STA Software Development Entrepreneurial Experience Portfolio

Name of your project

short line

Your Name  
May 2021

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**STUDENT NOTE:** Each of the sections in this portfolio includes some guidance as to what the content of each should contain. As you complete each section, **remove the purple STUDENT NOTES** (*including this student note*) and **replace with your information and artifacts.**

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# Section 1: Brainstorming Ideas

**STUDENT NOTE:** In this section, include your initial list of **FIVE** ideas or problems to solve/things you could improve upon from your individual brainstorming activities. Include at least one idea from each of the three categories: **your daily life, the daily life of someone you care about,** and **the lives of those in your community.**

**My daily life could be better IF: Schoology integrated version control into assignments for programming students.**

**BECAUSE: Version control applications like GitHub are a great way to review code, update it, and ensure its integrity. Most school districts that teach programming lack instruction on how to use version control. Integrating it into a website Schools already use and trust like Schoology would allow students to experience a better programming environment, and better simulate a professional work environment.**

**RESEARCH NOTES: GitHub could be integrated into Schoology as an external tool, similar to what Lee’s Summit currently does with sites like Clever, or the public libraries. However, proper integration would be modifying how assignment submission works, so that submissions go into a repository. Source: https://support.schoology.com/hc/en-us/articles/201001113-System-Management-of-External-Tools-Enterprise-**

**KEEP OR REMOVE and why?**

**I will keep this idea because I still think having a way to use source control in school would be useful. However, the amount of work needed to properly implement this may be out of scope for this class. The need to modify the way submitting assignments work in Schoology will also make it more difficult, as it is not open source.**

**My daily life could be better IF: There was a program that would automatically collect assignment due dates from Canvas, Schoology, BlackBoard and other websites, and compile them into one calendar.**

**BECAUSE: It is always a hassle to have to check several different websites for due-dates and takes time to make a calendar. Having something do it for me would make things easier.**

**RESEARCH NOTES: Lots of calendars exist that are open source, and provide integration with other calendars, such as a calendar that combines Google and Outlook calendars. The availability of open source calendars would make it easier to implement a way to automatically add assignments from sites like Schoology. This would probably be done with scripts that auto-login to your account, and then searches for the assignment tags, and due date tags, so that they can be added to the composite calendar. Sources:** [**https://due.com/blog/top-101-calendar-apps/**](https://due.com/blog/top-101-calendar-apps/)**, https://fruux.com/**

**KEEP OR REMOVE and why?**

**I have chosen to keep this idea due to the calendar portion being easily created. The only hard part would be the specific scripts required to send data from the site with the calendar information to the composite calendar.**

**The daily life of someone I care about could be better IF: There was an application that could automatically convert computer-based websites to more user-friendly touch-screen website design when opened on a tablet.**

**BECAUSE: Some of my family members to everything they need online through their tablets. Having something that could automatically convert a convert computer-based website to touch-screen website design would save a lot of frustration.**

**RESEARCH NOTES: This could be accomplished by using a plugin with an algorithm to rearrange the code used to format websites into a more mobile friendly version. Currently, plugins and converters already exist to convert desktop sites to mobile versions for site owners and users. Source:** [**https://www.practicalecommerce.com/make-your-website-mobile-friendly-now-3-ways**](https://www.practicalecommerce.com/make-your-website-mobile-friendly-now-3-ways)**, https://www.hongkiat.com/blog/convert-website-into-desktop-mobile-apps/**

**KEEP OR REMOVE and why?**

**I will remove this idea because it is too large in scope to create an algorithm that reliably formats websites into a mobile-friendly version. Plugins that convert sites to mobile versions also already exist.**

**My daily life of someone I care about could be better IF: There was an application that had easily accessible tooltips on how to use Windows 10.**

**BECAUSE: My grandparents have a hard time remembering how to do easy things in Windows 10 like creating a new folder or finding a picture they downloaded. An application that could be added to Windows 10 to give/show tooltips based on what the user can do may be useful. This application might be best represented by a visible side bar that housed categories to make it easy for the user to find a tooltip they need.**

**RESEARCH NOTES: Would probably be a side bar with icons, that when hovered over display helpful information regarding windows 10. I currently cannot find something similar that exists, however I am skeptical that this does not already exist. Using an open-source tooltip creator would probably be the easiest way to do it. Possible tooltip creators to use: https://www.appcues.com/blog/73-tooltip-plugins-made-with-jquery-css-javascript-or-more**

**KEEP OR REMOVE and why?**

**I will remove this idea because it is the one I am least interested in. I am also not sure if this idea has been done before or not.**

**My community (neighborhood, school, house or city) could be better IF: Tyler SIS should implement brute force counter messages to keep student passwords safe.**

**BECAUSE: Currently, the Tyler SIS login page which many students use to check on their grades, class schedule, and personal details has not brute force protection. With most schools using a standard system to assign passwords, Tyler SIS is left open to easy attacks. If someone were to gain access to a student’s login password, they could look in their Tyler SIS account, as well as possibly carry out more malicious things if the student reuses the same password for other accounts.**

**RESEARCH NOTES: Things like CAPTCHA already exist to prevent fake traffic, and help stop brute force attacks. However, nothing is implemented in Tyler SIS to prevent brute forcing, so this project would be about creating my own CAPTCHA to implement in a mock website, similar to that of Tyler SIS that I have permissions to edit. Source: https://www.a2hosting.com/blog/implement-captcha-solution-website/**

**KEEP OR REMOVE and why?**

I will keep this idea because it would be interesting to create my own CAPTCHA and mock website to demonstrate it.

# Section 2: Idea Refinement and Problem Statement

**STUDENT NOTE:** The goal of the Idea Refinement portion of the **Idea to Innovation** process is to vet and solidify your ideas so they are well thought out. This part of the process is complete when you have three problem statements/ideas that can be succinctly articulated to your peers and other interested parties. Once you have your initial five ideas, critically examine each one in detail and ask yourself these questions.

1. Do you strongly believe it is a problem/need AND is it something, that if built, is marketable? If not, remove it from the list.
2. Do you see software being a part of the proposed solution? If not, remove.
3. With some high level investigation (internet searches) did you find any existing products that already address the problem? If so, remove it from the list unless you think you can improve upon it.
4. If after completing #1, #2 and #3 above you have less than three remaining problems/ideas, it’s back to Section 1: Brainstorming.

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Now, pick 3 from your remaining list to explore further, write a descriptive paragraph on each one that includes:

1. The “title” of your problem/idea (10 words max)
2. A problem statement (50 words max)
3. A description of what the solution might entail, if known (50 words)

**Top Three Ideas:**

**1. Title:** Schoology should integrate version control into assignments for programming students. (10 words max)

**Problem Statement:** Version control applications like GitHub are a great way to review code, update it, and ensure its integrity. Most school districts that teach programming lack instruction on how to use version control. Without knowing how to use version control, students will have a harder time getting used to professional environments that utilize it. (50 words max)

**Vision of Solution, if known:** GitHub could be integrated into Schoology as an external tool, similar to what Lee’s Summit currently does with sites like Clever. However, proper integration would be modifying how assignment submission works. This would be done by linking assignment submissions to a repository, so that each submission functions as a commit to a repository. (50 words max)

**2. Title**: A calendar that compiles dates from various school related sources. (10 words max)

**Problem Statement:** Sites like Schoology, Canvas, and BlackBoard all have their own form of calendars. The separation of calendars makes it difficult to keep track of various due dates. Beyond this, it is always a hassle to have to check several different websites for due-dates and takes time to make a composite calendar.(50 words max)

**Vision of Solution, if known:** A calendar can easily be created using open source software. The only hard part would be the specific scripts required to send data from the site with the calendar information to the composite calendar. Each script would have to automatically login to the user’s accounts and search, collect, and implement the due dates.(50 words max)

**3. Title:** Tyler SIS should implement brute force counter measures.

**Problem Statement:** Currently, the Tyler SIS login page which many students use to check on their grades, class schedule, and personal details has no brute force protection. With most schools using a standard system to assign passwords, Tyler SIS is left open to easy attacks. Attackers could use the information found inside Tyler SIS against students.(50 words max)

**Vision of Solution, if known:** Nothing is implemented in Tyler SIS to prevent brute forcing, so this project would be about creating my own CAPTCHA to implement in a mock website, similar to that of Tyler SIS, that I have permissions to edit. A CAPTCHA is something that ensures that the user is human, and not a robot.(50 words max)

**Video Outline**:

* Introduce myself.
* Introduce topic 1: Schoology should integrate version control into assignments for programming students.
* Explain problem and solution of topic 1. Remember to transition between topics.
* Introduce topic 2: A calendar that compiles dates from various school related sources.
* Explain problem and solution of topic 2. Remember to transition between topics.
* Introduce topic 3: Tyler SIS should implement brute force counter measures.
* Explain problem and solution of topic 3. Remember to transition between topics.

Section 3: Research and Validation - Is There Truly a Need?

**STUDENT NOTE:** Now that you have solidified a topic/team, you/your team need to do some quantitative research to verify that your problem/idea is, in fact, an issue or need. The exact activities and artifacts in this part of the project will vary depending on your project and projected consumers, but it will need to include some quantitative data and data analysis results. Think about how you might go about conducting the research - the who/what and how (tools, interviews, self-directed research, data sets, etc)

**Deliverables for this section should include:**

1. Description of the method(s) that you used to gather feedback
2. Why you chose this method
3. Assumptions/constraints with gathering feedback
4. Presentation of results
5. Descriptive write up your data analysis, including any adjustments to your original idea/design based on your findings
6. Go/no-go decision to move forward and why
7. if no-go, pick another idea/problem off your list and repeat :-o

**Description of the method(s) that you used to gather feedback/validate problem**

**Why you chose this method**

**Assumptions/constraints with gathering feedback**

**Presentation of results**  (include raw data + summaries, graphs, charts, etc) - this may take a few pages)

**Descriptive write up your findings (data analysis), including any adjustments to your original idea/design based on your findings**

**Go/no-go decision to move forward and why**

# Section 4: Initial Design

**STUDENT NOTE:** Now that you have validated your problem, it’s time to start working on a solution. Revisit your initial solution (Section #2) and think about the results of the consumer feedback as you start this next phase. **Your design should include both a user-experience point of view (how is the user going to interact with your solution, frequency, etc) and a programming/technical design.** (Hardware?? Software/language?? Data elements?? Dataflow?? Database??, Network??, Security?? ) .

**Expected artifacts include, but not limited to, PSEUDOCODE or an algorithm that represents how your logic is going to flow when it’s time to code, data flow or network diagrams (remember to include end-user interfaces), and database E-R diagrams (if you solution includes a database.)**

# Section 5: The Prototype - Code and Mock-Ups

In this section, include screenshots (end-user experience) of your solution as well as whatever code/data structures you produce that will be used during “The Pitch” to market your solution to potential stakeholders and decision makers and beyond (whatever code and screens you can get working prior to the end of semester).

# Section 6: The Pitch

At some point you will have the opportunity to “pitch” your idea/problem to solve and your solution to an audience who will provide feedback. This presentation event will require that you have some materials prepared (slides, vidoes, demos, tangible products, etc) to help convey the issue you are trying to solve and how your solution addresses that need. Since deliverables may vary considerably by project, the only required item here is an outline of your pitch plan. In addition, you should supplement it with a copy of your slides, link to a video, screenshots from yoru demo, pictures of your product, etc - whatever makes sense based on your entrepreneurial experience.

**Pitch Plan Outline**

In each section below, add your high level “talking points” that will be the foundation of your “pitch”. Add or remove bullet points as needed.

**Introduction** (Establish a relationship - share a bit about yourself)

* Xxx
* Xxx
* Xxx

**The Issue** (Describe the issue. How big a problem is it? Why did you select this one?)

* Xxx
* Xxx
* Xxx

**The Solution** (Describe your solution how things will look when your solution is in place. Include any costs, timelines or other considerations)

* Xxx
* Xxx
* Xxx

**The Demo** (Describe how you plan to showcase your solution)

* Xxx
* Xxx
* Xxx

**The Closing**  (Summarize, what do you need or want from the audience, next steps, etc)

* Xxx
* Xxx
* Xxx

# Section 7: Looking Back Reflections on Your Entrepreneurial Experience

# At the conclusion of your project, once you have pitched your idea and have received feedback, take some time to reflect on what you have learned - things that you need to do to move forward, things that you may have heard that would cause you to adjust your problem statement or solution, skills learned, self-growth or realization, what went well, what you would do differently if you could have a “do-over” or would apply to your next entrepreneurial experience. (Yes, hopefully you will consider doing this again at some point in the future!)

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# **Reflections on Your Entrepreneurial Experience**

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# What went well? What didn’t go so well and why?

# 

# What feedback did you get on your idea/solution and what of that can you apply to make your solution better?

# 

# What skills did you gain or enhance by participating in this entrepreneurial experience assignment?

# 

# What did you learn most about YOU during the entrepreneurial experience?

# 

# Would you consider doing this again at some point in the future? Why or why not?

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# Section 8: Activity Logs - From Idea to Innovation

Each day, you should be journaling your activities: Goal for the day. Activities completed. Problems encountered. Things Learned. Time spent. You will be asked to share your log with your instructor periodically during the project as you discuss your progress and any issues you encounter along the way.

At the conclusion of your project, insert your completed log into this section.

**STA Software Development Entrepreneurial Experience**

**Personal Productivity Log Name: Nolan Campbell**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Day** | **Date** | **Hours** | **My Focus for Today** | **Completed** | **Outstanding Issues, Qs, Lessons Learned** |
| **M** | **4/19** | **1** | **Initial research on possible projects, and limit project ideas from 5 to 3.** | **Completed initial research on possible projects. I also limited project ideas from 5 to 3.** | **I learned that applying skill I have learned in this class into an application will not be as hard as I thought thanks to already created open-source software, and Google. My main issue that I foresee is the Lee’s Summit Wi-Fi preventing me from accessing websites, or downloading software needed to complete my project.** |
| **T** | **4/20** |  |  |  |  |
| **W** | **4/21** |  |  |  |  |
| **Th** | **4/22** |  |  |  |  |
| **F** | **4/23** |  |  |  |  |
| **M** | **4/26** |  |  |  |  |
| **T** | **4/27** |  |  |  |  |
| **W** | **4/28** |  |  |  |  |
| **Th** | **4/29** |  |  |  |  |
| **Day** | **Date** | **Hours** | **My Focus for Today** | **Completed** | **Outstanding Issues, Qs, Lessons Learned** |
| **F** | **4/30** |  |  |  |  |
| **M** | **5/3** |  |  |  |  |
| **T** | **5/4** |  |  |  |  |
| **W** | **5/5** |  |  |  |  |
| **Th** | **5/6** |  |  |  |  |
| **F** | **5/7** |  |  |  |  |
| **M** | **5/10** |  |  |  |  |
| **T** | **5/11** |  |  |  |  |
| **W** | **5/12** |  |  |  |  |
| **Th** | **5/13** |  |  |  |  |
|  |  |  |  |  |  |
| **Day** | **Date** | **Hours** | **My Focus for Today** | **Completed** | **Outstanding Issues, Qs, Lessons Learned** |
| **F** | **5/14** |  |  |  |  |
| **M** | **5/17** |  |  |  |  |
| **T** | **5/18** |  |  |  |  |
| **W** | **5/19** |  |  |  |  |
| **Th** | **5/20** |  |  |  |  |
| **F** | **5/21** |  |  |  |  |
| **M** | **5/24** |  |  |  |  |
| **T** | **5/25** |  |  |  |  |
| **W** | **5/26** |  |  |  |  |
| **Th** | **5/27** |  |  |  |  |