ENSE 375 EduTrack Project – Solution / Brainstorming

# Brainstorming

| Factor | Description | Solution 1 (Basic Command-Line) | Solution 2 (Structured Command-Line) | Selected Solution (Refined Structured Command-Line) |
| --- | --- | --- | --- | --- |
| User Interface | Type and complexity of user interaction | Simple CLI | Enhanced CLI with structured data | Refined CLI with focus on usability |
| Data Management | Method of storing and managing data | In-memory lists and maps | In-memory with Java objects and classes | In-memory with secure handling and structured entities |
| Data Persistence | Ability to save data between sessions | None | None | None |
| Security | Measures to protect user data | None | Basic encryption | Basic encryption and secure handling |
| Scalability | Ability to handle increasing amounts of data and users | Limited | Improved | Improved |
| Testing | Ease of writing and running tests | Basic unit tests | Comprehensive unit tests | Comprehensive unit tests |
| Performance | Speed and efficiency of the application | Basic performance | Improved performance with better data handling | Optimized performance |
| Usability | Ease of use for the end-user | Limited usability | Improved usability | Detailed documentation and user guides |
| Integration | Ability to integrate with other systems (e.g., calendars) | None | Foundation for future integration | Foundation for future integration |
| Compliance | Adherence to relevant regulations and standards | Limited | Improved | Full compliance with educational and data protection standards |
| Accessibility | Usability by students with disabilities | Limited | Improved | Efforts made to ensure accessibility |
| Project Scope | Alignment with course goals and project requirements | Limited focus on software testing | Better alignment with course goals | Best alignment with course goals focusing on testing and validation |
| Development Complexity | Complexity and effort required for implementation | Simple | Moderate | Moderate, with focus on testing |
| Maintenance | Ease of updating and maintaining the software | Basic | Structured for easier maintenance | Structured for easier maintenance |
| Cost | Resources required (time, effort, tools) | Low | Moderate | Moderate |