



Business Requirements Document

Date Submitted: 10/6/2021

Team Hobby:

Colin Creasman

Daniel Bribiesca

Team Lead: Jacob Delgado

Long Nguyen

Rifat Hasan

Document History

Date	Version	Changes
9/11/2021	0.1	Develop Outline of Doc
9/20/2021	0.2	Add Descriptions to Headings
9/28/2021	0.3	Start on Requirements
10/1/2021	0.4	Fill in Feature Requirements

Definitions (take out if not needed)

Term	Definition

References

Title	Description/Link

Introduction

Purpose

The purpose of our website is to give users an immersive experience when looking for a hands-on activity to work on. Rather than recommending users projects that are arbitrary in practice and/or based on popularity, our website is geared towards personalizing the user interface through a simple questionnaire. Our customized algorithm will provide an intuitive environment where the user can develop, progress, and mature their current skill sets, or look to acquire new skills based on their personality.

Audience

The leading audience of this website would be beginner to professional hobbyists with tools at their disposal that seek to progress their physical crafting skills through personalized project recommendations. Age-wise, the target audience would be adults who are 18 and older to decrease liability issues within the website application.

Timeline

Describe the chronological order in which tasks for the project will be operated according to the scrum methodology (talk about each milestone in detail).

Milestone 1:

Business requirement documentation

Tech Specification:

High Level Design

Site Map

Milestone 2:

Project Plan

Test Plan

Network Diagram

Milestone 3:

LL Design

UM

Logging

Project Summary

Project Scope

The website will be region locked to the United States of America and will be supporting American English only. The website will only support the latest Chrome version as of 05/20/22 and will not support beta versions. Our website is based on the tools a user has, so the website will display all measurements in metric units, but will also offer imperial conversions.

Personalization Formula

Go over how the website will find projects specifically for each user

Our personalization formula is based off of the mandatory questionnaire that every user must complete when creating an account. The user inputs the tools available to them and then they enter in their skills along with the skill sets that they are interested in. We gave the most weight to tools, with a weight of 2, while both the user interest and the skillset are given an equal weight value of 1. Skills will have levels based on what the user inputs so we can recommend them projects that are feasible. Skill interests will then have a secondary scaling of 1-3 based on how interest there is from the user.

Order of Filtering

1. Project recommendations will first filter out any required tools the user doesn't have.
2. It will then filter out the projects based on the skills and skill level the user has on that specific expertise.
3. Lastly, it will filter in projects that the user is interested in, but will be of low skill level if the user states that they do not have the skill set.

Out of Scope

Our website will not:

- Have any monetization or product recommendations.
- Support Software/coding related projects or skill sets.
- Support languages other than American English.
- Support the ASCII-Extended table, only the original 127 characters.
- Support professional level projects that require licensing to complete.
- Have an email system to recommend projects or give notifications to our users.
- Be supporting direct messaging between users.

Website Requirements

Storage

Explain how user data will be stored and used throughout website

- Our website will store email addresses from our users for login functionality.
- Our website will also store user preferences from the questionnaire.
- Our website will also save project ratings and comments.

We haven't decided that yet actually, but I think we can have a sidebar with the tools that are used on the project page

Features - **Requirements/features are ordered from highest to lowest**

Project Collection

- Functional:
 - Projects must be displayed with a title, thumbnail, and brief summary.
 - Title cannot be more than 20 characters (excluding spaces)
 - Thumbnail must be a PNG, BMP, or JPEG to show the user what the project could be about.
 - Thumbnail can be up to 8MB
 - Brief summary will be up to 300 characters to let the user glance at project contents.
 - Projects will be pooled from WikiHow and Instructables.
 - Will pull a maximum of 70 new projects per week at 12am PST Monday.
 - Projects that are not in accordance with U.S. safety laws will be removed.
 - Existing projects that have pending changes will be updated weekly.
- Non-Functional:
 - Projects will accurately mirror the title, thumbnail, and description of the project from wikiHow and Instructables
 - Titles will be the same as where it was taken from
 - Thumbnail will be compressed if needed but the same image will be used from the website it was taken from
 - Description will be shortened if needed, but the contents will be the same
 - A project file will take no more than 30 seconds to accurately upload all contents of the user's project

User Questionnaire

- Functional:
 - Questionnaire is mandatory for users who wish to create an account.
 - Questionnaire will be 4 pages, one for each data category:
 - Skill sets
 - Skill level

- Interests
 - Available tools to the user
- Questionnaire pages require at least one answer from the user.
 - Answers can be updated after it has been completed.
- Non-Functional:
 - The questionnaire must be responsive.
 - Can expect a 1-2 second delay from when the user selects an option or unselects it.
 - Questionnaire page selections will accurately describe the available skill set(s) and skill level(s).
 - Questionnaire page will accurately display the name of the available tools for selection.
 - Each page of the questionnaire must load within 3 seconds to ensure a smooth experience.
 - The questionnaire must close and redirect to the account page within 10 seconds of the user finishing it.

Customized Recommendations for Projects and Tools

- Functional:
 - This functionality is only available to logged in users.
 - Users are given project recommendations based on the answers given in the questionnaire.
 - Recommended projects will be displayed for one week until it is refreshed.
 - Recommended projects can be saved for later.
 - Users are given tool recommendations that would allow them to take on new projects.
 - The tool(s) must allow the user to take on at least 5 new projects in order to be recommended.
 - Tool sizes will be shown in metric units, but a conversion to imperial units will be available.
- Non-Functional:
 - Recommended projects will be displayed in a way that the user can easily identify if they are interested or not.
 - Recommended tool(s) will be accurate in order to allow the user to identify them in real life .

Uploading/Removing Projects from Personalized Profile

- Functional:
 - This functionality is only available to logged in users.
 - Users are able to upload their own projects to the website.
 - Users can upload an infinite amount of projects.
 - Only one project at a time can be uploaded
 - Users can save as draft before publishing.
 - Users can delete published projects.
 - Projects consist of the title, body, and images.

- The project title is limited to 30 characters.
- The body is limited to 10,000 characters.
- Users will be able to upload media file(s) for their project posts or comments.
 - Users can edit their uploaded file(s) at any point.
 - Other users cannot remove a different user's uploaded file(s).
 - Users will have the option to upload a PDF version of their project.
 - 15 MB limit per file.
 - Uploaded images will be limited to BMP, PNG, and JPEG.
 - 5 MB limit per image
 - Unrestricted resolution
- Non-Functional:
 - Uploading a project will take a maximum of 20 seconds.
 - Deleting a project will take less than 5 seconds.

Rating for Projects

- Functional:
 - This functionality is only available to logged in users.
 - Users will be able to rate a project from 1 to 5 stars.
 - Users can update their rating at any time.
 - Users cannot undo a rating.
 - The average star rating and the number of ratings will be displayed.
 - User ratings will only count once per user to ensure credibility.
- Non-Functional:
 - Ratings should be updated in under 1 second of rating a project.
 - Star rating will be easily visible for all viewers of the project.

Search and Discovery Page

- Functional:
 - This functionality does not require an account.
 - User searches are limited to 30 characters.
 - Search is not case sensitive.
 - Discovery page shows 20 random projects.
 - When logged in, the page will contain the 20 random projects, but also a recommended section catered to them.
 - Recommended section will display 10 catered projects.
 - Recommended section is updated daily.
- Non-Functional:
 - Users can expect search results to load within 10 seconds.
 - Search will display 10 results per page.
 - Each project will correctly display the title, thumbnail, and brief summary.

Comment Section

- Functional:
 - This functionality is only available to logged in users.

- Users are able to comment on projects.
 - Comments will be limited to 500 characters (excluding spaces).
 - Comments containing racial slurs will be rejected when attempting to post.
 - The original poster of the project will immediately be notified when a comment is posted.
 - A rating option is available to users for comments.
 - Users can give a up or downvote on the comment.
 - Users are able to post images with their comments.
 - There is a 5 MB limit per image.
 - Image formats accepted are BMP, PNG, and JPEG.
- Users can filter comments by:
 - Highest to lowest rated.
 - Lowest to highest rated.
 - Most number of ratings.
 - Newest posted first.
 - Oldest posted first.
- Non-Functional:
 - Users ratings will update/load within 3 seconds.
 - Comments will be posted and displayed within 10 seconds.
 - 15 comments will be displayed per page.
 - Users will be notified within 3 seconds of a rejected comment.
 - Media file(s) will take up to 5 seconds to upload per file.
 - Images will take up to 3 seconds to load when viewed.

Notifications

- Functional:
 - This functionality is only available to logged in users.
 - Users will be notified of the 5 most recent activity notifications.
 - A notification page will be available for users to view all notifications.
 - Users will be notified when events occur:
 - Users are recommended projects on the first login of the day.
 - Recommended projects will be limited to 5.
 - Will be refreshed weekly.
 - A user has posted a comment on their project.
 - Will be stored for 30 days once viewed.
 - A user has replied to their comment.
 - Will be stored for 30 days once viewed.
 - The first upvote their project has received.
 - Will be stored for 30 days once viewed.
 - Comment and upvote notifications will be stored for 30 days once the user has viewed them.
- Non-Functional:
 - Notification icon must be an easily recognizable icon.
 - Notifications will take up to 3 seconds to load.
 - Users can disable notifications.
 - Notification(s) will be neatly displayed.

- Notification body limited to 3 lines of text unless fully viewed.
- Notification(s) will accurately show what they're referring to.
 - Project name
 - Commenter's username
 - Comment's contents

Policies and Guidelines

System Requirements

Barebones of tech spec and what is required in order to run the website

Browser Compatibility

Explain which browser our website supports and will be liable for

- We will support the current version of Chrome **94.0.4606.61** and will target support for the latest Chrome version as of **05/20/22**.

Security

- Upload
 - Secure connection for uploading
 - Upload cannot be interrupted
- Account
 - Login
 - Credentials
 - Username must match password
 - At least 1 special character
 - At least one uppercase letter
 - At least one 1 number
 - Character length of 8-16
 - Password recovery
 -
 - Logout
 -
 - **Functional: (out of order)**

- Users that don't have an account will only have "view" permissions to prevent them from modifying another users work
- Open SSL will be implemented for HTTPS to encrypt and safeguard the website
- Use proxy through Apache with .NET to region lock website to the United States of America
- Make user add a minimum of 1 special character, 1 number, and 1 uppercase letter
- Make user's password character length be at least 8 characters, otherwise don't take it
- Security questions will be asked during sign up process for users that forgot their password and will be case-sensitive to add a layer of protection
- Archive any login attempts for backlogging and prevent accounts to be taken
- Users that have signed up must be logged and be able to log in to their specific account
- Verify username and password through logged information in database
- When user logs out, all information of that user must be hidden and they will be treated as a user without an account
-
- **Non-Functional:**
 - Website will have "https" in the beginning of the URL to indicate that SSL certificate has been processed
 -

Explain what security protocols will be implemented for user data

We will be implementing an SSL certificate for HTTPS.

Using a proxy through Apache in order to region lock our website to the United States of America.

Passwords will have restrictions for special characters, numbers, and uppercase letters.

2FA for non functional

Error Handling

Look at different ways to handle errors such as inputting chinese characters into search bar

We will not stop users from inputting what they like into our search box, but it will try to find the closest match. If illegal characters are found, then we will not initiate the search at all. If a user tries to post a project with illegal characters, then it will not go through and will be saved as a draft instead with the reason displayed. If a user tries to upload an image larger than the 5MB limit, then it will be converted to jpg if it is not already one. If it is a jpg file and is over the size limit, then it will be rejected and inform the user. If a user doesn't select anything from the

questionnaire then they will not be allowed to proceed to the next question until they select at least one item.

- Empty search box or illegal character
- Illegal characters will trigger error
- Oversize images will be convert to JPG, otherwise decline
- Empty or incorrect user name or pass upon logging in
 - Not proceed and inform user
- Empty project Title or body
 - Will not post, will inform user to type in the correct fields (at least 1 character)
- Empty comment or illegal characters in the comment
 - Will not post, will then inform the user
- If post body or title or comment is over the character limit
 - When the user tries to publish, they will be informed by how many characters they're over
- If our database goes down and the user is trying to post or search:
 - Display an error message with the “nyan cat” gif
 - Save option, if not saved, good luck
- If our website goes down
 - 404 error will be displayed

User Navigation

(insert site map)

Logging/Registration

How and what will be shown during registration

- A form with details asking the user to input their desired username and password twice.
- Passwords will have restrictions for special characters, numbers, and uppercase letters.

Login/Logout

Steps to login and logout, along with the functional/non functional requirements of doing so

From the homepage, users will be able to find the login button on the top right. It will redirect them to the login page where they can also create an account if they are a new user. They will enter their email address and password to login.

If the user is already logged in, then the top right will change to a “Logout” button instead and will prompt the user to confirm before fully logging them out.

- Security questions for password recovery

User Experience

Explain various experiences user will have

- Links in the search bar, will be treated as plaintext

Make sure to reference proposal

Priority	Description	Rationale
<i>Priority Level</i>	<i>Description of Requirement</i>	<i>Why do we need this requirement?</i>
General Functional Requirements		
1	Login/Registration	Our website is based on personalization, we cannot provide curated projects if they are not registered users.
1	User questionnaire at account registration.	Our website is based on the ability to produce curated projects to our users. If we do not know what their interests are and what tools they own, we cannot provide the basic functionality of our website.
1	Upload	Users need to have the ability to upload in order to publish their own projects. This is essential for us to be able to grow our user base.
2	Password Recovery	If our users cannot login, then they cannot fully utilize our website. People forget and it's important for them to be able to reclaim their account.
2	Project Page	Users should be able to post their own projects. It's vital for our website to be able to grow the user base and the best way to do that is if we have our community participate in sharing new projects.
2	User Profile	User profile will contain an avatar, user name, and a description that the user can edit

3	Comments	Users should be able to share feedback or offer constructive criticism on projects. This can begin many discussions where other users can learn to avoid mistakes when they attempt the same project.
3	Search text field	Our users should be able to search for any projects they like, regardless of what they answered for the questionnaire.
2	Search text should display similar search results to the user's input	Without this functionality, users will not be able to get anything out of the search bar since the input will not be fed into any data source
3	Discovery page	The discovery page allows for users to explore many projects that could possibly interest them. We have both curated and non-curated projects shown, this exposes users to the most amount of various content.
3	Notifications	Users should be able to know when someone comments on their post. This invites discussion and encourages our users to interact which could lead to growing the community.
3	About us page	This page is meant to show everyone who visits the website what our goal is. New users could join based on whether or not they like the idea of what we're trying to accomplish.

Priority	Description	Rationale
<i>Priority Level</i>	<i>Description of Requirement</i>	<i>Why do we need this requirement?</i>
<i>General Non-Functional Requirements</i>		

	Website should load under 5 seconds maximum when there are less than 1000 active users	To keep the website optimized so that slow internet users can have the same experience as other users