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

Sprint 1: User Authentication and Document Creation

Objective: Implement core user management and document creation features.

Sprint Details: Implement login/logout, create documents, and reset user passwords.

- **User Authentication (Login/Logout)**
- **Create Document**
- **Reset User Password**

Function Point Calculation:

Unadjusted Function Point Count:

EI:

1. Login Credentials - Simple (3)
2. Create Document - Average (4)
3. Reset Password - Average (4)

EO:

1. Success/Error Messages (Login, Document Creation) - Simple (3)
2. Reset Password Confirmation - Simple (3)

ILF:

1. User Authentication Data - Complex (7)
2. Document Data - Average (7)

UFPC = (3 x 3) + (2 x 3) + (2 x 7) = 39

Cost Adjustment Factor (CAF):

No.	Factor Description	Weight
01.	Backup and Recovery	4
02.	Data Communication	3
03.	Distributed Processing Functions	2
04.	Is Performance Critical?	4
05.	Existing Operating Environment	4
06.	On-line Data Entry	5
07.	Input Transaction built over Multiple Screens	2
08.	Master Files updated On-line	4
09.	Complexity of Inputs, Outputs, Files, Inquiries	3
10.	Complexity of Processing	3
11.	Code Design for Reuse	2
12.	Are Conversion/Installation included in Design?	1
13.	Multiple Installations	1
14.	Application Designed to Facilitate Change by the User	3
TOTAL		**41**

CAF = 0.65 + (0.01 x 41) = 1.06

Adjusted Function Point Count:
AFPC = UFPC x CAF = 39 x 1.06 = 41.34

Estimated Duration: 2 weeks

Sprint 2: Real-Time Collaboration

Objective: Enable real-time communication and conflict resolution.

Sprint Details: Implement collaborative editing and user tracking features.

- **Real-Time Collaboration**
- **Display Active Users**

Function Point Calculation:

Unadjusted Function Point Count:

EI:

1. Collaborative Editing Input - Average (4)
2. Display Active Users Request - Simple (3)

EO:

1. Display Changes in Real-Time - Simple (3)
2. Collaboration Notifications - Simple (3)

ILF:

1. Collaboration Data - Complex (7)

UFPC = (2 x 4) + (2 x 3) + (1 x 7) = 28

Cost Adjustment Factor (CAF):

No.	Factor Description	Weight
01.	Backup and Recovery	3
02.	Data Communication	4
03.	Distributed Processing Functions	3
04.	Is Performance Critical?	4
05.	Existing Operating Environment	4
06.	On-line Data Entry	4
07.	Input Transaction built over Multiple Screens	3
08.	Master Files updated On-line	3
09.	Complexity of Inputs, Outputs, Files, Inquiries	3

No.	Factor Description	Weight
10.	Complexity of Processing	3
11.	Code Design for Reuse	2
12.	Are Conversion/Installation included in Design?	2
13.	Multiple Installations	1
14.	Application Designed to Facilitate Change by the User	3
TOTAL		**40**

CAF = 0.65 + (0.01 x 40) = 1.05

Adjusted Function Point Count:
AFPC = UFPC x CAF = 28 x 1.05 = 29.4

Estimated Duration: 3 weeks

Sprint 3: Document Sharing and Version Control

Objective: Implement document sharing, version history, and text editing features.

Sprint Details: Share documents, track version history, and implement find/replace functionality.

- **Share Document**
- **Document History**
- **Find and Replace Text**

Function Point Calculation:

Unadjusted Function Point Count:

EI:

1. Share Document Request - Average (4)
2. Find Text Request - Average (4)

EO:

1. Document History Display - Average (4)

ILF:

1. Document Data - Complex (7)
2. Version Control Data - Average (7)

UFPC = (2 x 4) + (1 x 4) + (2 x 7) = 34

Cost Adjustment Factor (CAF):

No.	Factor Description	Weight
01.	Backup and Recovery	3
02.	Data Communication	2
03.	Distributed Processing Functions	2
04.	Is Performance Critical?	3
05.	Existing Operating Environment	3
06.	On-line Data Entry	4
07.	Input Transaction built over Multiple Screens	3
08.	Master Files updated On-line	4
09.	Complexity of Inputs, Outputs, Files, Inquiries	4
10.	Complexity of Processing	2
11.	Code Design for Reuse	2
12.	Are Conversion/Installation included in Design?	1
13.	Multiple Installations	1
14.	Application Designed to Facilitate Change by the User	3
TOTAL		**37**

CAF = 0.65 + (0.01 x 37) = 1.02

Adjusted Function Point Count:
AFPC = UFPC x CAF = 34 x 1.02 = 34.68

Estimated Duration: 2 weeks

Sprint 4: User Management and System Monitoring

Objective: Develop admin panel and integrate monitoring tools.

Sprint Details: Allow admins to view profiles, projects, and files.

- **View Profile**
- **See Available Projects**
- **See Available Files**

Function Point Calculation:

Unadjusted Function Point Count:

EI:

1. View Profile Request - Average (4)
2. View Projects Request - Average (4)
3. View Files Request - Average (4)

EO:

1. Display Profile Data - Average (4)
2. Display Projects - Average (4)
3. Display Files - Average (4)

ILF:

1. Profile Data - Average (7)
2. Project Data - Average (7)
3. File Data - Average (7)

UFPC = (3 x 4) + (3 x 4) + (3 x 7) = 51

Cost Adjustment Factor (CAF):

No.	Factor Description	Weight
01.	Backup and Recovery	4
02.	Data Communication	3
03.	Distributed Processing Functions	2

No.	Factor Description	Weight
04.	Is Performance Critical?	3
05.	Existing Operating Environment	4
06.	On-line Data Entry	4
07.	Input Transaction built over Multiple Screens	3
08.	Master Files updated On-line	4
09.	Complexity of Inputs, Outputs, Files, Inquiries	4
10.	Complexity of Processing	3
11.	Code Design for Reuse	2
12.	Are Conversion/Installation included in Design?	2
13.	Multiple Installations	2
14.	Application Designed to Facilitate Change by the User	3
TOTAL		**43**

CAF = 0.65 + (0.01 x 43) = 1.08

Adjusted Function Point Count:
AFPC = UFPC x CAF = 51 x 1.08 = 55.08

Estimated Duration: 2 weeks

Sprint 5: External API Integration and Data Backup

Objective: Implement external API integration and data backup features.

Sprint Details: Enable file import/export and API integration.

- **Import File**
- **Export File**
- **External API Integration**

Function Point Calculation:

Unadjusted Function Point Count:

EI:

1. Import File Request - Average (4)
2. Export File Request - Average (4)
3. External API Integration Request - Average (4)

EO:

1. Import/Export Confirmation - Average (4)
2. API Integration Status - Average (4)

ILF:

1. File Data - Average (7)
2. API Data - Average (7)

UFPC = (3 x 4) + (2 x 4) + (2 x 7) = 42

Cost Adjustment Factor (CAF):

No.	Factor Description	Weight
01.	Backup and Recovery	4
02.	Data Communication	4
03.	Distributed Processing Functions	3
04.	Is Performance Critical?	4
05.	Existing Operating Environment	3
06.	On-line Data Entry	4
07.	Input Transaction built over Multiple Screens	3
08.	Master Files updated On-line	4
09.	Complexity of Inputs, Outputs, Files, Inquiries	3
10.	Complexity of Processing	3
11.	Code Design for Reuse	2
12.	Are Conversion/Installation included in Design?	2

No.	Factor Description	Weight
13.	Multiple Installations	2
14.	Application Designed to Facilitate Change by the User	3
TOTAL		**44**

CAF = 0.65 + (0.01 x 44) = 1.09

Adjusted Function Point Count:
AFPC = UFPC x CAF = 42 x 1.09 = 45.78

Estimated Duration: 2 weeks

Sprint 6: User Activity Notifications, UI Improvements, and Final Testing

Objective: Implement notifications, improve UI, and perform final testing.

Sprint Details: Implement notification system, improve UI, and finalize testing.

- **User Activity Notifications**
- **User-Friendly Interface**
- **Add Images to Documents**
- **Chat with Colleagues**

Function Point Calculation:

Unadjusted Function Point Count:

EI:

1. Notification Trigger - Average (4)
2. UI Update Request - Average (4)
3. Image Upload Request - Average (4)
4. Chat Message Request - Average (4)

EO:

1. Display Notifications - Average (4)

2. Display Uploaded Image - Average (4)
3. Display Chat History - Average (4)

ILF:

1. Notification Data - Average (7)
2. Document Data - Average (7)
3. Chat Data - Average (7)

UFPC = (4 x 4) + (3 x 4) + (3 x 7) = 55

Cost Adjustment Factor (CAF):

No.	Factor Description	Weight
01.	Backup and Recovery	4
02.	Data Communication	4
03.	Distributed Processing Functions	3
04.	Is Performance Critical?	3
05.	Existing Operating Environment	4
06.	On-line Data Entry	5
07.	Input Transaction built over Multiple Screens	3
08.	Master Files updated On-line	4
09.	Complexity of Inputs, Outputs, Files, Inquiries	3
10.	Complexity of Processing	3
11.	Code Design for Reuse	2
12.	Are Conversion/Installation included in Design?	2
13.	Multiple Installations	2
14.	Application Designed to Facilitate Change by the User	3
TOTAL		**45**

CAF = 0.65 + (0.01 x 45) = 1.10

Adjusted Function Point Count:
AFPC = UFPC x CAF = 55 x 1.10 = 60.5

Estimated Duration: 2 weeks

Total Project Estimates:

- **Total Function Points:** 41.34 + 29.4 + 34.68 + 55.08 + 45.78 + 60.5 = **266.78 FP**
- **Total Estimated Duration:** 2 + 3 + 2 + 2 + 2 + 2 = **13 weeks**