**Project Planning Phase**

**Project Planning and Scheduling**

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| --- | --- |
| Date | 28 June 2025 |
| Team ID | LTVIP2025TMID36180 |
| Project Name | Personalised learning with generative AI and Lms Integration |
| Maximum Marks | 5 Marks |

**Project planning and scheduling :**

**Phase 1: Discovery & Planning (Week 1–2)**

| **Task** | **Description** | **Duration** | **Dependencies** |
| --- | --- | --- | --- |
| Requirements Gathering | Define features (quizzing, diagnostics, LMS integration, feedback, etc.) | 3 days | None |
| Stakeholder Meetings | Align vision with developers, educators, and AI/ML experts | 2 days | None |
| Technology Stack Finalization | Choose tools: IBM Watsonx, Granite LLM, Pinecone, Google Classroom APIs | 2 days | Requirements defined |
| Project Roadmap | Create sprint structure, release milestones, and team assignments | 3 days | Stack defined |

**🔹 Phase 2: Core System Architecture & Setup (Week 3–4)**

| **Task** | **Description** | **Duration** | **Dependencies** |
| --- | --- | --- | --- |
| Modular Backend Design | Setup microservices for quiz engine, feedback loop, LMS sync | 5 days | Roadmap |
| Database Setup | Deploy Pinecone for vector search, PostgreSQL for transactional data | 3 days | Backend design |
| Auth & User Roles | Implement login, OAuth with Google Classroom | 2 days | Backend setup |

**🔹 Phase 3: AI/ML Model Integration (Week 5–6)**

| **Task** | **Description** | **Duration** | **Dependencies** |
| --- | --- | --- | --- |
| Watsonx Diagnostic Model | Integrate Watsonx for student baseline assessment | 4 days | Auth, DB |
| Granite LLM Quiz Generator | API wrapper for dynamic quiz creation | 3 days | Watsonx integrated |
| Feedback Engine | Use model to assess responses and provide adaptive feedback | 3 days | Quiz engine ready |

**🔹 Phase 4: Google Classroom Sync (Week 7)**

| **Task** | **Description** | **Duration** | **Dependencies** |
| --- | --- | --- | --- |
| API Integration | Connect with Google Classroom for data sync | 3 days | Auth system |
| Course Parsing | Extract class names, topics, assignments | 2 days | API integration |
| Topic Mapping Engine | Map extracted data to quiz generation modules | 2 days | Course data parsed |

**🔹 Phase 5: Frontend Development (Week 8–9)**

| **Task** | **Description** | **Duration** | **Dependencies** |
| --- | --- | --- | --- |
| Student Interface | Dashboard, quiz interface, feedback display | 4 days | Backend endpoints |
| Educator Interface | Real-time performance dashboard, insights, history | 3 days | DB & AI integration |
| Responsive Design | Mobile + desktop compatibility | 3 days | UI complete |

**🔹 Phase 6: Testing & QA (Week 10)**

| **Task** | **Description** | **Duration** | **Dependencies** |
| --- | --- | --- | --- |
| Unit Testing | Validate individual services/modules | 2 days | All dev complete |
| Integration Testing | Ensure smooth interaction between backend, AI, UI | 2 days | All dev complete |
| UAT (User Acceptance) | Test with real educators/students | 2 days | Integration done |

**🔹 Phase 7: Deployment & Feedback Loop (Week 11)**

| **Task** | **Description** | **Duration** | **Dependencies** |
| --- | --- | --- | --- |
| Cloud Deployment | Deploy on AWS/Azure/GCP | 2 days | Testing done |
| Monitoring & Logs | Setup dashboards for logs, metrics, model performance | 1 day | Deployed |
| Feedback Collection | Collect usage feedback to refine | Ongoing | UAT complete |