## Purpose

Create a user interface application that will allow a user to create an account, login, and retrieve stock information of the user’s choice. The application will then allow a user to screen or filter these stocks by enabling defined metrics. Once the filters have been applied, only the stocks that fall into the categories chosen will be returned to the user.

The application will consist of a user interface that allows a user to create an account and login.

Once a user logs in he will be directed to another interface that displays stock filters such as price min and max, Market Cap in thousands to billions, and Volume min and max.

In an adjacent column, the screened stocks will display name, last price, Volume, Market Cap, and Change in percent. The final column will allow user selection to watch the specific stock. If the user selects the final column, the stock will be shown in an adjacent column of “watched stocks.”

## Intended Audience and Reading Suggestions

The intended audience for this application, is a user who has an interest in past and present trends in the stock market. Suggest a sequence for reading the document, beginning with the overview sections and proceeding through the sections that are most pertinent to each reader type.>

## Product Scope

To provide a simple interface for users to identify potential stocks they would like to invest in.

# Other Nonfunctional Requirements

## Performance Requirements

Requirements for user login:

1. User must be able to start the application

2. User must be able to create user with the create user button

3. User must be able to enter text-based username in the text box for username and successfully login

Requirements for Screener Stock filtering

1. User must be able to select stocks from a stock pool

2. User must be able to see stock groupings with information for each

3. User must be able to select specific stocks and those stocks then show in the “watched” view

4. User must be able to enter specific filtering metrics

5. User must be able to apply metrics and see only stocks, which fall into the selected metric categories

## Security Requirements

The following security controls and tests should be implemented/verified:

Input Validation

1. CWE-20: Improper Input Validation

2. CWE-89: SQL Injection (If required)

3. CWE-91: XML Injection

4. CWE-78: OS Command Injection

5. CWE-120: Buffer Overflow

6. CWE-22: Path Traversal

7. CWE-807: Reliance on Untrusted Inputs

8. CWE-131: Incorrect Calculation of Buffer Size

9. CWE-134: Uncontrolled Format String

10. CWE-190: Integer Overflow or Wraparound

11. CWE-676: Use of Potentially Dangerous Function

Authentication and Login Process

1. CWE-287: Improper Authentication

2. CWE-306: Missing Authentication for Critical Function

3. CWE-307: Improper Restriction of Excessive Authentication

4. CWE-798: Use of Hard-Coded Credentials

Authorization and Control

1. CWE-22: Path Traversal

2. CWE-250: Execution with Unnecessary Privileges

3. CWE-829: Inclusion of Functionality from Untrusted Control Sphere

4. CWE-862: Missing Authorization

5. CWE-863: Incorrect Authorization

6. CWE-732: Incorrect Permission Assignment for Critical Resource

## Software Quality Attributes

Design Qualities

1. Conceptual Integrity-application should define consistency and coherence of the overall design

2. Maintainability-application should survive changes with relative ease

Run-time Qualities

1. Interoperability-application should communicate with external parties and the host system as seamlessly as possible

2. Performance-latency and responsiveness of the application should be kept as low as possible

3. Security-testing should ensure prevention of malicious and accidental actions as well as preventing disclosure and loss of information.

User Qualities

1. Usability-application should meet the requirements of the user and consumer by being intuitive, and result in an overall user experience

\*Reference: https://msdn.microsoft.com/en-us/library/ee658094.aspx

## Business Rules

1. There will be no administrator for this application

2. User roles should be separate ensuring that each user cannot see any information pertaining to another user

3. Generally this application will function as an individual user application and not on an enterprise level