



IT314: Software Engineering Group-33

Lab-3: Task-3

GROUP MEMBERS:

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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 (1 Week : Sept 15 - Sept 21)

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 (1.5 Week : Sept 22 - Oct 02)

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 (1. 5 Week : Oct 03 - Oct 20 - excluding exam week)

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 (2 Weeks : Oct 21 - Nov 05)

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 (1 Week : Nov 06 - Nov 13)

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 (1 Week : Nov 14 - Nov 20)

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 - $\sum Fi$	44

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

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