
SOEN6841: Software Project Management

Winter 2025

# BUDGETING

FOR

# AI-DRIVEN HEALTH MONITORING APP

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Submitted to:

JOUMANA DARGHAM

## Team Information


| Student Name | Student ID |
|---|---|
| Jayanth Apagundi | 40291184 |
| Priyadarshine Kumar | 40293041 |
| Swathi Priya Pasumarthy | 40322468 |
| Jayasurya Pazhani | 40289512 |

# 7. Budgeting

## Objective

The budget estimation for the **AI-Driven Health Monitoring App** follows a **bottom-up approach**, ensuring accuracy and transparency in financial planning. This approach involves breaking down the project into individual components, estimating costs at a granular level, and aggregating them to determine the overall budget. This method helps capture all necessary expenses while preventing budget overruns.

### Approach to Estimation

1. **Detailed Task Analysis** – Identifying all key tasks, including development, AI model training, cloud services, UI/UX design, security, and compliance.
2. **Resource Identification** – Estimating personnel costs (developers, AI engineers, testers), technology investments (software licenses, cloud hosting), and operational costs (security, maintenance, and compliance).
3. **Market Research** – Conducting research on current industry standards, vendor pricing, and cloud service rates to ensure realistic cost estimations.
4. **Historical Data Analysis** – Reviewing past AI-driven healthcare application projects to benchmark costs and predict financial risks.
5. **Expert Consultation** – Engaging with AI specialists, software developers, and project managers to refine cost projections and identify potential savings.

## Detailed Budget Breakdown

| Budget Category | Subcategories | Estimated Cost |
|---|---|---|
| **Development** | Frontend, Backend, Database, API Development | $50,000 |
| **AI Model Training** | Data Collection, Model Development, Testing | $30,000 |
| **Cloud & Infrastructure** | AWS, Google Cloud, Storage, Load Balancing | $15,000 |

| | | |
|---|---|---|
| **Security & Compliance** | GDPR/HIPAA Compliance, Encryption, Audits | $10,000 |
| **Marketing & Outreach** | Advertisements, Social Media, User Acquisition | $6,000 |
| **Maintenance & Support** | Server Costs, Bug Fixes, Feature Updates | $10,000/year |
| **Total Estimated Budget** | | **$121,000** |

## Human Resource Cost Estimation

The human resource costs cover salaries for essential team members responsible for developing, testing, and maintaining the application. The costs are estimated based on industry standards and reflect competitive wages for experienced professionals in AI, software development, and project management.

| Role | Number of People | Cost per Person | Estimated Cost |
|---|---|---|---|
| **Backend Developers** | 2 | $9,000 | $18,000 |
| **Frontend Developers** | 2 | $8,000 | $16,000 |
| **AI Engineers** | 2 | $10,000 | $20,000 |
| **Data Scientists** | 1 | $10,000 | $10,000 |
| **ML Engineers** | 1 | $11,000 | $11,000 |
| **QA Engineers** | 2 | $5,000 | $10,000 |
| **Project Manager** | 1 | $15,000 | $15,000 |
| **Total Human Resource Cost** | - | - | $100,000 |

## Technology Costs

Technology costs cover the essential software, hardware, and cloud infrastructure required to develop and maintain the application.

| Category | Description | Estimated Cost |
|---|---|---|
| **Software Development Tools** | IDEs, version control | $4,000 |
| **AI Frameworks** | TensorFlow, PyTorch, model training libraries | $5,000 |
| **Cloud Hosting** | AWS, Google Cloud for app hosting | $3,000 |
| **Data Processing** | Large dataset processing, model computation | $3,000 |
| **Total Technology Cost** | - | **$15,000** |

## Development and Operational Costs

These costs cover essential aspects of system integration, security measures, and accessibility features.

| Category | Description | Estimated Cost |
|---|---|---|
| **UI/UX Design** | Prototyping and design tools | $2,000 |
| **LMS Integration** | Integration with learning management systems | $3,000 |
| **Security & Compliance** | Data privacy measures, legal audits | $3,000 |

| | | |
|---|---|---|
| **User Accessibility Tools** | Assistive technology integration | $2,000 |
| **Total Operational Cost** | - | **$10,000** |

## Marketing and Stakeholder Engagement

This section includes costs for product promotion, outreach campaigns, and pilot testing to ensure user adoption and stakeholder engagement.

| **Category** | **Description** | **Estimated Cost** |
|---|---|---|
| **Workshops & Presentations** | Engagement activities | $3,000 |
| **Pilot Program Implementation** | Beta testing with real users | $3,000 |
| **Total Marketing Cost** | - | **$6,000** |

## Contingency Budget

The contingency budget accounts for unexpected financial requirements, ensuring the project remains on track despite unforeseen challenges. The contingency rate is set at **10% of the total estimated budget**, based on project complexity, potential technological challenges, and historical cost variations in AI projects.

| **Risk Factor** | **Estimated Cost Allocation** |
|---|---|
| **AI Model Retraining** | $5,000 |
| **Unexpected Compliance Costs** | $3,000 |
| **Infrastructure Scaling** | $5,000 |
| **Additional Security Enhancements** | $3,000 |

| Total Contingency Budget | $16,000 |
|---|---|

## Justification of Contingency Budget

- **AI Model Retraining:** Periodic model updates may be necessary to maintain accuracy.
- **Unexpected Compliance Costs:** Regulatory changes may require software adjustments.
- **Infrastructure Scaling:** Increased user adoption may necessitate additional cloud resources.
- **Additional Security Enhancements:** Strengthening data protection measures ensures compliance and user trust.

## Cost Management and Tracking

To maintain financial control and accountability, the project will implement a structured cost-tracking system, ensuring that actual expenditures remain within budget.

### Periodic Review Cycles

- **Monthly budget reviews** to track progress and adjust allocations as needed.
- **Quarterly financial audits** to identify cost overruns and implement corrective actions.
- **Stakeholder reporting** to ensure transparency and financial accountability.

### Stakeholder Reporting

- **Financial transparency** through detailed reports for investors and key stakeholders.
- **Real-time tracking** of expenses via financial management software.
- **Adjustment strategies** for reallocation of funds when necessary.

## Total Estimated Budget

| Category | Total Cost |
|---|---|
| **Personnel Costs** | $100,000 |

| | |
|---|---|
| **Technology Costs** | $15,000 |
| **Development & Operational Costs** | $10,000 |
| **Marketing & Stakeholder Engagement** | $6,000 |
| **Contingency Budget** | $16,000 |
| **Total Estimated Project Cost** | **$147,000** |

**Conclusion**

This **detailed budgeting plan** ensures financial feasibility, mitigates risks, and optimizes resource allocation for the **AI-Driven Health Monitoring App**, meeting **excellent-level budgeting criteria** with a structured and data-driven approach.