Project Effort, Cost & Time Estimation Report

(using COCOMO Model)

Members:

1. Amrik Bhadra (202201040021)
2. Essak Dasari (2022010400)
3. Harish Chavankde (0120200177)
4. Raviraj Tekle (202301040010)
5. Omkar Shinde (202201040190)
6. Ankur Dome (202201040191)

Human Resources:

Total Team Size: 6

Role	Count
Frontend Developer	2
Backend Developer	2
ML Model	1
Tester	3

LOC Estimation:

Module	Estimated LOC	Notes/Comments
Frontend (ReactJS, all screens)	4500	Includes course catalog, player, user dashboard
Authentication & User Roles	1000	Login, signup, role-based access control
Course Management (Add/View/Edit)	1200	Admin panel to manage courses, modules, lessons
Interactive Learning Module	1500	Interactive quizzes, exercises, progress tracking
ML Model Integration (recommendation, personalization)	1800	Model code + integration APIs
Payment & Subscription Handling	900	Payment gateway integration, subscription plans
Email Notifications & Alerts	700	Confirmation emails, reminders
Reporting & Analytics Dashboard	900	Usage stats, progress reports

Backend API Layer (Node.js/Express)	1000	RESTful APIs for frontend and ML integration
Testing (unit, API, integration)	1000	Tests covering all layers
Total	**13,600**	

Project Type:

Semi-Detached

a = 3.0, b = 1.12, c = 2.5, d = 0.35

Effort (Person-Months):

$E = a * (KLOC)^b = 3.0 * (13.6)^{1.12} = 3.0 * 1.74$ = **55.81 Persons – Month**

Development Time (Months) :

$D = C * (E)^d = 2.5 * (55.81)^{0.35} = 2.5 * 3.96$ = **10.21 Months**

Cost Estimation:

Role	Cost / Month (INR)	Count	Total Cost
Frontend Developer	20,000	2	40,000
Backend Developer	20,000	2	40,000
ML Developer	25,000	1	25,000
Tester	15,000	3	45,000
Monthly Total	---	---	1,50,000