

Project Specifications

Core Features and Additional Features for Lokahi Fintech Crowdfunding Project

(Version 1. Last updated: 3/17/17)

Note: To support good communication with the Product Owner, you must use the letter-number id for a requirement when asking a question about it.

Core Features:

A. Accounts and Groups

1. A Company User can sign up for an account via a webpage. This allows them to interact with the system in the Computer User role. Company Users create reports
2. An Investor User can sign up for an account via a webpage. This allows them to interact with the system in the Investor User role. Investor Users can search for reports and only add files to existing reports. Investor users do not create reports.
3. One Site Manager (SM) account initially exists in the application (**do not use the Django Admin user for your SM**).
4. Users can be organized into groups, each with a unique name. Groups exist for the primary purpose of sharing access to report info that is otherwise private, i.e. not accessible by other users.
5. A user does not have to be in a group or can be in one or more groups.
6. Any user can create a new group.
7. A member of a group can add another user to that group (without the permission of the SM).
8. A member of a group can remove his or herself from a group (other members **cannot** delete another member from a group)

B. Site Manager (SM) user role:

1. SM users can give other users SM status.
2. SMs can create groups, assign any user to any group
3. SMs can delete any user from any group.
4. SMs can suspend and restore a user's access to his or her account.
5. SMs can access, edit, and delete any user's reports, even if they are private

C. Reports:

1. Reports are associated with the Company User that created them.
2. A Report must include the following components, supplied by the Computer User who creates it. (see report sample at end of document)
 1. Timestamp when report created (**automated** date/time the report is created).
 2. Company Name. (one line of text)
 3. Company Phone. (one line of text)
 4. Company Location (one line of text)
 5. Company Country (one line of text or a drop down list)
 6. Sector (one line or a drop down list)
 7. Industry (one line of text or a drop down list)
 8. Current Project(s) (multiple lines of text)
 9. One or more files (optional, a report does not have to have a file attached however, the option must be available). **Any file format** can be uploaded. The user should be able to indicate if the uploaded file is encrypted. (The system should not encrypt the file or store the information to allow it to be decrypted. But it must know whether a given file is encrypted or not.)
 10. Whether the report is public or private (public reports can be seen by any user of the system, private can be seen by only those given access).
3. Additional fields are allowable, perhaps to support additional features. For example:
 1. Location (such as, geographical location) (perhaps for some advanced search?)
 2. User-supplied keywords (perhaps for search or organizing display of reports?)
 3. Etc. (be creative, what might be needed in a system like Lokahi Fintech Crowdfunding?)

4. Private reports will not be searchable or visible in any way to users who do not have access to that report (except a SM user).
5. Reports can only be deleted by the SM user.

D. Display and Search through the Web Interface:

1. A user can list all reports (accessible to that user) in a user-friendly way. All fields of the report will be displayed, including a list of files for that report.
2. A user can list fewer reports by using search.
3. Search results are controlled by matching search criteria to one or more fields.
4. All users should be able to search by Date of Report, Company Name, CEO Name, Sector, Industry, Company Location, Company Country, Current Projects
5. Combining searches with ANDs, ORs, or other non-trivial search control is highly desirable (such as, search by Company Name, date range of when the report(s) were created and in a selected Location or search by Sector and Company Location).
6. Access rules for private reports will be enforced, except that SM users can see all reports.
7. Basic search functionality is required, but more advanced or sophisticated search features will be recognized and rewarded.
8. When displaying a report, unencrypted files should be available for viewing or downloading. **Encrypted files can only be downloaded by the File Download Application (see next item).**

F. File Download Application (FDA)

1. The FDA is a stand-alone application that will be run on networked computer (your local computer) and communicate with the Django web application.
2. A user of this program will be able to:
 1. Authenticate using the credentials of a valid registered web-app user (such as, name and password).
 2. See a list of reports. (This does not have to be as sophisticated as for the web-interface.)
 3. Choose a report, display it, and allow the user to download the file or files for that report.
 4. Decrypt files if they are encrypted.
 5. Encrypt files (so they may be uploaded with a report).

G. Private Messages

1. Display of and interaction with private messages is allowed to be separated in the UI from displaying and interacting with reports.
2. When a user logs in, she or he should be able to easily see if there are private messages.
3. When creating a private message for another, the message's creator can optionally make it encrypted.
4. Private messages that are encrypted are not automatically decrypted when the recipient sees them. The recipient must take some action to decrypt it.
5. The system should store and manage information needed for a user to create a private message for a 2nd user that only that 2nd user can decrypt. This information should be stored as securely as possible.
6. A recipient can delete any of his or her private messages.
7. Private messages are seen only by the recipient (not a SM user)

H. Security Requirements

(The following are more constraints or general features than specific requirements. Teams have liberty in how they define the security requirements and design features of their system.)

1. A Company User and/or Investor User can choose files attached to reports to be encrypted. Other text entered into reports is plaintext.
2. Encrypted files can downloaded and decrypted by the stand-alone program (FDA). This program will somehow get the key needed to decrypt the file.
3. We would like you to make use of: public key encryption for encryption and signing. Hash functions should be used somehow to allow a reader of a report and/or file to verify its integrity.

4. In planning the system, some requirements should be defined that address security issues (authorization, authentication, integrity, confidentiality, accessibility, etc.).
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I. Developer Issues:

1. Implementing core features will count towards approximately 95% of the earned credit for the project. Up to another 10% will be based on Additional Features beyond the core features.
2. A user friendly User interface quality is a priority for the Web App.
3. The File Download Application should not have a command-line interface, a text form of a menu is acceptable, a GUI is not necessary. (But a GUI on this will count towards your "additional features", i.e. those required beyond the core features.)

Example of a LFC Report

Lokahi Fintech Crowdfunding Report	
Company Name:	Houola Biopharmaceuticals
CEO:	Kimo Jones
Company Phone:	(808) 222-3333
Company Email:	HBio@aloha.net
Company Location:	Honolulu, HI
Company Country:	USA
Sector:	Healthcare
Industry:	Pharmaceutical
Current Project(s):	Clinical trial phase 1 for Houola, an oncology drug targeting melanoma. Clinical trial phase 2 for Kaumaha Gone, a drug targeting adult onset diabetes.
Private Report:	Yes or No
Files Attached:	Example of Company user files attached: Company Prospectus Clinical Trial Results Researchers' bios Example of Investor files (may be numerous, be sure to provide a venue that will accommodate 100) that may be attached: Files would include information from experts in various fields relating to the subject business and corporate and company personnel.