop courses together.
6. As an instructor, I want to be able to set pricing and discounts on my offered course so that more students will enroll.
7. As a user I want a roadmap for a particular goal so that I can choose the order of courses to take to achieve my goal.

Sprint 4: Learning Tools (Week 4: Oct 21 - Oct 5)

Objectives:

- Implement course materials upload and quizzes.
- Develop functionalities for live lectures and discussion forums.
- Ensure students can access materials and quizzes.

Deliverables:

- Functional tools for uploading course materials, quizzes, and live lectures.

Component Type	Description	Count	Weight	Total Fp
ILF	Course Materials	1	10	10
EIF	Global Course Materials Summary	1	7	7
EI	Upload Materials Form, Quiz Creation Form	2	4	8
EO	Quiz Access, Material Download	2	5	10
EQ	Quiz Grading Query, Discussion Query	2	4	8
Total unadjusted FPs				43 FPs

User Stories to Consider:

1. As an instructor I want to upload videos to my course so that students can access it remotely.
2. As an instructor I want to take live lectures so that students can learn interactively.
3. As an instructor, I want to be able to upload course materials so that students can revise it.
4. As an instructor, I want to create a quiz so that students can evaluate their progress.
5. As a student, I want to download course materials of enrolled courses, so that I can access them offline.
6. As a user, I want to participate in discussion forums so that I can interact with other students and the course instructor to solve my doubts about the course content.
7. As a system, I want to grade quizzes, so that students can see their scores and understand their performance.

Sprint 5: User Engagement and Support (Week 5: Oct 6 - Oct 12)

Objectives:

- Implement user engagement features like bookmarks and watchlists.
- Develop support features for customer service and notifications.
- Ensure feedback mechanisms and collaboration tools are in place.

Deliverables:

- Features for user engagement, support, and feedback integrated.

Component Type	Description	Count	Weight	Total Fp
ILF	User Engagement Data	1	10	10
EIF	Global User Engagement Summary	1	7	7
EI	Bookmark, Watchlist Management	2	4	8
EO	Feedback Submission, Customer Support Access	2	5	10
EQ	Notification System Query	1	4	4
Total unadjusted FPs				39 FPs

User Stories to Consider:

1. As a student, I want to bookmark a course or course materials, so that I can access them easily.
2. As a student, I want to see my past history, so that I can resume my lecture progress.
3. As a student, I want to view the course leaderboard, so that I can understand my ranking and performance compared to my peers.
4. As a student, I want to review and rate a course after I complete it, So that I can share feedback and help future students make decisions.
5. As a user, I want customer support, so that I can resolve my technical queries with this feature.
6. As a system, I want to send notifications about their courses/enroll courses to users so that they stay updated about course activities.

Sprint 6: Admin Features and Security (Week 6: Oct 21 - Oct 19)

Objectives:

- Implement admin features for managing users and course approvals.
- Develop security features for payment processing and user authentication.
- Ensure the generation of certificates and handling of refunds.

Deliverables:

- Fully functional admin features, secure payment processing, and certificate generation.

Component Type	Description	Count	Weight	Total Fp
ILF	Admin Data Management	1	10	10
EIF	Global Admin Management Summary	1	7	7
EI	User Management Form and Course Approval Form	2	4	8
EO	Certificate Generation and Payment Handling	2	5	10
EQ	Admin Authentication Query	1	4	4
Total unadjusted FPs				39 FPs

User Stories to Consider:

1. As a system, I want to automatically generate and send certificates to users who completed a course, so that they can have proof of their course completion.
2. As a system, I want to securely handle the payment process of course purchases, so that users can complete their payment safely.
3. As a system, I can assign badges to the users based on their performances, consistency, and achievements.
4. As an admin I want to verify course content so that no inappropriate content is uploaded.
5. As an admin, I want to be able to receive customer queries so that I can help them to resolve.
6. As an admin, I want to approve or reject course submissions so that only quality and appropriate content is available on the platform.
7. As an admin, I want to handle payments and process refunds so that financial transactions are managed accurately.

Complexity Adjustment Factor Calculation

Sr. No.	Complexity Factor - Fi	Value Fi
1.	Backup and Recovery	3
2.	Data Communication	3
3.	Distributed Processing	2
4.	Is Performance Critical	4
5.	Existing Operating Environment	3
6.	Online Data Entry	4
7.	Input Transaction Built Over Multiple Screens	4
8.	Master Files Updated On-line	4
9.	Complexity of Inputs, Outputs, Files, Inquiries	4
10.	Complexity of Processing	4
11.	Code Design for Reuse	3
12.	Are Conversion/Installation Included in Design	2
13.	Multiple Installations	2
14.	Application Designed to Facilitate Change by User	3
	Total - $\sum F_i$	44

$$CAF = 0.65 + (0.01) * \sum F_i = 1.09$$

Function Point Formula:

$$FP = UFC * CAF$$

Function Point Calculation for Sprints:

Sprint	Total Factor	CAF	UFP	FP
Sprint 1: Setup and Basic User Authentication	44	1.09	43	46.87
Sprint 2: Profile Management	44	1.09	34	37.06
Sprint 3: Course Management	44	1.09	52	56.68
Sprint 4: Learning Tools	44	1.09	43	46.87
Sprint 5: User Engagement and Support	44	1.09	39	42.51
Sprint 6: Admin Features and Security	44	1.09	39	42.51
Total				272.5