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| --- | --- | --- | --- |
| **Architecture Style** | **Tactics** | **Relationship** | **Values** |
| REST API | Modularity  Reproducibility  Scalability  Extensibility  Testing  Automation | High  Very High  Low  Very High  High  Low | 0.7  0.9  0.5  0.9  0.7  0.5 |
|  |  |  | 4.6 |
| Shared DB | Modularity  Reproducibility  Scalability  Extensibility  Testing  Automation | Very High  High  Low  High  Low  Low | 0.9  0.7  0.5  0.7  0.5  0.5 |
|  |  |  | 3.8 |
| Streaming | Modularity  Reproducibility  Scalability  Extensibility  Testing  Automation | Low  Low  Very High  Low  Very High  Very High | 0.5  0.5  0.9  0.5  0.9  0.9 |
|  |  |  | 4.2 |
| Mobile App | Modularity  Reproducibility  Scalability  Extensibility  Testing  Automation | Low  High  High  Low  Low  High | 0.5  0.7  0.7  0.5  0.5  0.7 |
|  |  |  | 3.6 |

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| **Tactics** | **Quality Attribute** | **Relationship** | **Values** |
| Modularity | Reliability  Security  Performance | Very strong  Average  Very strong | 0.9  0.7  0.9 |
| Reproducibility | Reliability  Security  Performance | Average  Average  Not applicable | 0.7  0.7  0.0 |
| Scalability | Reliability  Security  Performance | Very strong  Average  Very strong | 0.9  0.7  0.9 |
| Extensibility | Reliability  Security  Performance | Average  Average  Very strong | 0.7  0.7  0.9 |
| Automation | Reliability  Security  Performance | Very strong  Very strong  Very strong | 0.9  0.9  0.9 |

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| --- | --- | --- | --- |
| **Quality Attribute** | **Quality Attribute** | **Relationship** | **values** |
| Reliability | Performance  Security | Very Strong  Very Strong | 0.9  0.9 |
| Performance | Reliability  Security | Very Strong  Below Average | 0.9  0.3 |
| Security | Reliability  Performance | Average  Very Low | 0.5  0.1 |

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| --- | --- | --- | --- |
| **Scenario** | **Quality Attribute** | **Importance** | **Values** |
| Training | Reliability  Security  Performance | Low  Moderate  High | 0.3  0.5  0.7 |
| Prediction | Reliability  Security  Performance | Moderate  Moderate  Very High | 0.5  0.5  0.7 |
| Prediction result delivery | Reliability  Security  Performance | Very High  High  High | 0.9  0.7  0.7 |
| Latency for prediction | Reliability  Security  Performance | Very High  Low  Very High | 0.9  0.3  0.9 |
| System Management Difficulty | Reliability  Security  Performance | High  Very High  Low | 0.7  0.9  0.4 |

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|  | **Pattern 1**  **(REST API)** | **Pattern 2**  **(Shared DB)** | **Pattern 3**  **(Streaming)** | **Pattern 4**  **(Mobile App)** |
| **Training** | Batch | Batch | Streaming | Streaming |
| **Prediction** | On the fly | Batch | Streaming | On the fly |
| **Prediction result delivery** | Via REST API | Through the shared DB | Streaming via Message Queue | Via in-process API on mobile |
| **Latency for prediction** | Moderate | High | Very Low | Low |
| **System Management Difficulty** | Moderate | Easy | Very Hard | Moderate |