NeighborFit Project Assignment

Project Brief

Build a full-stack web application that solves the neighborhood-lifestyle

matching problem through systematic research, data analysis, and algorithmic

thinking.

Core Requirements

Problem Analysis & Research (50% of grade)

●Identify and define the core problem through user research

●Analyze existing solutions and their gaps

●Develop hypotheses about user behavior and test them

●Use data to validate or invalidate your assumptions

Technical Problem-Solving (40% of grade)

●Design and implement a matching algorithm

●Handle real-world data collection and processing challenges

●Build scalable data structures and APIs

●Solve integration challenges with external data sources

Systems Thinking (10% of grade)

●Document trade-offs and decision rationale

●Demonstrate understanding of scalability constraints

●Show systematic approach to complex problem decomposition

Constraints & Problem Parameters

Resource Constraints

●Zero budget - solve using only free resources

●2-week timeline - scope appropriately

●Limited data access - be creative with data acquisition

Technical Constraints

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| ● ● ● | Must work with real neighborhood data  Must be functional (not just mockups)  Must handle edge cases and data inconsistencies |

Deliverables

Technical Implementation

1. Functional application with working algorithm

2. Data processing pipeline (however basic)

3. Source code with clear problem-solving documentation

Problem-Solving Documentation

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| 1.  2.  3.  4.  5. | Problem definition and hypothesis formation  Research methodology and findings analysis  Algorithm design rationale and trade-offs  Data challenges encountered and solutions implemented Testing approach and validation results |

Analysis & Reflection

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| ● ● ● | Critical evaluation of your solution's effectiveness Identified limitations and their root causes  Systematic approach to future improvements |

Submission Requirements

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| ● ● | GitHub repository with documented code Working deployed application |