Software Project WiSe 25/26

Final Milestone

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09.12.2025

1 Project Diary - Final Milestone

1.1 Week 1: November 26 - December 03, 2025

1.1.1 Dynamic Exercise Development - Museum Tour Guide

- Developed and completed fully dynamic drag-and-drop exercise with Hamiltonian path application
- Exercise simulates a museum tour guide planning routes through exhibits using directed graphs
- Implemented dynamic graph generation with varying structures for each attempt
- Created comprehensive feedback system with multiple validation rules:
    - Checks for incomplete submissions
    - Validates starting position (entrance requirement)
    - Provides specific feedback for each error type
    - Displays all valid solutions when incorrect
- Integrated R evaluator for validating multiple correct solution sequences

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1.2 Week 2: December 03-09, 2025

1.2.1 Exercise Refinement and Quality Assurance

- Reviewed and refined all existing exercises from Milestones 1 and 2
- Verified compliance with project standards
- Analyzed feedback patterns across all exercise types
- Ensured all mathematical content uses proper notation ($\mathcal{O}(n)$, K_n, etc.)
- Final documentation and diary preparation for project submission

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1.3 Summary

1.3.1 Total Exercises Developed Across All Milestones

- **Milestone 1 (Single Choice)**: 10 complete questions
    - Definitions & Concepts: 6 questions
    - Graph Analysis: 4 questions
- **Milestone 2**: 13 questions/exercises
    - Multiple Choice Questions: 9 questions
    - Dynamic Exercises: 1 exercise (Degree Sequence Analysis)
    - Drag & Drop Questions: 3 questions
- **Final (Dynamic Exercise)**: 1 complete exercise
    - Museum Tour Guide (Hamiltonian Path application)

1.3.2 Final Period Work

- **Week 1**: Museum dynamic exercise development
- **Week 2**: Exercise refinement and quality assurance
- **Total Exercises**: 24 complete exercises across all types

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