**Effort and Cost Estimation**

**Dynamic Multivariable Model:**

Where,

E = Effort in person-months or person-years (the amount of time personnel devote to a   
 specific project)

t = Project duration in months or years

B = Productivity Factors

P = Productivity Parameter

As, Value of B= 0.001, and P= 17.3)

Line of Code= 5000(approx..), t=6 months

=18.22 person-month

**Cocomo Method:**

In our System,

SLOC= 5000  
As, ours is an Semi-detached System, Coefficient<Effort Factor>= 3.0, P= 1.12 and T=0.35,  
  
Resource available, ST= 3, Deadline = 6 months,

SLOC= 4952

DM= 6 Month

PM= 18 person-month

ST= 3

To validate the results,

**3.2 Project Scheduling**

**40-20-40 Rule:**  
**Frontend Activities (40%):**

* Design Diagrams
* Selecting architecture of the system
* Design Wireframes
* Selecting features list

**Construction Activities (20%)**

* Implementing the features as per list
* Implementing the architecture
* Implementing the wireframe designs

**Testing and Installation (40%)**

* Unit test
* Integration test
* Regression test
* Smoke test

**Timeline Chart:**

A screenshot of a computer

AI-generated content may be incorrect.

Figure 1: Timeline chart

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**Timeline Chart – Detailed:**

A screenshot of a computer

AI-generated content may be incorrect.

Figure 2: Timeline chart (Detailed)

A screenshot of a computer

AI-generated content may be incorrect.

Figure 2: Timeline chart (Detailed)

*1: EVA analysis reference*

|  |  |  |
| --- | --- | --- |
| Task List | Planned Effort | Actual Effort |
| landing page/Hero Section | 8 | 8 |
| landing page/Showcase | 8 | 9 |
| landing page/Testimonials | 6 | 5 |
| landing page/FAQ | 8 | 10 |
| landing page/Footer | 9 | 10 |
| doctors page/Search | 12 | 14 |
| doctors page/List Section | 12 | 11 |
| doctors page/Cards Section | 12 | 13 |
| doctors page/[Symptoms] | 8 | 6 |
| doctors page/Cards Section | 4 | 3 |
| doctors page/[Clinical Areas] | 15 | 17 |
| doctors page/Featured | 15 | 14 |
| sitters page/Search | 4 | 2 |
| sitters page/List Section | 13 | 12 |
| sitters page/Card Section | 9 | 9 |
| sitters page/[Categories] | 4 | 2 |
| sitters page/Featured | 5 | 7 |
| medicine page/Search | 7 | 9 |
| medicine page/List Section | 4 | 5 |
| lab tests page/Search | 9 |  |
| lab tests page/List Section | 10 |  |
| lab tests page/Card Section | 5 |  |
| lab tests page/[Categories] | 11 |  |
| pricing page/Featured Section | 7 |  |
| checkout page/Details Section | 4 |  |
| Sign Up/Patient. | 13 |  |
| Sign Up/Sitter | 10 |  |
| Sign Up/Doctor | 7 |  |
| Log In | 8 |  |
| Dashboard | 15 |  |
| Navigations | 4 |  |
| [Accessibility] | 14 |  |
| [ Manage Appointments] | 7 |  |
| [Sitter / Companion] | 14 |  |
| [Lab Tests] | 5 |  |
| [Edit Profile] | 7 |  |
| [Documents] | 15 |  |
| [Manage Fees] | 12 |  |
| Dashboard | 4 |  |
| Navigations | 7 |  |
| [Manage Appointments] | 11 |  |
| [Manage Fees] | 4 |  |
| [Availability status] | 12 |  |
| [Edit Profile] | 7 |  |
| Dashboard | 13 |  |
| Navigations | 9 |  |
| [Manage Patients] | 11 |  |
| [Manage Fees] | 14 |  |
| [Availability status] | 11 |  |
| [Edit Profile] | 13 |  |

**Eva Analysis:**

**Risk Table:**

*Table 2: Risk Table*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Risk Title | Category | Probability | Impact 1 – Catastrophic 2 – Critical 3 – Marginal 4 – Negligible | RMMM Plan |
| Data Privacy & Security Breach | DE (Dev Env) | 20% | 1 | **Monitoring:** Regular penetration testing and log monitoring.  **Management:** SIEM (Security Information and event management)tools - Datadog, SentinelOne **Mitigation:** Security training for developers (SOC-analyst), multi-factor authentication, automated security patches. |
| System Downtime / Server Failure | DE | 50% | 2 | **Monitoring:** Uptime monitoring tools (e.g., Prometheus, Grafana).  **Management:** Implement load balancers, cloud auto-scaling.  **Mitigation:** Disaster recovery plan. |
| Accessibility Features Failure (Live Transcription / Voice Assistant) | BU - Business Impact | 40% | 2 | **Monitoring:** Continuous QA testing with real users (hearing/visually impaired).  **Management:** Fallback text chat option.  **Mitigation:** Integrate reliable APIs (Google Speech-to-Text, Azure Cognitive Services), redundancy testing. |
| Conflict with healthcare laws | BU | 20% | 1 | **Monitoring:** Periodic audits with legal/compliance teams. **Management:** Ensure compliance with local healthcare regulations.  **Mitigation:** Early consultation with regulatory authorities, maintain updated compliance checklist. |
| Integration Issues with Third-Party APIs (Payment, Live Transcription, Lab Results) | DE | 50% | 3 | **Monitoring:** API health checks and alert systems.  **Management:** Mock services during dev/test.  **Mitigation:** Define fallback mechanisms, maintain updated documentation, switchable providers. |
| Scalability Challenges with Growing Users | PS | 70% | 3 | **Monitoring:** Track performance metrics under load tests.  **Management:** Use microservices, horizontal scaling.  **Mitigation:** Optimize database queries, implement caching layers, stress testing before releases. |
| User Trust & Adoption Risk (Fake Reviews, Low Engagement) | BU | 50% | 3 | **Monitoring:** Monitor review system and flag suspicious activity.  **Management:** Verification for patients/doctors.  **Mitigation:** Transparency in reviews, incentivize genuine feedback, community moderation. |
| Payment & Transaction Failures | TE | 20% | 2 | **Monitoring:** Real-time transaction logging and alerts.  **Management:** Multiple payment gateways.  **Mitigation:** Automatic retries, session persistence on failed payments, 24/7 support for billing issues. |
| Data Loss (Prescriptions, Test Reports, Appointment Records) | DE | 20% | 1 | **Monitoring:** Automated database backup monitoring.  **Management:** Use cloud storage  **Mitigation:** Regular snapshot backups, disaster recovery testing, encryption with checksum validation. |
| Companion / Sitter Reliability Issues | TE | 10% | 3 | **Monitoring:** Ratings, reviews, and background verification.  **Management:** Set sitter verification process.  **Mitigation:** Provide sitter replacement guarantees, maintain sitter performance analytics. |
| Staffing shortage | ST | 20% | 3 | **Monitoring:** Daily scrum meetings with attendance Management: Set daily task Mitigation: Provide more staffs with proper experience |