
# FEASIBILITY STUDY

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# 1. TEAM MEMBERS

DeepthiRajagopalan (dr472@cornell.edu)
Krishna sasankTalasila (kt466@cornell.edu)
Prasaanth N (fp238@cornell.edu)
Prasannjit Kumar (pk435@cornell.edu)
Ravi Kodali (rk575@cornell.edu)
ShivamPatil (sdp78@cornell.edu)
SravaniBurela (sb996@cornell.edu)
Sruja Aluri (sa795@cornell.edu)

# 2. THE CLIENT

Joseph "Jay" Malejki,
Cornell University '13, School of Industrial and Labor Relations, jmm625@cornell.edu

# 3. THE TASK TO BE UNDERTAKEN

The project is to create a Phase 1 prototype web site for a startup company that would provide web users with a "master account," through which they can access and navigate their many online accounts through a single, safe platform – eliminating the need to continually retype usernames and passwords. The main elements of the project include determining a database solution to hold the user information such as login credentials, developing a UI for the master account including login to the master account, add/remove account features, implementing the functionality to make multiple accounts active and allow users to navigate between them without logging in again. The project should also provide a strong encryption method for user account information.

## 3.1 Benefits

In today's world with technology at its peak, each person has multiple online accounts. Every account has a different user-name/password and remembering each of them separately becomes a difficult task for the user. Also, each time the user wants to login to any of these accounts he/she needs to enter the credentials manually and this is going to cost valuable user time.

MyTab is an application which acts as a single, safe platform to hold multiple accounts of a user and enable accessing these accounts with just one click.

- Through our proposed system the users will have the ability to add each of their online accounts within the MyTab application by providing the account's credentials for the first time. The user

is now free of the hassle of remembering every account's password.

- Upon logging into MyTab, the user can access any other added account by just clicking on the Login button provided on the bottom of the account's thumbnail. MyTab opens the respective account in a new tab without asking the user to provide any credentials

Thus, our system would ease the task of managing user's passwords through a single, safe platform – eliminating the need to continually retype usernames and passwords.

# 4. SCOPE

For the purpose of this project, we are solely concerned with creating a Phase 1 prototype of MyTab application that would allow users to access and navigate their multiple online accounts through a single platform. Development to the extent called out in the above requirements section is all that is planned. The end product will use MySql database with Apache Tomcat for page deployment and will be viewable through all standard web-browsers.

The MyTab application will support a predetermined set of social accounts for now; The future scope of the project would be to add custom accounts.

# 5. A PRELIMINARY REQUIREMENT ANALYSIS

The system needs to meet the following functional requirements:

## 5.1 Web Interface

- Must allow the users to sign-up/register for their MyTab account, using an email verification process.
- Must provide users the ability to add/remove multiple accounts into their MyTab account.
- Must provide users the ability to login to each of their accounts in MyTab.
- Must provide the functionality of opening a new tab when a corresponding thumbnail is clicked in the MyTab page.
- Must provide an intuitive and easy to use web interface.

## 5.2 Database

- Stores user credentials for the MyTab account in a safe, encrypted format.
- Stores user credentials for all the accounts associated with MyTab.
- Provides the ability to add/remove/update the user information for the associated accounts in the database.

The system may have the following functional requirements which are optional:

- Incorporating a password storage area within the site.
- Allowing the user to add custom accounts using the target website's URL.
- Making the application available to mobile devices.

Details regarding the number of users supported, the reliability of the system, etc. are not the scope of this report.

# 6. TECHNICAL REQUIREMENTS - FEASIBILITY

## 6.1 Server

Apache Tomcat Server set up in the local machines will be used for deployment of the web pages during the initial phase of development and testing. The pages will be deployed to the web for client validation once the intended functionality is logically completed.

## 6.2 Database

The team will use MySql Database for storing the information of users such as login credentials, name and Email. The username and password for each account set up by the user will also be persisted.

## 6.3 UI Design

The project involves designing a rich UI for user to create master account, login, add and delete accounts, etc. The server side scripting can be implemented with PHP.

## 6.4 Multiple and Simultaneous active accounts

The web site should include functionality for the user to make multiple accounts active and navigate between them without logging in again.

## 6.5 Security

The passwords for the master account and the accounts configured by the user will be strongly encrypted and stored.

## 6.6 Performance

The response time should not be affected when multiple users are active.

# 7. SUGGESTED DELIVERABLES

## 7.1 Management Deliverables

1. *Requirements Analysis* – a document and a presentation to go over the formal requirements of the project, both functional and nonfunctional. This deliverable ensures that the group is working on a system that closely matches the requirements of the client. This deliverable gives the client a chance to modify and correct items that were miscommunicated or missed out before allowing the group to proceed further in the design.

2. *Design Document* –a document and a presentation to go over the design of the system. This is thegroup's opportunity to go over how the project is to be implemented to the client. This deliverable is done by the more technical and experienced in the group, based on the understanding of the requirements established in the previous deliverable.

3. *Source Code* –a document, presentation along with the source code of the final completed project.This final deliverable wraps up and concludes the project. In this deliverable, the group delivers the final implementation based on the requirements specified and the design developed in previous stages. The system would have been tested thoroughly with unit testing and with a final acceptance test and then it would be ready for deployment to the production system.

## 7.2 Technical Deliverables

### Web Interface

A rich user interface that provides the user with the abilities to do the following:

- Create a MyTab master Account and log in.
- Support for retrieving the forgotten password.
- Add/Delete other online accounts under the master account by providing the username and password.
- Display all the active accounts and allow the user to access accounts without entering the credentials each time.

### Database

A database that holds all the required tables to store the login credentials of the user for the master account as well as each individual account that he/she sets up. The passwords will be encrypted before storing in order to enhance security.

## 8. SOFTWARE DEVELOPMENT PROCESS

The team will follow the ***Agile Development*** model for the project. The project will be developed in sprints, ensuring completion of small parts of working application by the end of each sprint. As per the client's specifications, the project has various functionalities to be developed that are independent of each other. Adopting the ***incremental development process*** will ensure completion of individual functionalities by the milestones specified, which can be presented to the client at each stage. Based on the client's feedback, changes can be made to the requirements and can be easily accommodated into the development process by using Agile Development model.

## 9. OUTLINE PLAN (PRINCIPAL ACTIVITIES AND MILESTONES)

***Milestone I (September 19, 2013) – Requirement Analysis and feasibility study***: As part of thismilestone, the team should complete the requirement analysis & discussions with the client and document the analysis and feasibility of the project.

***Milestone II (September 30, 2013) – UI Mock Ups***: As part of the second milestone, the team should beready with the UI mock ups and present them to the client and get the necessary feedback.

***Milestone III (October 7, 2013) – Database schema***: As part of the third milestone, the team shouldfinalize the database schema for the MyTab application. This milestone needs to be followed by a client meeting for feedback on the database schema.

***Milestone IV (October 14, 2013) - Login /Sign Up page***: As part of the fourth milestone, the teamshould have a login and sign-up page for the MyTab application ready. This milestone is followed by a presentation.

***Milestone V (November 3, 2013) - Main home page to add/remove accounts***: As part of the fifthmilestone, the team should be ready with the MyTab home page, with a provision to add and remove accounts. This milestone is followed by a presentation.

***Milestone VI (November 17, 2013) - Accessing the added accounts***: By the sixth milestone, the teamshould be able to access the added accounts of the users by opening the account in a new tab.

***Milestone VII (December 1, 2013) Integrated and Tested thoroughly***: For the seventh milestone, theapplication has to be entirely integrated and tested thoroughly for all possible scenarios. Apart from the integration testing, the team should also ensure the completion of user testing. This milestone is followed by the final presentation.

***Milestone VIII (December 16, 2013) Client sign-off***: For the last milestone, the source code with properdocumentation has to be handed over to the client.

# 10. VISIBILITY PLAN

## 10.1 Internal Team Meeting

The team will meet on a weekly basis to monitor the progress and address any gaps if they exist. The minutes of meeting will be shared among the team members to keep a track of the discussions held. All additional communication will be done via email, and related documents will be shared online through Google Docs. The source code will be well-documented and maintained in a common repository. Apart from the regular meetings, the team will meet whenever any task calls for a discussion

## 10.2 Communication with Client

The client will be updated of the progress on a regular basis through mails and conference calls. The documentation prepared on every phase of the software development life cycle will be shared with the client. As the team follows incremental model of development, UI design and demonstration of working and tested features as and when completed will be presented to the client and changes if requested will be incorporated. The team will involve the client for all major decisions and will ensure transparent communication.

# 11. BUSINESS CONSIDERATIONS

There are several business considerations that must be taken into account when determining the feasibility of the MyTab project, including ownership information, copyright and trademark issues, secrecy, considerations with regards to patents and future usage.

1. The Client shall retain complete ownership of all code, files, mockups, data, and anything else built or designed (whether complete or partial) throughout the duration of the project (the project under the CS 5150 class of Professor Arms) as well as after the project has concluded unless otherwise written, signed and acknowledged by the client, which may under his own subjective discretion invite a student to become a full-time employee and/or equity holder of the Client's project/firm/company.

2. In agreement with the MyTab Non-Disclosure Agreement signed by the students, the students agree not to speak or discuss the project with anyone not concerned with the project, without the

express written consent of the client, both during the duration of the project as well as afterwards and any date in the future.

3. All materials (Business Plans, mockups, outlines, documents, etc.) provided by Client to the students, may only be used between the Client and the students and are the sole property of the Client, unless otherwise written, signed and acknowledged by the Client, who may under his own subjective discretion invite the students to become a full-time employees and/or equity holders in MyTab.

4. No part of the project is foreseen to be eligible for any patent applications. However, if upon a later date, a part of the project is found to be patentable, the client reserves the rights to the uncontested patent and any derivative works based therein.

5. The only trademark/logo used in our project belongs to the client. Any additional use of trademarks does not seem necessary at this point of time.

# 12. RISK ANALYSIS

## 12.1 Changing Requirements

Our Client has multiple ideas about the system and some of them may evolve into requirements during the course of the project. Depending on the situation at that time, the changes that the client wishes to have implemented to the project may require little or major changes to the architecture.

*Solution:*

To reduce the possibility of this occurring, our project group will establish a clear visibility plan with the client, understanding his ideas and possible requirements. The team will commit on the proposed changes considering the available time and effort required.

## 12.2 Incomplete Requirements

It is possible that many requirements may be implied, but not discussed or misunderstood. This frequently occurs after meetings with the client, in which he/she expresses his views.

Also, as our client has a non-technical background, many of his requirements may not be easily possible to translate into fulfillment of technical requirements.

*Solution:*

The project group's interpretation of client's requirements will be presented back to the client via email or Skype or in next in-person meet to get a confirmation on whether the whole group has understood the client's exact needs. Frequent client interactions and exchange of constant updates will alleviate any possible mistakes.

### 12.3 Time, Functionality and GUI acceptance risk

The project is to be completed within one academic semester. There is no scope of any extensions. This runs us into the risk that all functionalities expected by the client may not get covered.

*Solution:*

We intend to divide the project into various milestones. These milestones will allow to client to track the progress of the project and required measures for improvement can be undertaken.

### 12.4 Technical Challenges

This project might run into technical challenges if social media sites block login from a different domain.

*Solution:*

We have discussed the technical challenge with the client and have come to a consensus that we would try to incorporate as many websites/accounts as possible.

## 13. TECHNICAL FISIBILITY ANALYSIS FINDINGS

After a thorough technical feasibility analysis the team has found that opening multiple social networks in a same frame under single tab is prevented under the "Same origin policy". This is perceived as a security threat by the social networks. This defeated our purpose of accessing multiple accounts in a single tab which leads to modifying the scope of the project.

## 14. MODIFIED SCOPE

The initial scope of the project included supporting six different social media sites like Facebook, Gmail, LinkedIn, Twitter, etc. After a thorough technical feasibility analysis it has been concluded that it is technically infeasible to access these sites within a single tab as these websites enforce "same origin policy" which forbids the use of framing.

Taking these findings into account, the client has modified the project goal to target MyTab.com to large institutions that utilize multiple login accounts. For the Phase I prototype, the scope has been revamped to target different accounts of Cornell University. Again, the use of frames is unavoidable to have all these accounts open within the same tab. This has been discussed with the client and has been taken forward upon approval from the client on the use of frames.

The current and final scope of the project is to deliver a website which provides users with a master

account and the provision to access their Piazza, Blackboard, CMS, Cornell student center, CCNet and MyGannett accounts from within the master account. Users need to add each of these accounts to their MyTab master account by providing their credentials the first time. Once added, these accounts can directly be accessed with just a single click and this frees the users from the hassle of having to type in their different login credentials for multiple accounts every single time.

The website will be implemented in a manner that the design architecture of the system will remain the same for any other institution that the client wishes to extend to in the future. The future developers of the website just need to implement different HTTP communication wrappers for each of them, as each has a different interaction mechanism.

Security is one of the crucial aspects for a website like this. However, the project being only a phase I prototype and not the final production system, tight security will not be implemented within this project. A security framework which needs to be implemented as part of the final production system will be provided.

## 15. LEGAL ISSUES

For the purpose of this project we will be working under the assumption that Cornell has contracted with MyTab as an account management vendor, thus eliminating any legal concerns.

## 16. CONCLUSION

Based on the analysis of this feasibility study, the group has collectively agreed that this project is feasible, but may run into risks associated with the security policies enforced by the third party websites. The client and the group are willing to make changes to the design and the project plan if the project team encounters technical challenges while executing the project. The benefits are significant enough to justify the risk and the development effort. The preliminary deadline for the project will be set for 1st December 2013. On this date, a functional system should be live on the server.