What Should I Do Now?

The Pennsylvania State University

The College of Information Sciences and Technology

Senior Capstone Project

Final Report

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Abstract

This report describes the conception, development, and results of the What Should I Do Now? web application. This application was created for academic purposes for use as a senior capstone project. The What Should I Do Now? web application is a tool to help alleviate boredom. The negative effects of boredom are detailed in this report. These can include emotional, physical, and mental detriments. The importance of combating boredom is also described. The overall purpose of this project is to help users decide what they want to do through a questionnaire we will offer through a website. Nothing like this project exists online, and it involves a common problem people run into daily. The end result of the project is a service that will give a user an engaging activity to participate in in order to curb boredom, stress, or to simply blow off some steam. The project's success is based off the assumption that people will not stop experiencing boredom. The application is created through the Wix website creation service. All links and relevant documentation for the project can be found in the github repository via https://github.com/ParkerEM/ist440-capstone. Many constraints contributed to the outcome of the final product and the room for improvement in the future. There are hopes to develop mobile-friendly access, user accounts for data analysis, and support for expanded situational options.

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Introduction

Problem Statement

Everyone has encountered a time where there is simply too much leisure. A lack of having something to do can lead to depression, anxiety, and boredom. This project is tailored to help curb those negative feelings by providing users with a solution based on their own input.

The specific objective of this project is to aid people, especially people that suffer from mental health conditions, in finding an engaging activity in just a matter of seconds to minutes in order to curve boredom, stress, and anxiety. The results we are expecting to get from this experience are happy users with lower levels of stress, boredom, and anxiety.

Motivation

When trying to find the solution to curb boredom, one may look towards the internet to find activities or new hobbies that they would be interested in. The problem is that there are no useful tools online that are tailored toward figuring out your personal interest. If you do a simple google search of what to do when you're bored, you are presented with lists from websites that aren't exactly tailored towards finding the activity that is right for you.

Objective

The purpose of this project is to help users decide what to do when they can't decide. This service prompts the user for input regarding how they feel. Using this input, it provides a user with recommended activities. This would be helpful to people that suffers from mental illness by finding things for them to do to avoid depression, stress, and lack of motivation due to anxiety freeze responses.

End User Needs

What Should I Do Now is an activity suggester that we are creating to curb boredom. People of all ages experience boredom every now and then, and this leads to feelings of dullness, emptiness, and lack of purpose. The feeling of boredom can be easily cured by finding new interests or hobbies. We aim to create a solution that is accessible to everyone and makes it easy to find new things to do. What Should I do Now is a website that takes inputs from users and turns them into activities that suit their personal desires.

Literature Survey

Literature Review

Boredom is something everyone experiences almost on a daily basis. It can be described as being disinterested in your surroundings, the feeling of having nothing to do, and an overall dull feeling. Boredom can be agitating, and mentally draining (Dewar, 2022). Some of the easiest ways to cure boredom are to find a new hobby or change up your routine. However sometimes when you're so bored you can't gather the headspace to figure out what to do, so we came up with an easily accessible and unique solution to the problem.

Our solution is to create a website that anyone can access with suggestions to cure your boredom. Once greeted by our activity suggester, the user can search for new activities, and get personalized input on what they could do. Through a series of prompts with questions like "How is your mood today" the activity suggester will output unique suggestions tailored toward the user. Sometimes it's hard to think of something new and exciting that you can just pick up and roll with. With an easy creatable solution like the activity suggester, finding new forms of entertainment and interest will be easy.

Assessment of available solutions and techniques

Being bored is something that happens to everyone. Every human has experienced it in some way, shape, or form. The only available solution that somebody can think of off the top of their head is participating in a hobby they have or doing something that is already in their schedule (and that is if they have a busy schedule). These types of situations prevent people from feeling boredom, and this in turn curbs the negative side effects and negative consequences from not having anything to do.

Since there is no readily available solution regarding how to approach boredom and how to avoid the negative effects associated with too much leisure time, a product like ours would be a viable tool that would aid in finding something to do at a moment's notice. It is important to stay busy and having a readily available alternative to doing nothing certainly will benefit the average individual that struggles with an experience like this.

Pros and Cons

The main benefit of having a solution like this is that it will come up with an activity to do at a moment's notice. This will effectively stop boredom if the user chooses to do the activity suggested. A major advantage of this product is that it is designed to suggest an activity that a user would be inclined to do since it is based off user input. This increases the likelihood of their user liking the suggested activity and in turn actually participating in the activity suggested. If a user chooses to participate in an activity suggested by our product, then they

would not be bored since they would be preoccupied with carrying out the activity. Research studies indicate that people feel negative effects of boredom such as depression and substance abuse when they are doing an activity that has low physical or mental engagement (Weir, 2013). Since these activities are engaging either physically or mentally, the chance that the user would encounter feelings of negativity are generally low. These suggestions are designed to keep a user's body or mind engaged while performing an activity that the user is likely to enjoy, in order to minimize boredom and negative feelings associated with it as much as possible. The desired outcome of this is to curb any negative feelings associated with boredom and boredom in general at a moment's notice.

Although there are mainly benefits associated with this product, there are some drawbacks to consider. People are not perfect, and most humans tend to draw conclusions before consulting with professionals when it comes to their mental state. One potential drawback associated with this tool is the fact that there is a possibility that people suffering from mental illness(es) such as depression will try to use this as a form of self-medication and ultimately not get the help they need to treat their condition(s). Since this is designed to provide immediate satisfaction, there might be the chance that people do not end up getting treatment they should get to better themselves medically. Another potential drawback is the possibility of a user not finding an activity suggested to be of enough interest to do. This would make our product redundant; although the possibility of this happening is low, the user is in control of their own actions, and this is certainly a possibility. Regardless, if they do not do it due to lack of interest or lack of motivation, if they do not find an activity they would like to do, then our tool would be ineffective.

Requirement Specifications

Market Analysis

Boredom is Something that affects 30-90% of Americans every single day. This is not necessarily a bad thing, but if it is not handled correctly it can lead to several negative consequences including substance abuse and depression. Activities mostly associated with boredom include studying, "doing nothing", and working. In order to combat negative consequences associated from the feeling of boredom, it is imperative that people find something engaging to do with their leisure time (Chin et al., 2017). Boredom occurs most in activities where people lose focus or where they have no focus at all such as when they are doing nothing, so engaging in hands on activities are best to curb any negative feelings associated with this.

Negative emotional responses associated with boredom also include anger, sadness, and worry. 90 to 98% of young Americans experience boredom on a daily level in their lives due to monotonous activities and are exposed to these negative consequences on a daily basis (Vitelli, 2017). Neuroscientists suggest that boredom occurs when there are low levels of Physical and cognitive interaction occurring between a subject and the activity they are performing (Chin et al., 2017). To combat boredom, it is best to do a hands-on activity that is tied into someone's interests in order to keep them engaged.

Design Analysis

Trying to design the site was another interesting task. The team knew we wanted it to be simple, so that it was easy to use. We also knew it should look clean and professional. The challenge came in trying to make it seem interesting as well. For a tool combatting boredom, it couldn't be bland or uninspiring. In avoiding a look that was too cluttered or busy, we decided to stay on the safe side and keep it very simple but use colors and images to add visual appeal.

Constraints

When developing our website there are a few constraints that we have to consider. The first and foremost would be creating set dates and time for all of us to come together and work on the project. One way to fix this would be to use a GANTT chart to keep up with project deadlines so we can set up meeting times before hand. Another timeline constraint would be the August deadline for the project.

Another constraint we identified is finding a domain to host our website. We plan to create our website using JavaScript, HTML, and other website developing languages, and then connect it to a front end. We have yet to identify what tools we need to link our front and back end together, but there are other solutions like using a common website builder like Wix or Weebly. This would reduce the amount of time we would spend coding the website, and more time personalizing the website to how we see fit.

Assumptions

In preparation for this project there is assumption that many people do not have an outlet when it comes to boredom. Everyone eventually finds themselves with too much leisure and heightened levels of depression, stress, and irritability due to the lack of engaging activities available. Even when there are activities to do, it might be difficult to think about them or engage with them freely. This type of tool will aid users in finding usefulness out of their leisure time in order to curb negativity associated with doing nothing.

This type of tool will aid users in finding usefulness out of their leisure time in order to curb negativity associated with wasting useful time. This service is meant to help individuals

stay healthy and mindful of their free time. Without something like this, irritability and stress levels might go up when there is nothing to do and no tools or resources to aid in that sort of event. We assume that this will help people stay busy and happy while reducing depression associated when there is nothing to do.

We assume that another similar application or service will not become available. There is currently no other project like this in development, nor any news of an upcoming similar service. We also assume that boredom will not become obsolete. We assume that we will be able to find open-source tools to develop the website that fit in our budget. To keep development feasible, the services we use to build and host the website are free to access. This does not seem likely to change before our project deadline.

Scope

The boundary between this project and other programs is that this is simply going to be a tool to ease your mind and help you conquer the day – it is not supposed to be a paid service, something you use for medical advice or as a medical resource, and it is not a service that requires users to commit to anything. This differs from other projects because it is just a tool that exists for its utility to those that need it. If someone that is bored, has anxiety/depression etc uses this service, they should find themselves doing something positive and engaging afterwards. When using this service, it should prompt users to input answers as responses to mood and activity-based prompts – using this input, our service will deliver customized activities to help combat any feelings of stress and boredom. This project will help users all over the world, since it will be easily accessible online to anyone with the link. This can help millions of people battle boredom and depression at a moment's notice. Medical Advice will not be provided in any form as this Is a tool to ease boredom, anxiety, depression, etc – not a tool to cure or treat it.

Risks

Most of the risk for this project is on the client side. The main potential risk of the project is that the service may suggest a dangerous activity, or one that involves risk for the participant. For example, if the website suggests that the user go rock climbing, and the user falls and breaks their leg while rock climbing. This could induce legal consequences if there is not an adequate disclaimer addressing fault liability. Another risk is the reliance on open-source tools. To minimize the anticipated budget, the project will be completed using the technologies that are available free-of-cost to develop and host the service. We also have risk from the limitations of completing such a project in a course with a set end date. A last risk is that a user mistakes the service for providing legitimate medical advice. This can also be mitigated with use of a disclaimer.

System Development

Concept

During the initial brainstorming sessions both individually and collaboratively, the team generated many ideas, mainly focusing on projects that could improve a user's life. These included possibilities like a meal planning app or a personalized workout service. We also proposed a service to help find things to do when bored. Everyone gets bored, so it would be widely applicable and useful for anyone. Especially due to the global pandemic in the past few years, boredom has been a big topic lately. We decided to go with this idea and developed it further with plans for a questionnaire or assessment to evaluate what activity would suit the user best in the moment.

System Planning

After deciding on the concept the team would focus on, we created a plan to outline the work needed. We decided that it should be a web application instead of a mobile service to allow for more widespread initial use, and the ease of providing a solution when someone searches for activities or things to do when bored. The team originally planned to have a front end interface and a back end with a connecting database to hold the questions and logic for the service. We broke the tasks into categories of Planning, Front End Development, Back End Development, and Testing and Deployment. The structure of the website ended up changing when we migrated to a more stable static site, but we kept the categories the same for organizational purposes. Front End Development became more specifically about appearance and aesthetic design, while Back End Development became focused only on functionality. Tables 1 and 2 demonstrate the categories in the Gantt chart for task distribution.

Table 1. Early Gantt chart

GANTT CHART IST 440

PROJECT TITLE	What Should I Do Now	COMPANY NAME	PSU
		DATE	6/3/22

WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	DURATION	PCT OF TASK COMPLETE		V	VEEK	(1		Т	W	/EEK	2			WEE	КЗ		
						COMPLETE	М	т	W	R	F	М	Т	W	R	F	М	T V	/ R	F	
1	Project Planning						5/16					5/23				3	5/30				
1.1	Meet and Discuss Options	Group 6	5/16/22	6/3/22	17	100%															
1.2	Discuss Decision Tree Options	Group 6	5/30/22	6/14/22	14	10%															
1.3	Discuss UI Design	Group 6	6/30/22	7/14/22	14	0%															
1.4	Test and Revise	Group 6	7/14/22	8/6/22	22	0%															
2	Front End Development																				
2.1	Design UI Layout/Paper Demo	Group 6	5/30/22	6/1/22	1	100%													T		
2.2	Build Home Page	Group 6	6/4/22	6/14/22	10	10%															
2.3	Build Additonal Descison Tree Pages	Group 6	6/14/22	7/15/22	31	0%				T											
2.4	Visual Overhaul	Group 6	7/10/22	8/6/22	26	0%				П											
3	Backend Development																				
3.1	Schema Development	Group 6	6/4/22	6/14/22	10	0%													I		
3.2	Linking Frontend And Backend	Group 6	6/14/22	7/15/22	30	0%				П											
3.3	Additional Backend Development	Group 6	7/15/22	7/30/22	15	0%			T	T											
4	Testing And Deployment																				
4.1	Testing Decision Tree Accuracy	Group 6	6/14/22	7/30/22	46	0%													Т		
4.2	Testing Revisions	Group 6	6/14/22	8/5/22	52	0%			П	П											
4.3	Deployment	Group 6	7/30/22	8/6/22	9	0%				I										T	



Table 2. Final Gantt chart

GANTT CHART IST 440

PROJECT TITLE	What Should Do Now	COMPANY NAME	PSU
MEMBERS	Christian Munoz (CM), Sean Gold (SG), Elliot Parker (EP)	DATE	8/6/22

			M T W R F M T W R F M T W R F																	
WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	DURATION	PCT OF TASK		V	/EEK	1			W	EEK 2				WEE	КЗ	
ASS NOMBER						33 12.12	М	Т	W	R	F	м	Т	w	R	F	М	T W	R	F
1	Project Planning						5/16					5/23				5	/30			
1.1	Meet and Discuss Options	CM, SG, EP	5/16/22	6/3/22	17	100%														
1.2	Discuss Decision Tree Options	SG, EP	5/30/22	6/17/22	17	100%														
1.3	Discuss UI Design	CM, EP	6/30/22	7/14/22	14	100%														Τ
1.4	Test and Revise	CM, SG	7/14/22	7/30/22	16	100%														
2	Front End Development																			
2.1	Design UI Layout/Paper Demo	CM, SG, EP	5/30/22	6/1/22	1	100%													Т	
2.2	Build Home Page	EP	6/4/22	6/17/22	13	100%														
2.3	Build Additonal Descison Tree Pages	EP, CM	6/14/22	7/15/22	31	100%														
2.4	Visual Overhaul	CM	7/10/22	8/1/22	21	100%														T
3	Backend Development																			
3.1	Schema Development	SG	6/4/22	6/17/22	10	100%													T	Τ
3.2	Linking Frontend And Backend	EP	6/14/22	7/15/22	30	100%														T
3.3	Additional Backend Development	SG, EP	7/15/22	7/25/22	15	100%														
4	Testing And Deployment																			
4.1	Testing Decision Tree Accuracy	SG	6/14/22	7/30/22	46	100%													T	Т
4.2	Testing Revisions	СМ	6/14/22	8/2/22	52	100%														T
4.3	Deployment	CM, SG, EP	8/1/22	8/6/22	9	100%													Т	T



Operational Flow

The Operational flow of the website is simple. It all starts with the user navigating to the website. Once the user has arrived at the homepage there are a few operations they can perform. The main function of the website is displayed in Figure 1 below. The user starts the

assessment and inputs their answers based on their personal wants/ needs. The user then receives a result or activity with information and links to possible solutions. Some of the other functions of the website include an about tab, contributors page, random article generator, and links to professional help.

User Navigates To What Should I Do Now Application

Click "Start" button on homepage to begin

User inputs answer to the descision tree question

User receives another question

User receives result

Figure 1. Operational Flow Chart

Design Process

When we first started designing our product, we originally wanted to create a front end and back end have them interact to display the cards to the user. This would be done by creating a decision tree in the database and whatever path the user ends up taking the result will be displayed on the front end to the user. In the long run this would be the preferred method, because we could add activities and update the trees whenever we want without it messing with the website itself. This is something we had to consider when creating the website through Wix, as we could run into 404 errors, and other complex issues.

Because of time constraints and other reasons, we decided to take a different approach when designing the product. We decided to use a web development service called Wix which lets us easily create a customizable website that perfectly suits our needs for a capstone project like this. One of the only disadvantages is that we must rely on an outside service to host our website. If Wix were to go down for whatever reason, we would not be able to access our

website to make changes, and users would not be able to visit and utilize our product. The biggest advantage of using Wix is that it is easy to use, maintain, and collaborate with other individuals. We also didn't have to take time testing our code because the HTML is already written for us.

When we switched over to designing our website through Wix, there were some quirks we had to figure out, like every prototype. The main goal we had to focus on was to create a unique page for every decision and activity and link them between each other through a decision tree. For each input the user makes, there almost always had to be a page and another one that is linked to that one depending on the future inputs of the user. This could get confusing for future design and development of the website, but for the time being we sorted it out, and did extensive testing to ensure every page was linked properly.

To keep track of all the decision trees, and activities, we have a document titled Framework that displays all the paths users can take and where they will eventually end up. This document was essentially the website just in paper format and is a useful tool for upkeep and future development of the website.

Figure 2 shows the work breakdown structure for the project. It outlines the rough timeline of when each segment of the project should be completed.

Prepared By: Sean. Elliot, Christian Date: 06/03/22 Generating user input based activty suggestions: May 16th - Aug 6th -Currently In Progress Planning: May 16th -Frontend Backend Testing And Aug 6th Development Development Deployment 1.1 - Meet W Group 2.1 - Design UI Layout 3.1 - Schema 4.1 Testing Decision And discuss options Paper Demo Development Tree Accuracy May 16th - Jun 3rd May 31st Jun 4 - Jun 14th Jun 14th - Jul 30th 1.2 - Discuss decision 3.2 Linking Frontend 4.2 Testing Revisions 2.2 - Build Home Page Jun 14th - Aug 5th tree options and Backend Jun 4th - Jun 14th May 30th - Jun 14th Jun 14th - Jul 15th 1.3 - Discuss UI 2.3 - Build Additional 3.3 Additional 4.3 Deployment Decision Tree Pages Backend Development Jul 30th - Aug 6th Design Jun 30th - Jul 14th Jun 14th - Jul 15th Jul 15th - Jul 30th 2.4 Visual Overhaul 1.4 - Test And Revise Jul 14th - Aug 6th Jul 10th - Aug 6th

Figure 2. Work Breakdown Structure

System Design

As stated in the design process, we originally wanted a front and back end that would connect with each other to display the cards to the user. Figure 3 below displays the sequence of steps of how that would happen. We decided that it would be best for us to develop the website like this in the long term, but because of time constraints and other challenges, we decided to go with the Wix website builder instead. The design flow would operate similarly, but instead of the database being updated and displayed dynamically, the website would be static with individual personalized pages we create and link for every card displayed.

What Should I Do Now Application Use Node.js to Create Template Application Connect to Json API Make request to Json API Connected? to display Embedded Update API Key Card Collect User Input Send User Input As Json Request Update Card Data from Json Request Render Card in Node.js

Figure 3. Design Flow Chart

Front End

Due to the amount of flexibility needed for our idea at the start of the project, we had meant to create the front end manually. Since the structure proposed for the assessment was not something our members had encountered before, we wanted to have full control over the code. This turned out to be the wrong decision for our situation. The base pages were functional, but they did not look as clean or professional as we wanted and linking the front end to the back end caused major problems which led to delays in the project. This was solved by changing the approach to the site creation. Instead of manually developing a separate front and back end connected to a database, we made a static site. This site does not have the dynamic card structure as intended, but features each page of the assessment separately built.

Back End

Initially, the team planned to deploy the cite using Vercel. This would connect with the Planetscale database to provide the content for the pages of the assessment. We were having a multitude of issues with the database connection and page generation. The team spent weeks trying to troubleshoot and debug. Due to the time constraints and the fact that we did not possess the necessary knowledge, we had to concede that it was not feasible to continue. We would not be able to develop the skills needed to fix the problems in the time allotted. This prompted us to shift our thinking. In re-examining our goals and the available solutions, we were able to find a different method to accomplish a similar outcome. We changed to the website building service Wix for easier hosting and collaboration.

Functional Decomposition

The functional decomposition is similar to the Operational flow but focuses more on the behind-the-scenes. Once again, as mentioned above, this chart is designed for how we would want the website to operate in the future if we had a bigger budget, and team. The basic overview of how the website functions is a card will be displayed to the user, the user inputs their response, the database responds with the correct response data, and the website is updated with a newly generated card from the database. If the user arrives at a result, or the end of the decision tree, a result card will be displayed.

Figure 4 shows the original functional decomposition, and the goal of how it will function in the future. Currently, the assessment service is comprised of hard-coded pages linked together deployed by Wix.

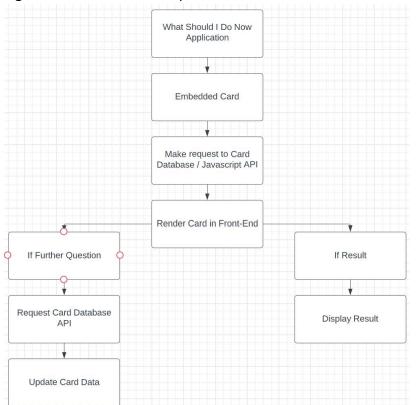


Figure 4. Functional Decomposition

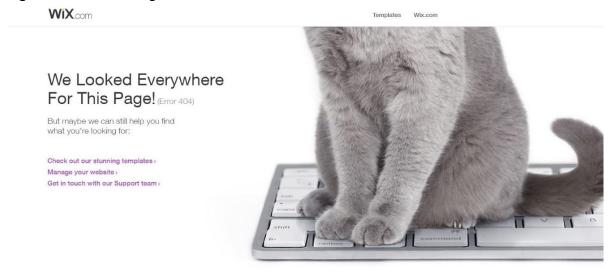
Testing

Logical Testing

Case 1

The first case involves the client – either a user or an administrator – encountering an Error-404 page. Error 404 is a HTTP status code and a client-side issue indicating the requested URL can't be found on the web server. When creating our website in Wix there were some instances where we ran into this error. Specifically, after creating a new page in Wix if the page was not properly linked to the previous page, an Error 404 page would be displayed. Figure 5 shows an image of the Wix Error-404 page.

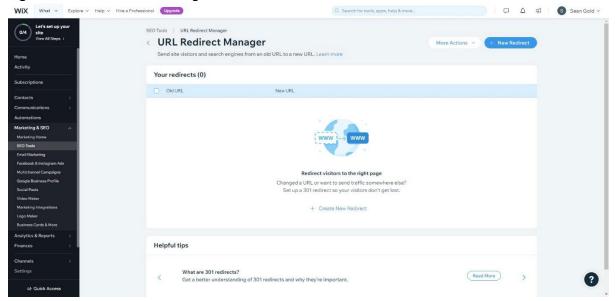
Figure 5. Error-404 Page



Another easy way to run into Error 404 is to simply type in the URL on the User-side incorrectly. The Error 404 status code is then displayed letting the user know that the website with this URL does not exist.

An easy way to fix error 404 from happening is to redirect the page to the correct one. This can be done using a 301 redirect which is a response code that signals the browser that the original content has been transferred to a different URL. It almost works like autocorrect, the browser knows what page you are trying to reach and redirects you to that page instead. Figure 6 shows the Wix setting page for creating URL redirects.

Figure 6. *URL Redirect Manager*



Case 2

The second case involves a user interacting with a button during the assessment. There is the possibility of a button being improperly linked, or not working the right way. If the button is not linked to the correct page, the assessment will not be accurate for the user. If the button is not linked to a page, or linked to an inaccessible page, it will navigate back to the home page. Figures 7, 8, and 9 demonstrate this phenomenon. This is an issue because the assessment can be long, and a user will not want to have to complete the assessment the same way again. This can be avoided with both our comprehensive use testing and individual link checks for each button as well. Figure 10 shows the interaction for checking which page each button is linked to.

Figure 7. Start of Assessment.

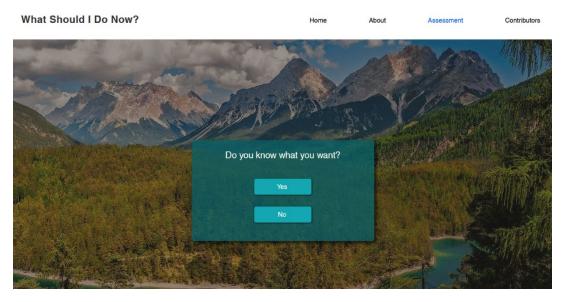


Figure 8. Assessment page with broken button

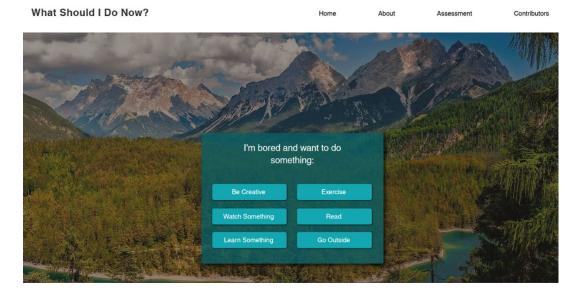


Figure 9. Site Home page after clicking broken button

What Should I Do Now?

What Should I Do Now?

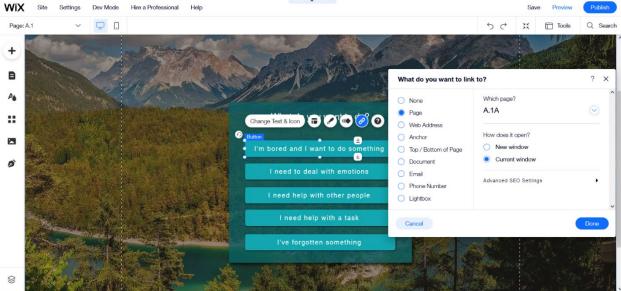
About Assessment Contributors

What Should I Do Now?

A tool to help with boredom.

Start Assessment

Figure 10. *Link editor for a button*



Other Failure Avoidance Measures

Transferring to the Wix content management platform

A perk of using a cloud-based web development service like Wix is that we don't have to worry about server uptime or security issues because it is already built into the website. We

don't have to use on-site hardware that could cost thousands of dollars to host a server and configure it to our liking which would take lots of time. We don't have to deal with troubleshooting any issues if the server happens to go down, either. The service provider is responsible for the upkeep and maintenance of the infrastructure.

Extra Security

One of the biggest things to take into consideration when creating anything on the internet is security. Wix adds an extra layer of protection in the form of 2FA. 2FA goes beyond the standard username and password to login. It requires additional login credentials in the form of something belonging to you. An example could be a one-time password sent to your mobile device. By having all site admins use this additional security to log in, we are ensuring that our data and our users are as safe as possible.

Using a Static Site

Another reason we opted to use Wix instead of creating our own was the reliability of a static website. For a website that isn't very complicated like ours, not having to connect to a database to retrieve data is more reliable because we don't have to rely on a separate program to operate the website. We don't have to worry about connections or changes to a dynamic database either. It also adds to the security of the website because there are fewer links in the chain where things can be overlooked. Keeping the data contained within the site itself is more secure since there are fewer points of access as well.

Conclusion

Changes in Development

Over the course of three months, our team was able to plan and execute the building, testing, and launching of our website. The site is home to our service What Should I Do Now? which is a questionnaire-based activity suggestion tool. The semester was spent working towards this one main goal. However, we did have a few major changes in our approach during the completion of the work.

The main change in our development process was our shift to using Wix. Initially, the team was planning on coding the web application manually. It would be created mostly using HTML, CSS, and JavaScript. It would also be connected to a dynamic database to supply the information for generating pages in the assessment. During the course of development, we ran into several issues. The amount of programming experience and knowledge that team members had meant that there was a lot of time spent on learning new concepts. This compounded the difficulty of trying to manually code the service, since we were working with

an experimental structure for a web application as well. The frustration in troubleshooting and debugging led to the change in approach. Instead of focusing on the architecture of the application that was giving us so much trouble, we wanted to focus on the actual content and appearance of the service. The team decided that a switch to a website building platform would be more beneficial. In testing services from Squarespace, WordPress, and W3Spaces, Wix offered the most suitable solution.

Challenges

One main challenge for this project was time. Due to the scheduled nature of the course it was completed for, we had to work under extreme constraints for time. The team had to ensure we could get all design, development, and testing completed within three months. This made planning somewhat difficult, since we all had individual schedules as well.

Another challenge was coding knowledge of the team members. We had varying skills and an uneven distribution of programming knowledge. This was one of the main factors for changing platforms. Spending weeks on uncooperative structural code took away from time that could have been spent on tailoring the content and appearance of the service.

Budget was also a large challenge. Due to the nature of the project for an academic capstone study, there was no outside funding. This meant that the team couldn't hire outside contracting for any problems. We also had to ensure that all tools and services we relied on for hosting and storing the code were accessible as free or low-cost. This limited the options we had for what we could use in development. We were able to find tools that sufficed but may have had an easier time if we didn't have the limitations on budget.

Lessons Learned

The biggest lesson we all learned while creating this unique project was how to work as a team. The first challenge we had to face was deciding on what to create within the boundaries of what was required. Each of us handpicked a few ideas, and we went over the pros and cons of each of them and finally decided to go with the What Should I do Now website. As discussed in the challenges, we also had to work around each other's schedules, and the course itself. Through the use of Microsoft Teams, we were able to collaborate and establish a hub for all our work. This made working together easier even though we would occasionally run into some issues with Microsoft Teams.

Another takeaway from the project was the overall experience of creating a unique product, and all the small tasks that led up to the final product. Early in the semester, we created charts detailing the operational flow and the functional decomposition of the prototype website. We also created a WBS, all of which can be viewed in the final report.

Originally, we were going to use Planet-Scale as our database and integrate it with the HTML code we developed ourselves, but due to time, and knowledge constraints we ended up using Wix to speed up the process and make it easier for all of us to contribute. There are some drawbacks to this like not being able to fully customize all the minute details and having to create a unique page for each card to be displayed. However, we ultimately decided that the benefits of using an easy and free web development tool like Wix would be perfect for the product we want to create.

Future Work

We have discussed making several changes in the future. These modifications have been left for further work due to the focus on creating a minimally viable product and the time constraints. We met our production goal, but there is room for improvement in many areas.

User Account

One idea for work to be done in the future is to integrate an account setting. This would allow users to document previous results. With the addition of creating an account, we would also like to incorporate the option to rate the results of the assessment. This means that users could have data on how accurate the assessment is for them. They would also be able to track which results they receive most often, or which results they seem to like best.

Result Indexing

Another track to explore is further indexing of all the potential results. This would allow for expanding on other functionality. One of those is the possibility of a randomize function. Sometimes a user really does just want a random activity suggestion. Adding a button for randomization would let them get a randomized choice out of the possible results. We have also discussed adding a search function. That function would give users the ability to search the indexed results for a specific activity or previous result, without the need to retake the assessment. This capability sparked the idea to include a tagging system as well, to denote categories of similar results.

Mobile Application

The service was designed as a web page to take advantage of searches for what to do when bored. A suggestion we have received is to make the site into a mobile application. We were not able to develop a parallel app due to design standards and time constraints. The site is accessible on mobile, but due to the layout and assessment system, it is not ideal for mobile use. If there is sufficient interest in a mobile application for this service, the team would gladly take on the adaptation.

Expanded Decision Tree

We received a lot of helpful feedback from reviews of the project. One such review had the suggestion to expand the capabilities of the assessment outside of just boredom. We were able to expand on the decision tree in our planning for the final project, but not as much as the team believes is possible. The reviewer made a good argument that this tool could be used for many different scenarios, and we agreed. In the future, we would like to develop the branches to even more situations.

References

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