Effort Estimation Document – Resource.CS

1. Introduction

This document provides effort estimation for the Resource.CS project using the Function Point Analysis (FPA) method. Resource.CS is a centralized platform for Computer Science students that provides topic-wise curated resources, academic guidelines, and real-time updates on technology events. The estimation includes identifying functional points, adjusting them using system characteristics, and calculating overall effort in terms of hours and person-months.

2. Identifying Functional Points

The system functionalities are classified into five categories: External Inputs (EI), External Outputs (EO), External Inquiries (EQ), Internal Logical Files (ILF), and External Interface Files (EIF).

Function	Type	Complexity	Weight
User Registration	EI	Low	3
User Login	EI	Low	3
Feedback Submission	EI	Average	4
Resource Upload (Admin)	EI	High	6
Event Posting (Admin)	EI	High	6
Registration Confirmation	EO	Low	4
Authentication + Dashboard	EO	Average	5
Resource Retrieval	EO	Average	5
Event Notification	EO	High	7
Feedback	EO	Low	4

Acknowledgment			
Resource Search/Browse	EQ	Average	4
Resource Viewing	EQ	Low	3
Event Filtering	EQ	Average	4
Notification Retrieval	EQ	Average	4
User Database	ILF	Average	10
Resource Database	ILF	Average	10
Event Database	ILF	Average	10
Feedback Database	ILF	Average	10
Email/Notification API	EIF	High	10
Cloud Hosting Service	EIF	Low	3

Unadjusted Functional Points (UFP) = 115

3. General System Characteristics (GSC)

Each characteristic is rated from 0 to 5 based on its impact on the system.

Characteristic	Rating
Data Communications	3
Distributed Data Processing	3
Performance	3
Heavily Used Configuration	2
Transaction Rate	2
Online Data Entry	4
End-User Efficiency	4
Online Update	3

Complex Processing	2
Reusability	3
Installation Ease	2
Operational Ease	3
Multiple Sites	4
Facilitate Change	4

Total GSC = 46

CAF = 0.65 + 0.01 × 46 = 1.11

Adjusted Function Points (AFP) = 115 × 1.11 = 128

4. Effort Estimation

Assuming productivity = 10 hours per FP:
Effort = 128 × 10 = 1280 hours

Normal person-month = 160 hours
1280 ÷ 160 = 8 person-months

For students (36 hours/month):
1280 ÷ 36 ≈ 36 person-months

For a 5-member team:
36 ÷ 5 ≈ 7.2 months at student pace