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Turkish Joke Generator

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Duration and Effort Document

Turkish Joke Generator

Project Duration: February 27, 2025 – April 24, 2025

Team Members:

- Furkan Aksoy
- Emre Sarı
- Tamay Yazgan
- Ömer Faruk Özer (Scrum Master)
- Mehmet Güzel
- Yaren Yıldız

  Advisor: Prof. Ensar Gül

1. Introduction

This document provides a detailed breakdown of the estimated duration and effort required for the Turkish Joke Generator project. It includes an analysis of the project timeline, a comprehensive week-by-week task breakdown, and an estimation of the required working hours for each phase. The purpose of this document is to ensure that all team members have a clear understanding of the project schedule and can allocate resources efficiently while maintaining alignment with our agile development practices.

2. Project Duration Overview

The project is scheduled to span approximately 8 weeks, from February 27, 2025, to April 24, 2025. The timeline is divided into distinct phases that align with our agile sprint cycle, ensuring regular deliverables and opportunities for feedback. The phases include:

- **Phase 1:** Project Kick-off, Requirements, and Setup (Weeks 1–2)
- **Phase 2:** Model Training and Preliminary Testing (Week 3)

- **Phase 3:** Backend Integration and API Design (Week 4)
- **Phase 4:** Web Application Development (Week 5)
- **Phase 5:** Integration Testing, UI/UX Refinement, and Debugging (Week 6)
- **Phase 6:** User Testing, Sprint Demo, and Feedback Integration (Week 7)
- **Phase 7:** Final Testing, Documentation, and Project Closure (Week 8)

3. Effort Estimation

The total estimated effort for the project is approximately 360 hours. This effort is distributed across the different phases and team responsibilities. The following provides a detailed estimate of the effort required:

- **Phase 1 – Project Kick-off & Requirements (Weeks 1–2):**
  Estimated Effort: 10 hours (Entire Team)
    - Setup of GitHub repository, Trello boards, and initial communication channels.
    - Finalizing the dataset and project requirements.
    - Initial project planning and sprint setup.
- **Phase 2 – Model Training and Preliminary Testing (Week 3):**
  Estimated Effort: 15 hours (Data & Model Team)
    - Fine-tuning the GPT-2 model on Google Colab.
    - Running initial experiments and hyperparameter tuning.
    - Evaluating model performance and coherence.
- **Phase 3 – Backend Integration and API Design (Week 4):**
  Estimated Effort: 30 hours (Backend Team)
    - Downloading and integrating the trained model.
    - Designing and developing the Flask API to serve jokes.
    - Planning for continuous integration and early testing.
- **Phase 4 – Web Application Development (Week 5):**
  Estimated Effort: 35 hours (Development Team)

    - Creating the user interface using HTML, CSS, and JavaScript.
    - Integrating the frontend with the Flask backend.
    - Implementing core functionalities such as joke generation and category selection.
- **Phase 5 – Integration Testing and UI/UX Refinement (Week 6):**
  Estimated Effort: 30 hours (Entire Team)
    - Conducting thorough integration tests across modules.
    - Refining UI/UX based on initial feedback.
    - Debugging and optimizing performance for both the API and frontend.
- **Phase 6 – User Testing and Sprint Demo (Week 7):**
  Estimated Effort: 20 hours (Testing & Improvement Team)
    - Conducting user testing sessions and collecting feedback.
    - Preparing a sprint demo for the professor.
    - Prioritizing and implementing quick-win improvements.
- **Phase 7 – Final Testing, Documentation, and Closure (Week 8):**
  Estimated Effort: 25 hours (Entire Team)
    - Final round of testing and quality assurance.
    - Completing project documentation (technical specs, user guides, and project reports).
    - Preparing for final project handover and closure.

4. Detailed Weekly Breakdown

Weeks 1–2: Project Kick-off and Requirements

- **Objectives:** Establish the project environment, finalize requirements, and organize the dataset.
- **Key Activities:**
    - Set up GitHub repository and Trello boards.
    - Conduct initial team meetings and sprint planning.
    - Collect and clean the dataset of 10,000 Turkish jokes.

- **Effort:** 40 hours (distributed evenly among all team members).

Week 3: Model Training and Preliminary Testing

- **Objectives:** Fine-tune the GPT-2 model using Google Colab.
- **Key Activities:**
  - Configure the training environment.
  - Experiment with hyperparameters and monitor training performance.
  - Validate initial output for coherence and cultural relevance.
- **Effort:** 60 hours (primarily Data & Model Team).

Week 4: Backend Integration and API Design

- **Objectives:** Prepare the model for integration and design the RESTful API.
- **Key Activities:**
  - Download the trained model and configure local integration.
  - Develop a robust Flask API to serve generated jokes.
  - Establish continuous integration practices.
- **Effort:** 40 hours (primarily Backend Team).

Week 5: Web Application Development

- **Objectives:** Develop a responsive frontend and integrate with the backend.
- **Key Activities:**
  - Design the user interface and implement interactive components.
  - Connect frontend with the Flask API for joke retrieval.
  - Ensure responsiveness across devices.
- **Effort:** 80 hours (primarily Frontend and Backend Collaboration).

Week 6: Integration Testing and UI/UX Refinement

- **Objectives:** Test the integrated system and refine the user experience.
- **Key Activities:**
    - Conduct end-to-end testing across all modules.
    - Optimize the UI/UX based on preliminary user feedback.
    - Debug and resolve integration issues.
- **Effort:** 60 hours (Entire Team).

Week 7: User Testing and Sprint Demo

- **Objectives:** Collect user feedback and prepare a sprint demo.
- **Key Activities:**
    - Facilitate user testing sessions.
    - Analyze feedback and prioritize improvements.
    - Prepare and conduct a sprint demo presentation.
- **Effort:** 40 hours (Testing & Improvement Team).

Week 8: Final Testing, Documentation, and Project Closure

- **Objectives:** Finalize testing, complete documentation, and prepare for project handover.
- **Key Activities:**
    - Perform final quality assurance checks.
    - Complete all necessary project documentation.
    - Finalize preparations for project closure and delivery.
- **Effort:** 40 hours (Entire Team).

5. Conclusion

This Duration and Effort Document outlines a clear schedule and resource allocation plan to ensure the successful completion of the Turkish Joke Generator project. With a total estimated effort of approximately 360 hours distributed across 8 weeks, our team is positioned to meet all technical,

operational, and quality objectives. Regular sprint reviews and continuous monitoring of progress will help maintain adherence to the timeline and allow for adjustments as needed.

6. References

- **Schwalbe, K. (2015).** *Information Technology Project Management.* Cengage Learning.
  Provides essential guidance on project planning, risk management, and resource allocation.
- **Schwaber, K., & Sutherland, J. (2020).** *The Scrum Guide.*
  Offers insights into agile methodologies and sprint planning which informed our effort estimation and project scheduling.
- **Flask Official Documentation:** Flask
  Reference for best practices in developing robust web applications with Flask.
- **Google Colab Documentation:** Google Colab
  Supports our model training phase with cloud-based computing resources.
- **GitHub Guides:** GitHub Guides
  Essential for understanding version control and collaborative development practices.