CITE

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Programming 3

AT3 Project Specification Design

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# Introduction

The Project Specification Design document is to be used as an overall specification document for the purposes of this project. IT will outline the requirements and features of the project and judge the feasibility of the intended product as requested by ACME Movies Pty Ltd.

## Conventions

This document will use the following terms and abbreviations

* ACMEM – ACME Movies Pty Ltd
* KPSS – Kyer Potts Software Solutions
* PipeServer – The Server Solution implementation
* PipeClient – The Client Solution implementation
* C# - The programming platform used to build the project
* Visual Studio 2017 – The Integrated Development Environment used in conjunction with C#
* CSV – Comma Seperated Values, a file type containing raw data separated with commas for readability

## Intended Audience

This document is intended for the use of the client requesting the project; ACME Movies Pty Ltd (ACMEM), the development team (KPSS) and any intermediary actors involved with the development of the aforementioned project. This includes but is not limited to; external programming contractors, software testers, beta test subjects, document designers and platform delivery contractors.

## Project Scope

ACMEM have requested a system that will allow users to create and login into a GUI terminal, which is authenticated by a server run in the backend. Once connected, the system will have a variety of features for managing an imported Excel database. This connectivity will allow ACMEM to view and manage their database externally and run their sorting procedure offsite from the main offices.

# Product Description

The solution will contain two main solutions, the Server solution, and the Client solution. Each of these solutions can be run independently, however their degree of connectivity and exclusion of features without login authentication makes the simultaneous running of both a necessity to implement the system.

## Server Solution

The server solution implemented is a GUI terminal that provides a server connection for the client solution. The server solution will also process incoming requests from the client solution to create new user accounts, as well as account verification for login authentication. The server solution has been name PipeServer.

## Client Solution

The client solution implemented is a GUI terminal that interacts with the PipeServer to send and receive information in the form of login requests and authentication, user account creation, and authentication requests to unlock the various features of the client terminal. The client solution also implements CSV import features, data shuffling and sorting, and a search function. The client solution has been name PipeClient.

## Operating Environment

The system will be operating natively within a windows environment. This is due to the .NET framework that both applications have been developed within.

## Design Constraints

* Single operating platform
* Server to Client connectivity
* User authentication features
* Password Hash and Salt features
* CSV import features
* Data shuffling features
* 3rd Party library usage
* Auto-Close hotkey
* Coding Standard Enforcement

# Features

ACMEM have requested a range of features that need to be implemented within the system to meet the requirements of their evolving business. To encourage the free workflow and open environment that ACMEM are striving towards in their business model, the following requirements will need to be met by the project handover.

## Requested Features

* Must contain dynamic data structures
* Must contain hashing techniques
* Must contain sorting algorithm
* Must contain searching technique
* Must contain 3rd party library
* Must have a GUI interface
* Must adhere to coding standards

## Functional Requirements

### Server Solution

* Password hashing and Salting
* User authentication
* Usage of 3rd party libraries

### Client Solution

* CSV Read functionality
* User Account Creation
* User Login Functionality
* Feature lockout prior to Authentication
* Data Import from CSV file
* Data Shuffle Function
* Data Sort Function
* Data Search Function

## Non-Functional Requirements

### Server Solution

* To be developed in C# using Visual Studio
* Implementation of enforced coding standards
* 3rd Party library use
* Server status output

### Client Solution

* To be developed in C# using Visual Studio
* Implementation of enforced coding standards
* 3rd party library use
* Client status output

# Risk Management

Determining the risks and benefits of a project is tantamount to ensuring the feasibility of the product before releasing it to the market. With this design ideology in mind the following section of this report will identify the risks and benefits associated with developing this enterprise technology solution.

## Risks

* Connectivity issues
* Data corruption
* Server crashes
* Client Crashes
* Security Issues

## Benefits

* Mobile Workforce capabilities
* Uninterrupted Workflow
* Dynamic resource management capabilities
* Distributed database

## Risk Analysis

Due to the nature of the information and data being used and distributed by this system, the aforementioned risks are quite small, couple this will the myriad of benefits associated with having a distributed offline database and a mobile dynamic workforce, KPSS have deemed that the benefits of this project outweigh the risks.

# Feasibility

Following the identification of risks and benefits associated with the project, it is prudent to understand whether or not the project can be feasibly completed to a high standard or quality under time and cost constraints.

## Time Constraints

* 4-6 weeks
* Flexible working hours as no onsite coding is required.

## Cost Constraints

* 0 cost constraints, the work is being completed by an unpaid student
* All project work will be completed in free or open source platforms

## External Influences

* The student has other coursework to attend to.
* The student has other working commitments to attend to.

## Feasibility Summary

The project is very feasible. Due to the nature of the coder’s lifestyle, and the availability of resources to complete the project, there should be no issues with delivering a high quality project by the deadline.