**Software Requirements Specification**

**for**

SkillShow

**Version 1.0 approved**

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**COS420Fall2025**

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**Revision History**

| **Name** | **Date** | **Reason For Changes** | **Version** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |

# **Introduction**

## **Purpose**

*<Identify the product whose software requirements are specified in this document, including the revision or release number. Describe the scope of the product that is covered by this SRS, particularly if this SRS describes only part of the system or a single subsystem.>*

## **Document Conventions**

*<Describe any standards or typographical conventions that were followed when writing this SRS, such as fonts or highlighting that have special significance. For example, state whether priorities for higher-level requirements are assumed to be inherited by detailed requirements, or whether every requirement statement is to have its own priority.>*

## **Intended Audience and Reading Suggestions**

*<Describe the different types of reader that the document is intended for, such as developers, project managers, marketing staff, users, testers, and documentation writers. Describe what the rest of this SRS contains and how it is organized. 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**

*<Provide a short description of the software being specified and its purpose, including relevant benefits, objectives, and goals. Relate the software to corporate goals or business strategies. If a separate vision and scope document is available, refer to it rather than duplicating its contents here.>*

## **References**

*<List any other documents or Web addresses to which this SRS refers. These may include user interface style guides, contracts, standards, system requirements specifications, use case documents, or a vision and scope document. Provide enough information so that the reader could access a copy of each reference, including title, author, version number, date, and source or location.>*

# **Overall Description**

## **Product Perspective**

*<Describe the context and origin of the product being specified in this SRS. For example, state whether this product is a follow-on member of a product family, a replacement for certain existing systems, or a new, self-contained product. If the SRS defines a component of a larger system, relate the requirements of the larger system to the functionality of this software and identify interfaces between the two. A simple diagram that shows the major components of the overall system, subsystem interconnections, and external interfaces can be helpful.>*

## **Product Functions**

*<Summarize the major functions the product must perform or must let the user perform. Details will be provided in Section 3, so only a high level summary (such as a bullet list) is needed here. Organize the functions to make them understandable to any reader of the SRS. A picture of the major groups of related requirements and how they relate, such as a top level data flow diagram or object class diagram, is often effective.>*

## **User Classes and Characteristics**

*<Identify the various user classes that you anticipate will use this product. User classes may be differentiated based on frequency of use, subset of product functions used, technical expertise, security or privilege levels, educational level, or experience. Describe the pertinent characteristics of each user class. Certain requirements may pertain only to certain user classes. Distinguish the most important user classes for this product from those who are less important to satisfy.>*

## **Operating Environment**

*<Describe the environment in which the software will operate, including the hardware platform, operating system and versions, and any other software components or applications with which it must peacefully coexist.>*

## **Design and Implementation Constraints**

*<Describe any items or issues that will limit the options available to the developers. These might include: corporate or regulatory policies; hardware limitations (timing requirements, memory requirements); interfaces to other applications; specific technologies, tools, and databases to be used; parallel operations; language requirements; communications protocols; security considerations; design conventions or programming standards (for example, if the customer’s organization will be responsible for maintaining the delivered software).>*

## **User Documentation**

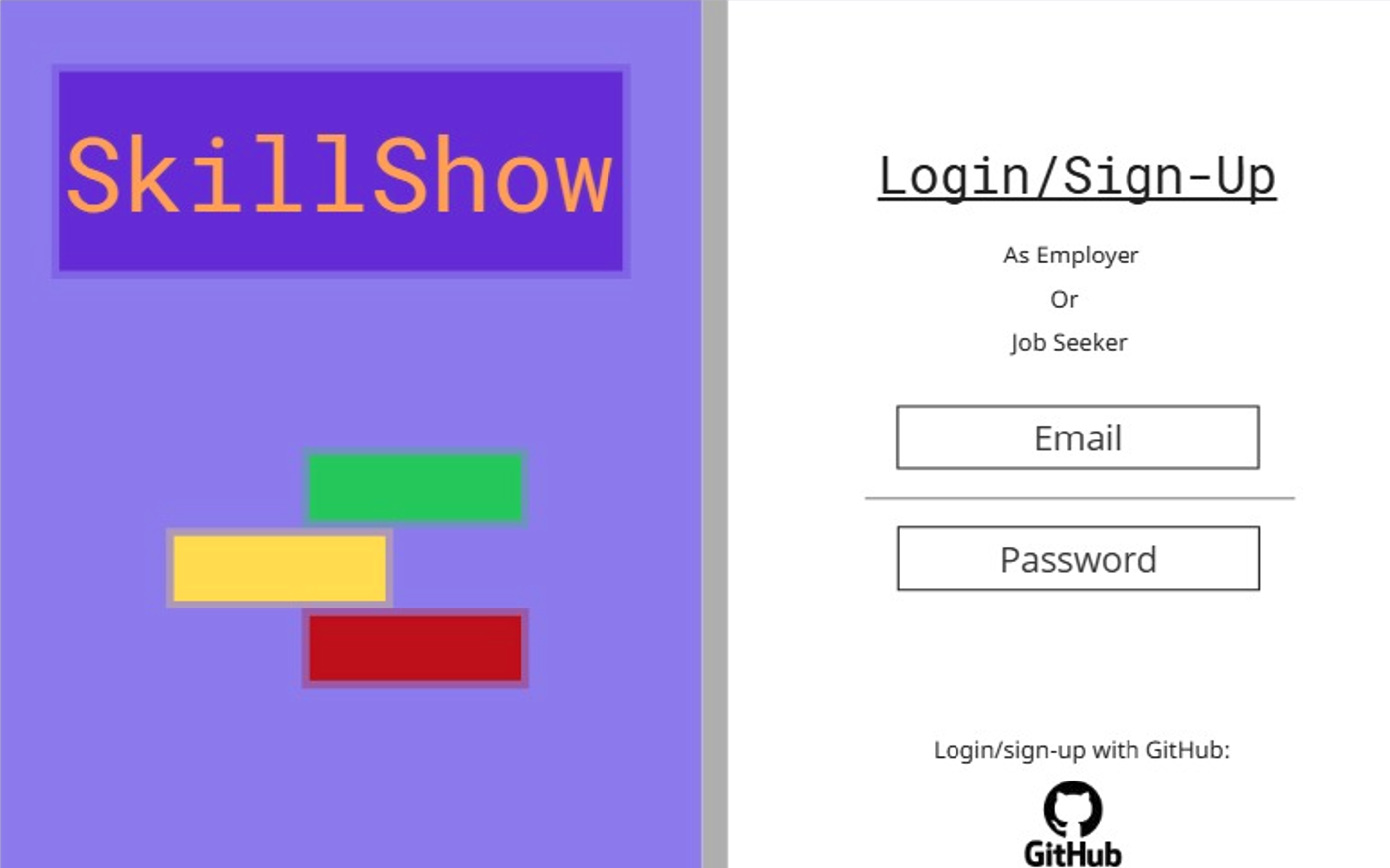
*<List the user documentation components (such as user manuals, on-line help, and tutorials) that will be delivered along with the software. Identify any known user documentation delivery formats or standards.>*

## **Assumptions and Dependencies**

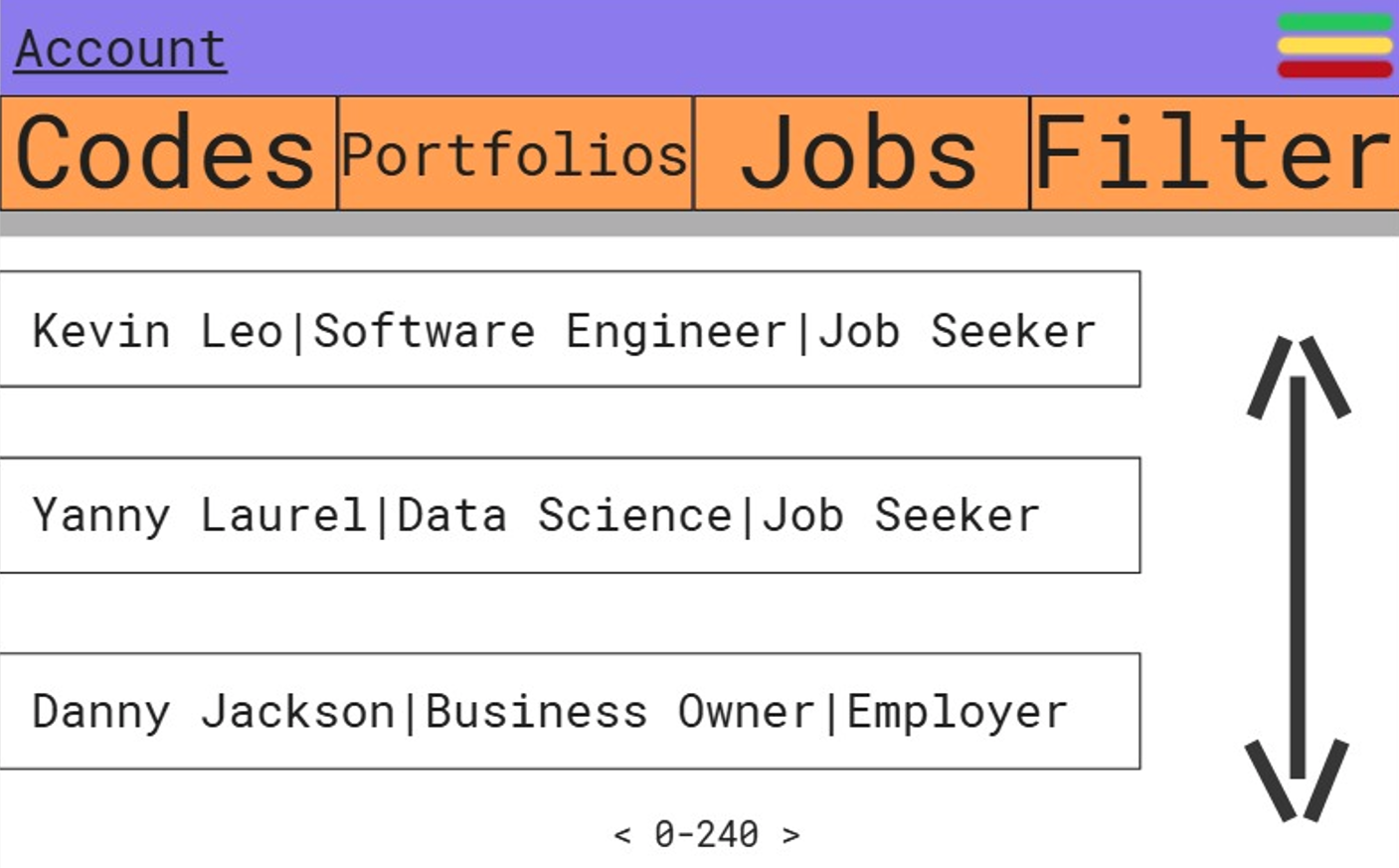
*<List any assumed factors (as opposed to known facts) that could affect the requirements stated in the SRS. These could include third-party or commercial components that you plan to use, issues around the development or operating environment, or constraints. The project could be affected if these assumptions are incorrect, are not shared, or change. Also identify any dependencies the project has on external factors, such as software components that you intend to reuse from another project, unless they are already documented elsewhere (for example, in the vision and scope document or the project plan).>*

# **External Interface Requirements**

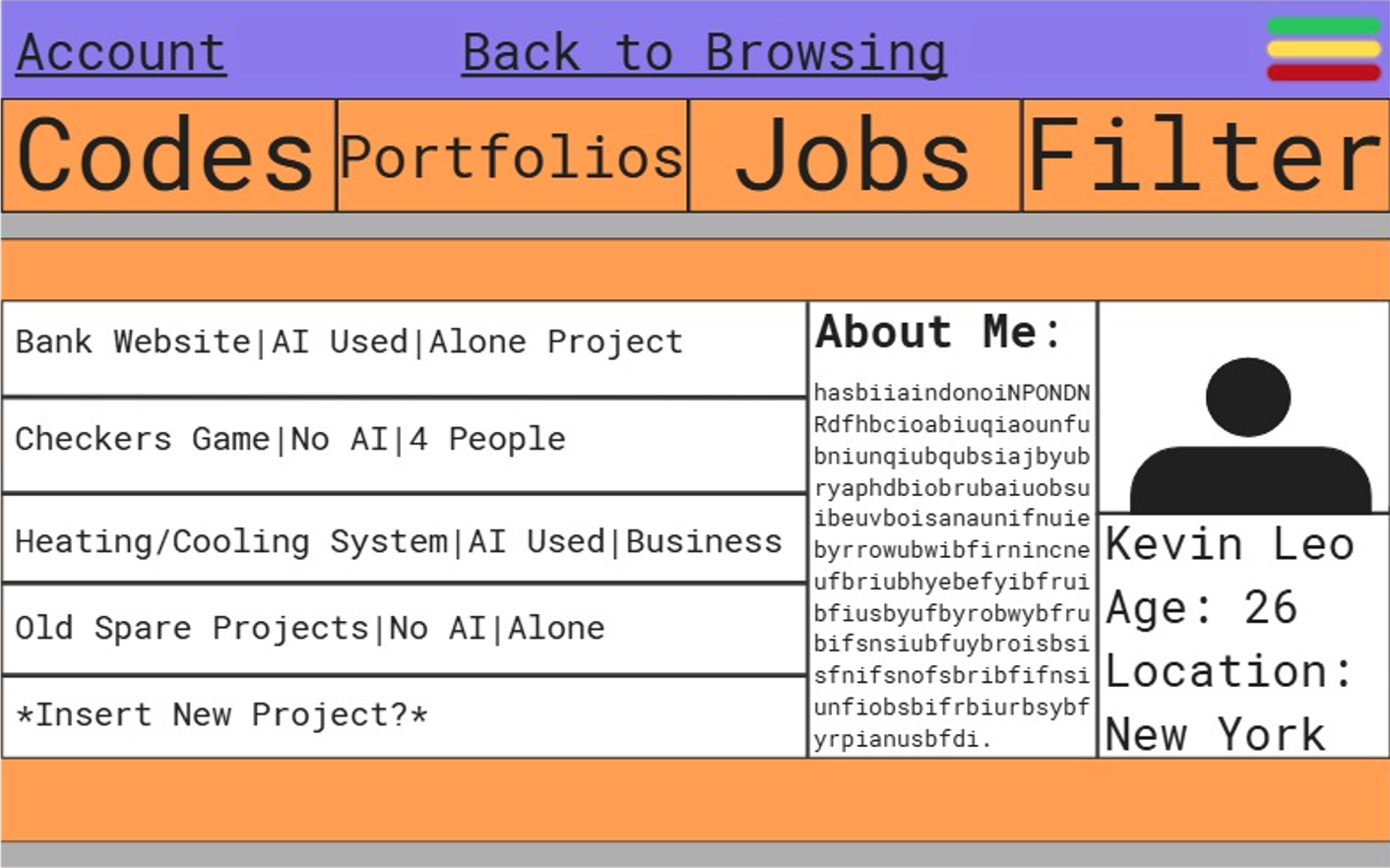
## **User Interfaces**

**

**This is an example of the SkillShow home screen. On the right side of the page you can login/Sign-Up with your email and password. You can either choose to be an Employer or Job Seeker when signing up. You can also sign in using your GitHub account at the bottom by clicking the GitHub icon which is an option.**

**

**This is what will be seen after logging in, at the top left is account where you can edit details of your account. Top right with the three green, yellow, and red colored lines is the settings. There are also tabs at the top in orange, you can just look at Code examples under codes. With Portfolios you can read about people and who they are if you are searching for someone specific. Jobs is for Employers who are hosting jobs and it’s an opportunity for those searching for work to browse and find certain jobs. Filter is for specific searches like works with/without AI projects, certain majors, and etc.**

**

**When you click on one of the visual options while browsing through the options, you can see the individual’s account. There you can see a project listing of what they have done and details about it, an “About Me” they can edit that includes information about themselves and how to contact them. Also personal information at the far right under their profile picture.**

## **Hardware Interfaces**

*<Describe the logical and physical characteristics of each interface between the software product and the hardware components of the system. This may include the supported device types, the nature of the data and control interactions between the software and the hardware, and communication protocols to be used.>*

## **Software Interfaces**

*<Describe the connections between this product and other specific software components (name and version), including databases, operating systems, tools, libraries, and integrated commercial components. Identify the data items or messages coming into the system and going out and describe the purpose of each. Describe the services needed and the nature of communications. Refer to documents that describe detailed application programming interface protocols. Identify data that will be shared across software components. If the data sharing mechanism must be implemented in a specific way (for example, use of a global data area in a multitasking operating system), specify this as an implementation constraint.>*

## **Communications Interfaces**

*<Describe the requirements associated with any communications functions required by this product, including e-mail, web browser, network server communications protocols, electronic forms, and so on. Define any pertinent message formatting. Identify any communication standards that will be used, such as FTP or HTTP. Specify any communication security or encryption issues, data transfer rates, and synchronization mechanisms.>*

# **System Features**

*<This template illustrates organizing the functional requirements for the product by system features, the major services provided by the product. You may prefer to organize this section by use case, mode of operation, user class, object class, functional hierarchy, or combinations of these, whatever makes the most logical sense for your product.>*

## Personal Profile Creation and Customization

4.1.1 Description and Priority

*<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>*

4.1.2 Stimulus/Response Sequences

*<List the sequences of user actions and system responses that stimulate the behavior defined for this feature. These will correspond to the dialog elements associated with use cases.>*

4.1.3 Functional Requirements

*<Itemize the detailed functional requirements associated with this feature. These are the software capabilities that must be present in order for the user to carry out the services provided by the feature, or to execute the use case. Include how the product should respond to anticipated error conditions or invalid inputs. Requirements should be concise, complete, unambiguous, verifiable, and necessary. Use “TBD” as a placeholder to indicate when necessary information is not yet available.>*

*<Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.>*

REQ-1: The system must allow users to create, update, and delete their personal accounts, including managing profile information.

REQ-2: The system must allow users to log in with a valid username and password.

REQ-3: The system must allow users to submit public written feedback on other users’ portfolios via a comment section

REQ-4: The system must allow users to set privacy permissions for their portfolio such toggling a comment section between public and private.

REQ-5: The system shall send an email notification to a user when an employer contacts them through the platform after viewing their portfolio.

REQ-6: The system must allow users to customize the layout and theme of their portfolio.

REQ-7: The system shall display analytics to users about their portfolio traffic.

REQ-8: The system must allow users to tag projects with relevant skills.

REQ-9: The system must support uploading and displaying additional media such as resumes and profile pictures.

REQ-10: The system shall allow users to preview their portfolio before publishing live.

## Github Repository Integration

* + 1. Description and Priority

*<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>*

4.1.2 Stimulus/Response Sequences

*<List the sequences of user actions and system responses that stimulate the behavior defined for this feature. These will correspond to the dialog elements associated with use cases.>*

4.1.3 Functional Requirements

*<Itemize the detailed functional requirements associated with this feature. These are the software capabilities that must be present in order for the user to carry out the services provided by the feature, or to execute the use case. Include how the product should respond to anticipated error conditions or invalid inputs. Requirements should be concise, complete, unambiguous, verifiable, and necessary. Use “TBD” as a placeholder to indicate when necessary information is not yet available.>*

*<Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.>*

REQ-1: The system shall allow users to connect their GitHub account and display selected repositories on their portfolio.

REQ-2: The system shall allow users to let others open their displayed repositories in GitHub if they so wish

REQ-3: The system shall allow users to provide descriptions of connected repositories

REQ-4: The system shall allow users to tag their repositories with relevant information such as skills, software, or languages used.

REQ-5: The system shall allow users to display chosen information about their repositories, such as history or contributors.

REQ-6: The system shall allow users to customize how their repositories are seen.

REQ-7: The system shall allow users to unlink their GitHub account and remove repositories.

* 1. **Account Filtering and Searching**
     1. Description and Priority

*<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>*

4.1.2 Stimulus/Response Sequences

*<List the sequences of user actions and system responses that stimulate the behavior defined for this feature. These will correspond to the dialog elements associated with use cases.>*

4.1.3 Functional Requirements

*<Itemize the detailed functional requirements associated with this feature. These are the software capabilities that must be present in order for the user to carry out the services provided by the feature, or to execute the use case. Include how the product should respond to anticipated error conditions or invalid inputs. Requirements should be concise, complete, unambiguous, verifiable, and necessary. Use “TBD” as a placeholder to indicate when necessary information is not yet available.>*

*<Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.>*

REQ-1: The system shall allow for users to change their job-seeking status between “Looking” and “Not Looking” on their profile page.

REQ-2: The system shall not display users who have marked they are “Not Looking” to employers looking through candidates

REQ-3: The system shall display a user's job seeking status prominently on their profile.

REQ-4: The system shall provide employers with a filter for users marked “Looking” during a search for candidates

REQ-5: The system shall provide a search filter for candidates who are most recently active.

REQ-6: The system shall allow employers to search for candidates by best filter match

# **Other Nonfunctional Requirements**

## **Performance Requirements**

*<If there are performance requirements for the product under various circumstances, state them here and explain their rationale, to help the developers understand the intent and make suitable design choices. Specify the timing relationships for real time systems. Make such requirements as specific as possible. You may need to state performance requirements for individual functional requirements or features.>*

REQ-1: The system must load any page within 3 seconds and should load any page on average within 2 seconds. User retention is heavily dependent on page loading times and any longer than 3 seconds results in a drastic loss in users.

REQ-2: The system shall support up to 10,000 concurrent users without performance degrading 5% over baseline.

## **Safety Requirements**

*<Specify those requirements that are concerned with possible loss, damage, or harm that could result from the use of the product. Define any safeguards or actions that must be taken, as well as actions that must be prevented. Refer to any external policies or regulations that state safety issues that affect the product’s design or use. Define any safety certifications that must be satisfied.>*

REQ-1: The system shall use informative confirmation prompts before any irreversible action such as account deletion or portfolio removal.

REQ-2: The system shall prevent users from executing destructive actions such as deleting GitHub repositories from within the platform.

## **Security Requirements**

*<Specify any requirements regarding security or privacy issues surrounding use of the product or protection of the data used or created by the product. Define any user identity authentication requirements. Refer to any external policies or regulations containing security issues that affect the product. Define any security or privacy certifications that must be satisfied.>*

REQ-1: All sensitive user data must be encrypted using TLS 1.2 in transit and AES-256 in storage.

REQ-2: Only the owner and authorized users shall be able to modify the owners portfolio.

REQ-3: The web application should expire authenticated sessions after 30 minutes of inactivity.

REQ-4: The system should be compliant with the OWASP Top Ten web application security guidelines.

## **Software Quality Attributes**

*<Specify any additional quality characteristics for the product that will be important to either the customers or the developers. Some to consider are: adaptability, availability, correctness, flexibility, interoperability, maintainability, portability, reliability, reusability, robustness, testability, and usability. Write these to be specific, quantitative, and verifiable when possible. At the least, clarify the relative preferences for various attributes, such as ease of use over ease of learning.>*

REQ-1: Availability - The system shall maintain an uptime of 99.5% per month or better excluding planned maintenance.

REQ-2: Usability - Users should be able to create and publish a simple portfolio within 10 minutes of starting the sign up process.

REQ-3: Reliability - Backups of user data should be automatically made daily and maintained for at least 7 days.

## **Business Rules**

*<List any operating principles about the product, such as which individuals or roles can perform which functions under specific circumstances. These are not functional requirements in themselves, but they may imply certain functional requirements to enforce the rules.>*

REQ-1: Only registered users may create or edit portfolios. Non-registered users should be allowed to view portfolios.

REQ-2: Public portfolios shall be view-only and viewers cannot modify or comment without owner permission.

REQ-3: The system shall not modify any content on GitHub itself. It should only display and interpret it for the sake of display on our platform.

# **Other Requirements**

*<Define any other requirements not covered elsewhere in the SRS. This might include database requirements, internationalization requirements, legal requirements, reuse objectives for the project, and so on. Add any new sections that are pertinent to the project.>*

**Appendix A: Glossary**

*<Define all the terms necessary to properly interpret the SRS, including acronyms and abbreviations. You may wish to build a separate glossary that spans multiple projects or the entire organization, and just include terms specific to a single project in each SRS.>*

**Appendix B: Analysis Models**

*<Optionally, include any pertinent analysis models, such as data flow diagrams, class diagrams, state-transition diagrams, or entity-relationship diagrams*.>

**Appendix C: To Be Determined List**

*<Collect a numbered list of the TBD (to be determined) references that remain in the SRS so they can be tracked to closure.>*