

## The Way We Were: Final Summary

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We have completed the design and project issues portion of the project report regarding our puzzle game, This summary will cover the result of our efforts.

The first section of the design portion of our project is the design goals. It was decided that the main focus of the systems that makes our project tick should be for it to run as fast and reliable as possible. In section two the current architecture of the project was described. There is currently a server for login information, and a network for users to communicate.

In section three, the proposed software architecture was described. There are two parts of this architecture, the front end and the back end. The front end is tasked with dealing with any user input. The backend is tasked with processing the users input, particularly when it comes to interacting with the database and connecting the users to other users. Class diagrams were created to exhibit these interactions. 3d goes into more detail about the subsystems of the project. As stated before, the front end will deal with user input. Specifically, getting user preferences, changing back end information, and of course, starting and running the game. The backend will deal with acquiring data from the front end, and facilitating network connections between players. The networking aspect of the backend will establish TCP connections between the application and the database. The database aspect of the backend will be created using a userID key along with various others keys for passwords, emails, and preferences.

3f, 3g, and 3h deal with the data dictionary, persistent data management, and access control and security respectively. The data dictionary contains definitions for common terms presented in the database. For the persistent data management section it was decided the that only persistent data will be the UserID. For the access control and security section, it was decided that the end user must sign up and create a login in and password to play the game. The user will also not be permitted to access and change the database manually. Changes to the database can only be done through the internal system. Therefore, users cannot retrieve any information regarding other users with the exception of their usernames.

3i and 3j deal with global software control and boundary conditions. It was decided that making changes to the database would be event driven, and that locks should be implemented where necessary to eliminate race conditions. For boundary conditions, it was decided that the main boundary would be for usernames and passwords. A maximum of 64 characters would be acceptable for the username and between 8 and 20 characters would be acceptable for the password.

Sections four and five describe the subsystem services and user interface. Diagrams were created to help visualize the user interface for the login and gameplay.

Section six deals with object design. It was decided that simplicity would take precedence over other things to provide for the most accessible user experience. The app would also take performance over security because one of our design goals is to make the system run as fast as possible.

6b, 6c, and 6d describe interface documentation guidelines, packages, and class interfaces. 6b describes standards for naming classes, methods, variables, objects, and interfaces. 6c describes the packages, of which there currently are none. For class interfaces, there also currently are none.

Section five of the entire document deals with project issues. Currently, there are no issues to report, because development has not yet commenced. Because there are no current issues with the product, there also aren't any solutions. The reusable component of the product is the database itself.

Section three of the project issues attempts to describe new problems in the project. As far as effects on the current environment, During the runtime, the application should use roughly 1 - 1.5 GB of ram. There are currently no problems with potential users at this point. The biggest issues our project faces is hardware, particularly memory.

Sections four five and six deal with tasks, migration to the new product, and risk. There are a multitude of phases to consider in the planning of development. We've decided to outline them as follows: phase 1 - functionality design, phase 2 - User interface design, Phase 3 - Performance Enhancement, and phase 4 - Dependability. Because the product we plan on implementing is being created from scratch, there are no requirements for migration, and no data has to be modified or translated. For risk, we recognized the security, slowdown of the product, and inaccurate cost estimates to be relatively high risk, with loss of data being at about a medium.

Sections seven, eight, and nine describe cost, waiting room, and ideas for solutions. For the cost of the product, we estimate the cost of the database, server, and SQL licence, to be about 600 dollars per month. Every requirement in this document is planned to be pushed in the initial project release. For solution ideas, we are looking towards focus groups and teams to simplify the app as much as possible.