

Yarniverse

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1. Who did what?

Grace wrote the summary with input from all group members on what we wanted our product to look like and what the goals of the project should be.

Mandy worked primarily on creating and formatting the personas after a group discussion on who we wanted to use our product. Mandy, Grace, and Evan all contributed to writing the text used for the personas, including quotes, biographies, and scenarios.

Grace added to and reformatted an outdated work plan that all group members contributed to previously.

Evan created the feasibility analysis and researched the costs we expect to incur for our project. Mandy and Grace helped with clarifying questions on formatting the table and how we should break down the upfront versus maintenance costs.

Evan, Mandy, and Grace all came up with some of the requirements, based on group discussions about our goals for the project and what we had learned from the individual parts of this proposal that we completed.

Mandy wrote the questionnaire, again based on a group discussion about the project.

Order of proofreaders: Grace, Evan, Mandy

2. Summary

When learning to crochet, it can be hard for beginners to know where to start. Reading patterns can be confusing and learning new stitches can seem like an incredibly daunting task. These are obstacles that might make a new crocheter abandon a new hobby or be reluctant to start at all. Additionally, even more experienced crocheters might struggle to find new projects to try or be unsure of how to use up the materials they have already acquired. Helping crocheters know what to make and how to make it will make the hobby more enjoyable for crafters everywhere.

Our project, Yarniverse, aims to help crocheters of all skill levels improve their craft and use their materials more sustainably using two main strategies in our app. Upon opening the app, users would be

prompted to create a crochet profile and self-report their skill level, from novice, beginner, intermediate, or expert. On the backend, this allows our app to sort patterns by their imputed skill level, so they then have access to patterns that are appropriate for them and can select a pattern that piques their interest and creativity. When beginning their first project, new users would be directed to video tutorials for the necessary skills for their select patterns, such as videos on making starting chains and magic circles, or simple stitches like single or double crochet. After watching the tutorials, users would be able to check off skills they have acquired. This creates a more user-friendly interface so that repeat users are not always prompted with the same tutorials. Learned skills would be saved to the user's profile so that the tutorials can be accessed again if users need a refresher. As users progress through new skills and patterns, they can update their skill level accordingly so that new patterns and skills appear. Users will also be able to keep track of current projects, and their progress, and be able to mark patterns as complete.

In addition to skill level and necessary skills, patterns would be tagged with the necessary supplies to complete the project. This acts in two ways. It can provide a shopping list for crocheters who do not have the supplies on hand or it can act as a way to reverse search the patterns by what materials the user has available, allowing more established users to find patterns that use the materials they already have.

With our aims for Yarniverse clearly defined we must outline factors and plans to ensure product success, the first being our personas. Our personas will give us an indication of what kind of users we might expect to use our product and how Yarniverse can best meet their needs as crocheters.

The second component we have is our work plan. Our work plan outlines the steps to complete our project and the estimated timeline for each step. By following the work plan to the best of our abilities, we can ensure quality and timeliness for the completion of our product.

The third component we have is an economic feasibility analysis which shows our predicted costs for the project and our ability to stay within budget. For our project, we have a predicted cost of \$656,509 based on development costs, UX research costs, graphic design, hosting costs, and marketing costs.

The fourth is our requirement definitions, which lay out our expectations for the product and give a clear view of what we need to include in the product to ensure we have all the necessary features before we launch.

The fifth and final component is our questionnaire. It is a list of relevant questions we hope to ask end-users to get an idea of what they think of our product's functionality, what features they might want to see in the future, and other useful information as we move forward with this project.

3. Personas

For our app, we created two personas to represent both the beginner and experienced crocheter.

NAME

Danielle Fisher

Quote

“

*I'm excited to dive into the world of crocheting but I **don't know where to start!***

”



Demographic

♀ Female 20 years

📍 Chapel Hill, NC

UNC-CH Student

Single

Crochet Beginner

Biography

Danielle **just learned how to crochet** and is excited about gaining a new hobby. She is unfamiliar with **reading crochet patterns**. She has some basic supplies but does not know what to make and has trouble telling **which projects** might be too difficult for her. She wants crochet to be a relaxing pastime and something she can do with her hands while she and her cat watch her favorite shows or listen to podcasts.

Motivations

- **Making gifts** for friends and loved ones.
- Being able to start a **new, stress-relieving hobby**.

Frustrations

- Is **unsure where to begin** when making a new crochet item.
- **Not having the time, money, or materials** to complete a project.
- Scared to **lose motivation** due to patterns being **too difficult** for her.

Scenario

Danielle has bought some basic crochet supplies, including a **crochet hook and yarn**. She is looking for patterns and decides to search on the **Cröchet Crew App to find a beginner-friendly template**. The app shows a variety of different patterns and she selected a cute frog pattern **after recommendation from the application**. From here she **follows the step-by-step instructions and videos** and is able to complete her project!

Personality

creative, nervous, excited, curious

Influences

friends, mental health, her cat

NAME

Natasha Phillips

Quote

“

Budgeting with two kids is difficult, but I'd love to learn how to use my crochet materials better!

”



Demographic

♀ Female 35 years

📍 Raleigh, NC

Manager at a local women's shelter

Married

2 children

Crochet Intermediate

Biography

Natasha has **been crocheting for a few years** and is **well versed** in reading project patterns. She has lots of yarn and many different sized hooks, but is bored with some of the simpler patterns she already knows. She wants to **expand her horizons**. She likes to crochet while on the phone with her grandmother, who taught her how to crochet. She loves to create things in order to connect with people and makes hats, scarves, and gloves for winter wear drive in her town every year.

Motivations

- **Improving** her current crochet skills.
- Being able to make **more impressive designs**.
- Wants to **utilize all** of her existing **materials**.

Frustrations

- **Doesn't know** the difficulty of unknown crochet skills.
- Scared to mess up and **waste materials**.

Scenario

Natasha has finished her latest project and now has some excess materials: 50 cm of thick blue wool, 150 cm of thinner white wool, and an abundance of stuffing. She isn't really looking to spend any more money at the moment and so she logs in the **Cröchet Crew App to see if there is an existing pattern** that she can **use her excess material**. The **Cröchet Crew application** takes her in existing materials and recommends her a beanie pattern. As she is well-versed in crocheting, the application only **needs to list the stitches in the order completed**. She can **mark off the stitches as she goes along** and is able to **use up the excess materials** and produce another product in an efficient manner.

Personality

innovative, confident, enthusiastic, artistic

Influences

family, community, piano

4. Workplan

Work Tasks	Opportunistic “A” in Weeks	Realistic “B” in Weeks	Worst Case “C” In Weeks	Calculation	PERT Result on Work Task
Define User Goals and Challenges	1	1.5	2	$\{1(1)+4(1.5)+1(2)\}/6$	1.5
Create User Personas	1	1.5	2	$\{1(1)+4(1.5)+1(2)\}/6$	1.5
Create Survey	0.5	1	2	$\{1(0.5) + 4(1) + 1(2)\}/6$	1.083
Brainstorming and UX Research	2	3	4	$\{1(2) + 4(3) + 1(4)\}/6$	3
Creating a Low-Fidelity Wireframe	1	2	3	$\{1(1) + 4(2) + 1(3)\}/6$	2
User Testing	2	3.5	5	$\{1(2) + 4(3.5) + 1(5)\}/6$	3.5
Compile Crochet Patterns and Other Materials	3	5	7	$\{1(3) + 4(5) + 1(7)\}/6$	5
Write Documentation	1	2	3	$\{1(1) + 4(2) + 1(3)\}/6$	2
Create Functional Model	2	3.5	5	$\{1(2) + 4(3.5) + 1(5)\}/6$	3.5
Feasibility Study	0.5	1	2	$\{1(0.5) + 4(1) + 1(2)\}/6$	1.083
Create High	3	4	5	$\{1(3) + 4(4)$	4

Fidelity Wireframes and Prototypes				$+ 1(5)] / 6$	
Usability Tests	2	3	4	$\{1(2) + 4(3) + 1(4)\} / 6$	3
Reconfiguration and Update	2	3	4	$\{1(2) + 4(3) + 1(4)\} / 6$	3
Program Frontend	6	8	10	$\{1(6) + 4(8) + 1(10)\} / 6$	8
Program Backend	6	8	10	$\{1(6) + 4(8) + 1(10)\} / 6$	8
Testing the Code	2	3	4	$\{1(2) + 4(3) + 1(4)\} / 6$	3
Quality Assurance	3	4	5	$\{1(3) + 4(4) + 1(5)] / 6$	4
Editing software	1	2	3	$\{1(1) + 4(2) + 1(3)\} / 6$	2
System Testing	4	5	6	$\{1(4) + 4(5) + 1(6)\} / 6$	5
Alpha Testing	4	5	6	$\{1(4) + 4(5) + 1(6)\} / 6$	5
Test with End Users	2	3	4	$\{1(2) + 4(3) + 1(4)\} / 6$	3
Finalize/Refine Product	4	5	6	$\{1(1) + 4(2) + 1(3)\} / 6$	2
Debugging and Security Checks	3	4	5	$\{1(3) + 4(4) + 1(5)] / 6$	4
Release Product	.5	1	2	$\{1(0.5) + 4(1) + 1(2)\} / 6$	1.083

Total time for project
Completion in weeks: 79.249

5. Feasibility Analysis

Line Item	Line Cost
Cross Platform Apps Xamarin Developer Contracted	\$40 hourly pay with a six-month dev time for initial development and adjustments based on testing: <u>\$38,400</u>
Full Stack Developer (Landing Page Website and Mobile Backend)	\$80 hourly pay with a six-month dev time for initial development and adjustments based on testing: <u>\$76,800</u>
Graphic Designer (Logo)	<u>\$600</u>
UX Researcher	\$386 daily * 21 days = <u>\$8106</u>
UI Designer (Wireframes, App, and Website)	Paying \$60 hourly for eight months equals a contract payment of <u>\$76,800</u>
Moderator of New Patterns (Part-time role)	<u>\$ 22,152</u> yearly based on 20 hour work week
Lead Fullstack Dev (On Salary for future updates)	<u>\$120,000</u>
Hardware Cost (Laptops, headphones, etc.)	<u>\$4000</u>
Web Hosting including SSL	~\$30 per month, <u>~\$360</u> yearly
Domain Hosting	<u>\$12</u> per year
AWS Server Hosting (For videos and all pattern and account information)	<u>\$600</u> per Month
App Testing	<u>\$7,500</u>
Digital Ad Space	<u>\$9,000</u> per month
App Store Optimization (ASO)	<u>\$500</u> per month
Influencer Marketing (Promo videos, Ad reads, etc.)	Influencer Marketing: <u>\$12k</u> /month
Sourcing Patterns	\$7 per pattern and a total of 65 starter premium patterns for a total of <u>\$455</u>
Video Creation	\$3,000 per ~3 minute video <u>\$ 36,000</u> for 36 minutes of content which should be able to cover 35 different stitches giving a minute per stitch
App Publishing Cost	<u>\$25</u> – One-time fee for android

	<u>\$99</u> – Annual Basis for Apple
Total	Upfront Cost for the App and First Year payment for services: \$656,509 Yearly Payments: \$407,823

6. Requirement Definition

A list of requirements for our system:

Requirements for users:

1. The ability to create an account with a unique username.
 - a. This will be done through either a traditional email and password combination or an option to link their Google or Instagram accounts to their Yarniverse account.
2. The ability to see a list of completed projects.
 - a. The ability for users to review projects they have completed and upload photos of their finished work.
3. The ability to see a list of in-progress projects with the ability to check off steps as they are completed and save their progress.
4. The ability to search for projects.
 - a. The search will have filters including difficulty level, amount of yarn needed, and estimated time to complete.
5. The ability to see videos of the stitches required for a pattern.

Other requirements:

1. The ability to securely store passwords and other personal information about the users' account.
2. The ability to upload patterns to the pattern library.
3. The ability to tag patterns with difficulty level, estimated time to complete, and necessary supplies.

7. Questionnaire

Question 1: How do you find new crochet patterns/projects to complete? (Check all that apply)

- ☐ Google/another search engine
- ☐ Instagram
- ☐ TikTok
- ☐ YouTube

- ☐ Asking friends/family
- ☐ Crochet books/magazines
- ☐ Other: _____

Question 2: How do you prefer to learn new stitches/patterns? (Check all that apply)

- ☐ Watching videos
- ☐ Following pictures
- ☐ Following written instructions
- ☐ Having someone else walk me through the process
- ☐ Other: _____

Question 3: Do you often try and use all of your existing materials before purchasing new materials?

- ☒ Yes
- ☐ No

Question 4: How do you purchase new crochet materials? (Check all that apply)

- ☐ Amazon
- ☐ An online crochet store
- ☐ An in-person crochet store
- ☐ A chain, craft store retailer (ex: Michaels, JOANN, etc.)
- ☐ A major chain retailer that does not specialize in crafts (ex: Walmart, Target, etc.)
- ☐ Other: _____

Question 5a: Do you share your finished crochet projects?

- ☒ Yes
- ☐ No

Question 5b: If yes, how? (Check all that apply)

- ☐ Text message
- ☐ Email
- ☐ Instagram
- ☐ TikTok
- ☐ YouTube
- ☐ In person
- ☐ I sell my finished projects online
- ☐ I sell my finished projects in person
- ☐ Other: _____
- ☐ I don't share my finished crochet projects

Question 6: What other features do you find useful to have on a crochet learning system?

Answer: _____