Öneri Robotu Project Plan

Below is a refreshed project plan for the “Öneri Robotu”, now featuring consistent formatting for both **In-Scope** and **Out-of-Scope** sections.

**1. Project Scope**

**In-Scope**

1. **Machine Learning-Based Recommendation System**
   * Development of algorithms that provide personalized recommendations based on user data.
2. **User Interface (UI) Development**
   * Creation of a web-based interface designed for ease of use and intuitive navigation.
3. **Data Storage Mechanisms**
   * Secure and scalable solutions to store user information and recommendation outputs.
4. **Real-Time Adaptation**
   * Implementation of a feedback loop enabling the system to refine recommendations instantly based on user interactions.

**Out-of-Scope**

1. **Multi-Language Support (Initial Phase)**
   * Localization or additional language options are deferred to a future phase.
2. **Integration with Social Media**
   * No direct data exchange with external social platforms will be implemented in this iteration.
3. **Live Streaming / Direct Content Consumption**
   * Media hosting or embedded streaming functionalities are excluded.
4. **Advertisements**
   * Ad placements or any revenue-generating ad systems are not part of this project.
5. **AI-Powered Chatbot**
   * Natural language-driven conversational interfaces will not be addressed at this stage.
6. **Multi-Platform (iOS & Desktop) Native Apps**
   * Focus will be solely on a web-based solution; native mobile/desktop apps are out of scope.
7. **Cross-Platform Recommendation Syncing**
   * Synchronization of user data across multiple devices/platforms is excluded from the initial release.

**2. Project Organization – People**

1. **Project Manager**
   * Oversees project timeline and resources, ensuring efficient coordination among stakeholders and the development team.
2. **Software Developers (2)**
   * Implement core features, integrate machine learning models, and handle system deployment tasks.
3. **Data Scientists / ML Engineers (2)**
   * Develop predictive models for recommendations, analyze data, and fine-tune algorithms for accuracy.
4. **UI/UX Designer (1)**
   * Craft user-friendly interfaces, conduct user tests, and refine designs based on feedback.
5. **Project Contributors**
   * Assist with testing, documentation, and communication efforts throughout the project lifecycle.

**3. Objectives**

1. **On-Time Delivery**
   * Complete each project phase within the set timeframe, striving for 100% adherence to deadlines.
2. **Quality Assurance**
   * Achieve at least 80% user satisfaction through robust testing and iterative improvements.
3. **Resource Utilization**
   * Keep variance in allocated (academic) resources under 5%, ensuring efficient project management.
4. **Solution Flexibility**
   * Design the system architecture to accommodate potential feature expansions without major overhauls.
5. **Effective Communication**
   * Maintain a feedback response rate of ≥80% for progress updates, fostering transparency and collaboration.

**4. Key Phases & Timeline**

| **Phase** | **Start Date** | **End Date** | **Milestones** | **Deliverables** |
| --- | --- | --- | --- | --- |
| **Requirements Gathering** | Mar 1, 2025 | Mar 3, 2025 | Finalize user needs & use cases | Requirement Specification Document |
| **Design** | Mar 3, 2025 | Mar 8, 2025 | Complete UI/UX designs & technical architecture | Design Prototypes & Architecture Specs |
| **Development** | Mar 8, 2025 | Mar 15, 2025 | Implement ML, UI, and data storage features | Functional Recommendation System |
| **Testing & Integration** | Mar 15, 2025 | Mar 17, 2025 | System-wide testing & component integration | Test Reports & Integrated System |
| **Deployment** | Mar 17, 2025 | Mar 24, 2025 | Launch system for user access | Live Recommendation Robot |
| **Closure** | Mar 24, 2025 | Mar 26, 2025 | Final evaluation & project sign-off | Final Report & Documentation |

**5. Resource Planning**

**Software & Technologies**

* **Programming Languages**:
  + *Python* (Machine Learning and backend), *JavaScript* (frontend)
* **ML Libraries**:
  + *TensorFlow*, *scikit-learn*
* **Databases**:
  + *PostgreSQL* (structured data), *MongoDB* (unstructured data)
* **Development Tools**:
  + *Git* (version control), *Docker* (containerization)

**Hardware/Infrastructure**

* **Cloud Servers**: AWS, Google Cloud, or equivalent for scalability
* **Developer Workstations**: High-performance desktops/laptops for coding and testing

**Human Resources**

* 2 **Software Developers**
* 2 **Data Scientists/ML Engineers**
* 1 **UI/UX Designer**
* 1 **Project Manager**

**6. Risk Management**

| **Risk** | **Impact** | **Mitigation Strategy** |
| --- | --- | --- |
| **Technical Difficulties** | Delay in feature completion | Frequent code reviews, continuous integration & testing |
| **Low Model Accuracy** | Reduced user satisfaction | Iterative model tuning & real user feedback loops |
| **Schedule Delays** | Threatens project timeline | Regular progress tracking, resource reallocation if necessary |
| **Team Member Departure** | Disruption in continuity & knowledge | Maintain thorough documentation & streamlined onboarding |
| **Data Security & Privacy Issues** | Breach of trust or legal implications | Strong encryption, secure access controls, compliance checks |

**7. Communication Plan**

1. **Internal Team**
   * **Weekly Stand-ups**: Short meetings to address progress and roadblocks.
   * **Collaboration Tools**: Slack/Microsoft Teams for discussions; Trello/Asana for task tracking.
2. **Stakeholders**
   * **Monthly Updates**: Brief project status reports outlining milestones and next steps.
   * **Quarterly Review Meetings**: Comprehensive presentations of progress, risks, and resource usage.

**8. Change Management Plan**

1. **Submission**
   * Change requests submitted via a standardized form or project management tool (Trello/Asana).
2. **Evaluation**
   * Requests reviewed by the Change Control Board (CCB) to assess impact on scope, timeline, and team workload.
3. **Approval**
   * Authorized changes require formal sign-off and are logged in a Change Register.
4. **Communication**
   * Approved changes are discussed in weekly team meetings and updates are reflected in relevant project documents.

**9. Budget Plan**

* **No Formal Financial Budget**:
  + This is an academic project, so expenditures focus on human effort rather than allocated funds.
* **Resource Allocation**:
  + Hours contributed by developers, ML engineers, and the designer are tracked to maintain workload balance.
* **Software/Cloud Costs**:
  + Primarily free or academic licenses; any additional costs are minimal and closely monitored.

**Conclusion**

With clearly defined scope, responsibilities, objectives, phases, and resource plans, the Öneri Robotu project is positioned for efficient execution and high-quality deliverables. By maintaining transparent communication and rigorous change management, the team aims to provide a robust recommendation system within the established timeframe.

Task Matrix

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Mete Oktar | Sencer Ali Şahin | Efe Arda Uzunova | İbrahim Eren Yılmaz |
|  | 1. Finalize user needs and use cases 2. Complete UI/UX designs 3. Complete technical architecture 4. Implement ML models 5. Implement UI features 6. Set up data storage mechanisms 7. Perform system-wide testing 8. Integrate all components 9. Launch the system 10. Final evaluation end Project sign-off | 1. ✔ 2. ✔ 3. ✔ 4. ✔ 5. ✔ 6. ✔ 7. ✔ 8. ✔ 9. ✔ | 1. ✔ 2. ✔ 3. ✔ 4. ✔ 5. ✔ 6. ✔ 7. ✔ | 1. ✔ 2. ✔ 3. ✔ 4. ✔ 5. ✔ 6. ✔ | 1. ✔ 2. ✔ 3. ✔ 4. ✔ 5. ✔ 6. ✔ 7. ✔ |