

# Project Proposal

Team Name: Hobby

Team Members:

Colin Creasman

Daniel Bribiesca

Jacob Delgado (Team Leader)

Long Nguyen

Rifat Hasan

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# Product Proposal

## Project Description:

- The name of the product is **"Hobby Project Generator"**.
- The product is a web application.
- New users will have to answer a mandatory questionnaire for what tools, skill sets, skill level, and interests they have.
  - Each of these answers will be changeable within the user settings later.
- The intended audience are hobbyists with physical crafting skills, but want new ideas for projects.
  - The age range will be limited to 18 and older, due to disclaimers regarding personal safety and accountability.
- The value of our product is that it will show new curated projects based on the user's physical skill set, skill level, and available physical tools.
  - Each project will have a small summary to go with it, in order to give the user a brief description of what the project entails.
- The vision for this product is to be a hub for discovering new ideas for projects from hobbyists and/or professionals based on the specific resources available to each user.
  - We will curate projects with recommendations to useful tools that would allow the user to take advantage of their current skill sets.
  - Users will also have the option to search for a specific project on the discovery page.
  - At the same time, we want the product to become a social community where new ideas can be discussed and improved upon with each new user.

## **Expansion Points:**

- As user base grows and more projects are submitted, we will ask users for skill level and time completed for projects
- As our product and user base grows, we will add a "Software Skill Set", opening our application to a wider range of users and skills
  - This will be hobbyists or professionals in computer programming, databases, and other software related fields.
  - A category for anyone familiar with an Arduino will be added for programming implementations.
  - Skill Sets
    - Programming Languages
    - Databases

- Operating Systems
- Computer Design and Architecture
- Office Suite

## Competitors and What Makes Our Project Different:

- **List of competitors and our advantages over them:**
  - **iFixit** - Include steps and guidance on how to clean and repair electronic products. Also inform users of tools that will be needed for the repair as well as the product specifications.
    - Our product would recommend projects based on the user references and the available tools instead of the other way around where the user already had a project in mind and then look for the necessary tools and resources.
  - **Instructables** - Community style website where users post their projects with written tutorials.
    - Our product would recommend tutorials/projects based on the user's individual profile.
  - **WikiHow** - Wiki-based hub where users and experts post tutorials detailing how to do common everyday tasks/projects (e.g. building a deck; changing a tire). The site is limited to mostly practical "general know-how" projects.
    - Our product pulls projects from a variety of sources to curate not only practical tutorials (such as those provided by WikiHow), but also those posted on sites with a more creative basis (e.g. Instructables, Hackaday) in order to provide a much larger and holistic pool of possible projects that can optimally curated based on each user's individual motives, preferences, skills, and resources
  - **Pinterest** - Provides idea/project recommendations based on user profile, but the profile is like-based; it only takes into account the user's previously liked posts from the site.
    - Our site's user profile would be much more holistic - including the user's previously completed projects, the physical resources they have (e.g. what tools they have access to, etc.), skills they have already learned, and any additional skills they are wanting to learn - so the recommendations would be tailored toward much wider criteria.

### **Expansion Points:**

- After scope is expanded to software:
  - CodeAcademy - a site offering free coding courses in various programming languages

- Khan Academy - lessons, lectures, and tutorials on various software skills
- YouTube - tutorials in software with recommendations based on watched videos
  - Our project would be more specific in terms of the user skill level
- GeeksforGeeks - provide written tutorial, documentation and code examples for different languages such as C, C++, Java, Python, ...
- W3Schools: - provide written tutorial, documentation and code examples for different languages such as C, C++, Java, Python, ...

## Features:

### 1. Pooling projects from WikiHow and Instructables

- a. Will refresh weekly at 12:00 A.M. PST because the average time to complete a project will take a long time.
- b. Dealing with differential data
  - i. **Adding projects:**
    1. If the project is new, then it will be added to the database list with the correct link.
  - ii. **Deleting projects:**
    1. Removing projects that are no longer legal or possibly outdated based on the link's existence.
  - iii. **Updating Projects:**
    1. Updates to the title and contents of the project on the external website will not change the link from "Hobby Project Generator".

### 2. Skill Set , Skill Level Categories, and Interest will be predefined with the list below

- a. **Skill sets will be based on user selection of available skill sets listed**
  - i. Skill sets
    1. Carpentry
      - a. This skill options include:
        - i. Wood cutting
        - ii. Sanding
        - iii. Painting
        - iv. Sculpting
    2. Blacksmith
      - a. This skill options include:
        - i. Welding

- ii. Cutting
- iii. Sanding
- iv. Painting
- v. Polishing

3. Electrical requires the ability to solder, cut and strip wires.

a. This skill options include:

- i. Soldering
- ii. Cutting wires
- iii. Stripping wires
- iv. Crimping wires

4. Pottery

a. This skill options include:

- i. Clayworking
- ii. Molding/modeling of the clay
- iii. Baking

5. Landscaping

a. This skill options include:

- i. Gardening
- ii. Plumbing

6. Masonry

a. This skill options include:

- i. Working with bricks and stone
- ii. Knowing how to use mortar
- iii. Working with concrete

**b. Skill Level Categories will be based on a rating that the user assigns to each skill selected. Ratings will be:**

- i. **Beginner** - Little to no experience in skill set.
- ii. **Intermediate** - Some experience so that the user is familiar with the skill.
- iii. **Advanced** - User has had plenty of experience with skill and is more than comfortable taking on difficult tasks.

**c. Interest availability will be the same as skill set:**

- i. Carpentry
- ii. Blacksmith
- iii. Electrical
- iv. Pottery
- v. Landscaping
- vi. Masonry

**3. Customized recommendations for projects and tools that depends on the users' references**

- a. Recommendations will be based on our “special sauce”(see below).
- b. Simple tools will be recommended.
  - i. The goal is to recommend one or two tools that the user could benefit from having in order to take on even more projects with their current skills.
- c. Project recommendations will be limited to 5, based on the interest of the user.

#### **4. Uploading/Removing projects from your personalized profile**

- a. Users will need to sign in to upload or remove a project.
- b. Users will only be able to create 1 project at a time but are not limited to how many projects they can post:
  - i. Users will be able to upload multiple media and text files together in order to customize the presentation of their post.
  - ii. Images within a project have a total limit of 50MB.
    - 1. Current total size will be displayed to the user and updated each time an image is added or removed.
  - iii. Text content within a project will be limited to 10,000 characters.

#### **5. Rating for projects (1 - 5 stars and amount of user ratings)**

- a. Will be presented as 5 empty stars and the user fills stars to their satisfaction to “grade” that specific project.
- b. Users will need to sign in to rate the project, unregistered users would need to sign up to have this feature.
- c. User project rating will only count once, but can be updated an unlimited amount of times.
- d. Number of viewing users that rated the project will be displayed.

#### **6. Search and Discovery Page**

- a. Page layout will be a search text box at the top and will have photo thumbnails of featured projects arranged below.
  - i. Search for specific projects by project titles.
    - 1. Titles that match searched content most closely to a project will be displayed first.
    - 2. Optional filter menu for skill sets, skill level, available hardware, star rating, and highest number of votes.
      - a. One filter may be selected at a time.
  - ii. Featured projects page will be updated based on projects' star rating and display upon discovery based on categories below:
    - 1. Categories include time constraints: daily, weekly, and monthly top rated projects, most rated projects.
  - iii. The search box can only be used to search using text up to 100 characters and cannot search by images.

## 7. Comment section (for each project, upvote and downvote for comments)

- a. Users will need to sign in to comment on the project with a text limit up to 500 characters.
- b. The comment section will be similar to a forum, where each project will have separate sections for users to ask questions or make comments on a specific project.
- c. Comments can be upvoted/downvoted and will be reflected numerically with green/red color.
  - i. Can be updated an unlimited amount of times.
- d. Logged in users would be able to post pictures of their completed projects in this subsection.
- e. Users can also post pictures in the comments. Users will gain new ideas of how to make the project more personalized for them from the pictures and will also incentivize the community to post and share, thereby growing the product and social aspects of the application.
- f. Images uploaded can be PDF, PNG, JPEG with a total limit of 25 MB for all images.

## 8. Email notification

- a. Users will receive a weekly email of featured projects on the discovery page being uploaded.
  - i. Emails will be **enabled by default**, but users can **opt out** at any time through their settings.
- b. Users will also receive emails when comments are made on their post but will **not** be notified for upvotes.
  - i. Users will have the option to receive emails for comments and upvotes.

## Expansion Points:

### 9. Product Recommendations

- a. If a user does not have a specific item i.e hammer, they would have the option to be linked to a list of that item from Amazon
  - i. Link will open in a new tab and user can pick and choose items they want to buy
- b. Author of a project listing can embed personal links of their items or recommended items they want the user to try using
  - i. This will allow authors to profit off recommended items if Hobby Project Generator users use their promo code if they have one
  - ii. Possible adverts:
    1. "Partnered" links to recommended tools or materials will allow us to get a commission each time someone makes a purchase.

10. **Professional (Skill level Category)** - User is able to take on very complex projects that would require a professional license to complete.

## Matching Formula for Recommending Projects:

- Weights will vary for user interest and skill sets, but not tools:
  - Recommendations formula will have Tools as the heaviest priority weight with value of 2 and skill set and interest with an equal value of 1. This value will be implemented in the backend and the user will not be able to see it.
  - **User interest** will use a value of 1- 3
    - 1: Not interested
    - 2: Mildly interested
    - 3: Very interested
  - **Available set of interest:**
    - Carpentry
    - Blacksmith
    - Electrical
    - Pottery
    - Landscaping
    - Masonry
  - **User skill set:** Users will be able to choose between a yes and no to indicate their capability in a given skill set.
  - **User available tools** are important because certain projects would be difficult or impossible to complete without them.
    - Each tool will have the same weight because the priority of the tools needed for each project varies.
    - See at the end of the document for the tool list.

## Questionnaire:

- The user will be able to choose from a predefined list for each of the three categories using a checkbox to select the options:
  - User tools
    - List of tools is defined at the bottom of the document.
    - Each tool will be displayed in alphabetical order so that the user can easily find the tools they own.
  - User interest/skill set:
    - The list of predefined interests/skill sets will be shown for users to rate each one on a scale of 1 to 3 based on their preference.



- A second rating for skill sets will have the option of yes or no to find out if the user has that skill or not.
- Each skill set will have options of sub skills that the user will be able to specify that they have. List of interests/skill sets are:
  - Carpentry
    - This skill options include:
      - Wood cutting
      - Sanding
      - Painting
      - Sculpting
  - Blacksmith
    - This skill options include:
      - Welding
      - Cutting
      - Sanding
      - Painting
      - Polishing
  - Electrical requires the ability to solder, cut and strip wires.
    - This skill options include:
      - Soldering
      - Cutting wires
      - Stripping wires
      - Crimping wires
  - Pottery
    - This skill options include:
      - Clayworking
      - Molding/modeling of the clay
      - Baking
  - Landscaping
    - This skill options include:
      - Gardening
      - Plumbing
  - Masonry
    - This skill options include:
      - Working with bricks and stone
      - Knowing how to use mortar
      - Working with concrete

## Data Sources:

- **Initial chunk of projects:**
  - Using a search engine tactic of WikiHow and Instructables in order to initially create an extensive enough list.
    - We will use separate copyright free images to represent the visuals of the project.
  - There are no issues with crediting and linking directly to the source found because there are no monetary gains for us and we are still diverting traffic to the original page.

## **Expansion Points:**

- As our user base and the number of user submitted projects grows, we will remove our initial data source pulling system and focus on curating user submitted projects
  - This will put more focus on the use of our application and its available functionality, making us a better competitor with similar applications.
  - Also opens up the path for us to partner with companies in order to make monetary gains.
- **How will obsolete projects be removed?**
  - We will be using the sources below to match against current projects on the site and remove them.
  - Sources for illegal materials:
    - EPA for list of chemicals that are illegal:
      - [Chemicals under the Toxic Substances Control Act \(TSCA\) | US EPA](#)
    - IMRA for list of industrial materials that are illegal:
      - [IMRA List of Prohibited Substances and Components](#)

## Possible Legal Issues:

- **There are no issues with the data we are utilizing from each website**
  - **Creative Commons License protects all users**
    - Generic photos will be pulled from a copyright free image source search engine
    - Disclaimer for own responsibility of using legal materials in terms of service

- User base can be content creators further down the line, as product becomes used more
- **Terms of Service Regarding Monetary Gains**
  - There is no promotion because only the tools recommended will not have links to companies of where to purchase them

## List of available tools to choose from:

- |                        |                    |
|------------------------|--------------------|
| ● Electric drill       | ● Bradawl          |
| ● Circular saw         | ● Coping saw       |
| ● Soldering iron       | ● Wire             |
| ● Electric screwdriver | ● Spirit level     |
| ● Chainsaw             | ● Tape measure     |
| ● Nail gun             | ● Spade            |
| ● Hammer               | ● Shovel           |
| ● Screwdriver          | ● Hoe              |
| ● Mallet               | ● Trowel           |
| ● Axe                  | ● Lawnmower        |
| ● Saw                  | ● Pruning shears   |
| ● Wrench               | ● Toolbox          |
| ● Monkeywrench         | ● Paint thinner    |
| ● Chisel               | ● Anvil            |
| ● Pliers               | ● Sandpaper        |
| ● Hacksaw              | ● Workbench        |
| ● Phillips screwdriver | ● Sharpening stone |
| ● Hatchet              | ● Vise / clamp     |
| ● Plane                | ● Stepladder       |
| ● Scraper              | ● Crimpers         |

### **Expansion:**

1. Possible updates to add more tools.