
# *Project report*

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## *Chosen brief:*

Informative Multimedia Application

# Contents

# Chapter 1. Introduction

## Market, motivation and challenges

Our selected brief was an informative multimedia application, with this specific selection finding its roots in our shared interests/hobbies; crochet/knitting. We wanted to create a customizable space where users can journal and log their crocheting and knitting projects; alongside sharing patterns and projects with other users and enabling learning; from both tutorials and other users posted projects. We thought this would be a good idea, although niche, it still boasts a substantial audience and our project aims to carve out a dedicated space solely catering to this.. The development of our informative multimedia application was grounded in a comprehensive analysis of the market landscape. After examining existing platforms, there was to be revealed a strong presence of this particular creative community across, however it posed a challenge for individuals seeking a dedicated space for these creative and crafting endeavors.

In contrast to the scattered nature of the presence of crochet and knitting content on various other platforms and social medias, our application, kyoot, aspires to offer a consolidated platform where users can not only document and share projects but also delve into an expansive repository of patterns and tutorials to be inspired by. The potential for our application lies in providing this centralised hub exclusively tailored to this niche. Such consolidation eliminates any need for navigation and consumption of unrelated content, providing a focused and tailored experience; a platform compiling all you could want and need for your knit and crochet related crafts. This targeted approach allows us to hence tap into an untapped market segment to provide this platform of focus and cohesiveness aligning with interests.

The main goal was to create a user-friendly space that transcends generational and skill level barriers; therefore, keeping the design rather minimalistic and clear with directional paths to everything required. We made use of HTML5, CSS, JavaScript, and PHP to ensure this seamless and intuitive user experience, therefore also promoting accessibility across diverse demographics.

### Project objectives

- Establish community in dedicated space.

- Facilitate knowledge through blog sharing.
- Create Introduction page to reading patterns.
- Make website accessible considering demographics.
- Consolidation nature of encompassing everything in one location.

# Chapter 2. Interactive Media Application Design

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## Audience and requirements

Understanding the demographic and makeup of our target community was pivotal in shaping our design and functionality of kyoot. We analyzed the key statistics which revealed a community spanning various age groups and being predominantly female. 71% of knitters and crocheters are female and 29% are male, meaning the approach of our design must be considerate of the preferences and needs of both genders.

The age distribution of the community was surprisingly and remarkably balanced as every age range contributed significantly to the larger demographic. A breakdown of the age statistics reveals that 34% fall within the 18-34 age range, 36% in the 35-54 age range, and 30% are 55 and older. This shows a rather even distribution and hence necessitates a design that is able to cater to a broad spectrum of age-related preferences and is based upon technological familiarity. From this we must understand the user experience expectations deriving from these age groups - by understanding our audience we can target the niche well.

## Design consideration and tools

Design considerations:

1. Male/Female Design:
   We acknowledged the diversity within the community and hence wanted to prioritize inclusivity within our design. We selected the colour scheme and visual elements to appeal to all genders by creating a neutral yet engaging aesthetic. The individual user profiles and homepages are designed to accommodate multiple preference for example allowing colour scheme change, promoting a sense of belonging for every kind of person

in this niche.

2. Age adaptive UI:
   The age distribution we exploited from statistics instigated a thoughtful approach to our user interface. Font size, navigational elements and colour schemes were also chosen with regard to optimal readability and usability across the different age groups. For example, incorporating large back buttons, not having too much text, large fonts, and contrasts within the website. This was also to be able to target the users in the 55+ range, but also maintain a visually appealing design in cater to our younger demographics. We also acknowledged the varied technological backgrounds of our users meaning we aimed to create a sense of intuitiveness across our website, with clear and straightforward menu structures, prominent buttons, and recognizable icons to facilitate ease of use for all the demographic before. Keeping minimalism also allows minimal clutter in design and effortless navigation without having forceful content consumption which some other platforms do.

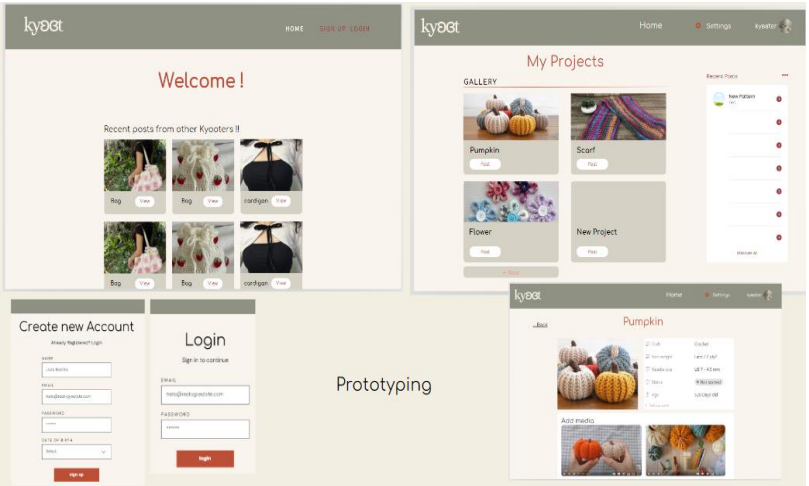
3. Content relevance:
   The multimedia aspects of kyoot enable content relevance to be achieved for all skill levels within our niche sector. We structured it in a way to provide resources and tutorials suitable for beginners, as well as content for all other crafters. There is a tutorial page, pattern reading and stitch counter, which can be used as a reference of all skill levels, and the ability to embed videos etc. in personal user blog posts furthers this idea.

In essence, each design consideration that we underwent was meticulously crafted to make sure that our website remains inclusive and accessible to the entire community of crocheters and knitters, while remaining visually appealing and containing aesthetics with a modern site feel. Such considerations helped us to lay a solid foundation in creating a user-centric experience resonating with our demographic.

When we began prototyping, our selected design tool was Canva. It enabled us to translate the conceptual version into a interface so we could have a clear idea where we are going with our design. Canva provided us with a diverse array of design elements; rather versatile software to experiment with the different visual styles, colour schemes and layouts to select an idea that aligns with our goals the most. It also allowed us to have real-time collaboration to voice both of our opinions in the design process. Before setting to prototype, we researched different colour palettes and picked and choose between the most suited ones. We then selected a main

palette for the overall design and feel of the site, followed by an alternative palette that would be used on the customizable kyoot user homepage which allows to switch the website theme/colour between the two palettes.

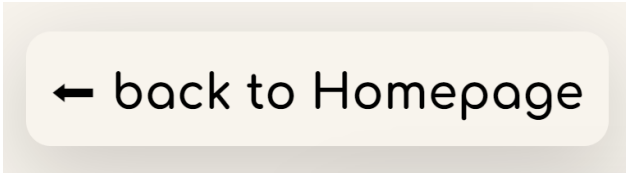

At the early stages of our application in the development we place an emphasis on aesthetics and layout, prioritizing the visual elements to shape the experience rather than showing all the various features of our website. We wanted to establish the strong visual identity for the application; with a cohesive colour palette with appropriate fonts and imagery resonating with the design considerations spoken about before.

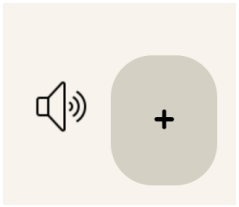



Notably, our prototype didn't comprehensively showcase all the features however we had noted and discussed the features prior.

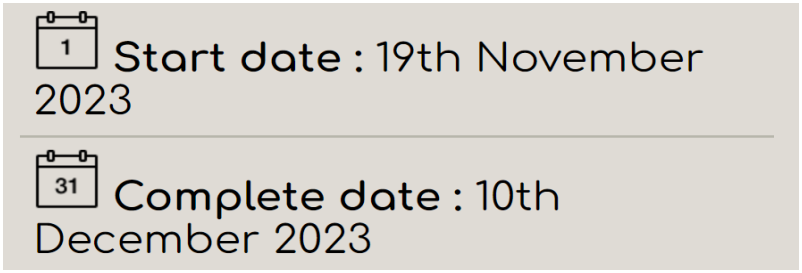
## Applied design principles and multimedia aspects

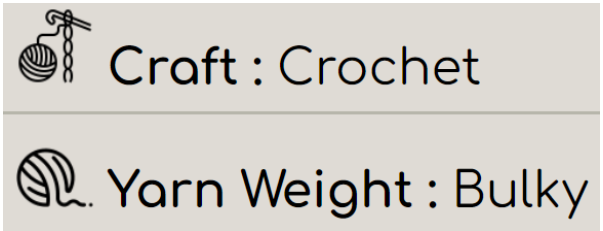
In creating the interface, we applied design principles such as metaphors, rooted in orientational, ontological and structural principles to provide users with familiar visual cues. The use of icons gives clues to the purpose of all the properties shown throughout.

We used orientational metaphors exemplified in incorporating recognisable icons, particularly the left arrow to indicate “back”. A familiar symbol like this serves as a navigational guide and adds a intuitive aspect to the website. Furthermore, with the use of the well-known settings icon the orientational metaphor is reinforced, to ensure users are able to effortlessly navigate throughout with clear understanding of the directional cues based off of this.

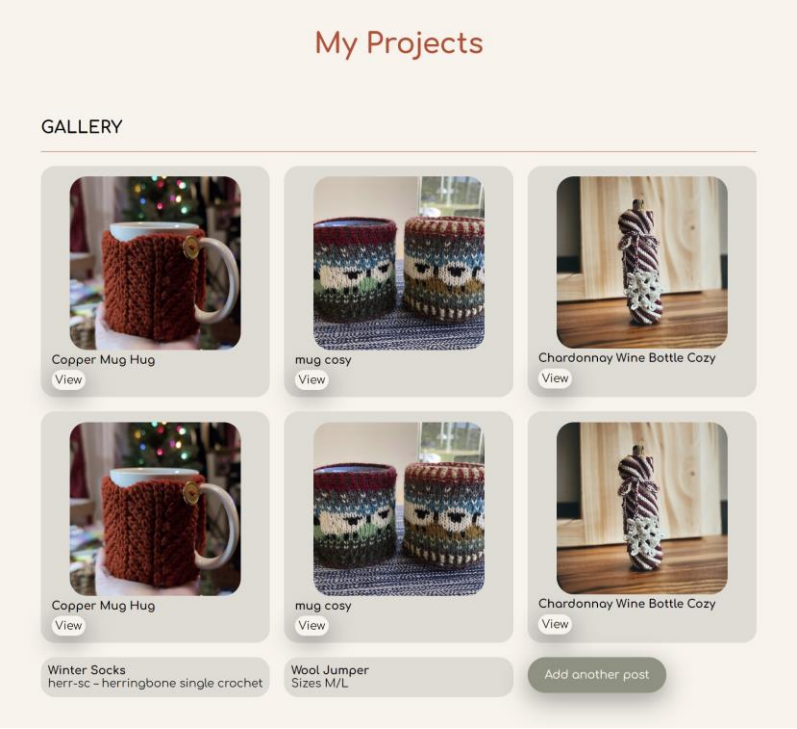


The ontological metaphors draw upon familiar real-world concepts to convey meaning in our digital environment; so we utilized this when applying a calendar icon and representation. This feature is part of the tracking of projects in the blog posts.

The full inventory of icons used in our current project are:


Respectively: calender 1, calender 31, crochet, yarn, crochet hook, sound, settings, status.




We also made use of structural metaphors to organise, evident in the grid layout of the gallery and homepage. Such a structure closely mirrors the organizations of physical galleries giving a user a familiar visual arrangement that is easy to navigate through content.

These metaphorical design decisions align with our goal of a user-centric approach based on demographics once again and ground the design with familiar aspects bridging digital and physical together. We also adhered to several key design principles (according to Norman) to aim at enhancing our platform.

1. User-Centered Design:
   It was our top focus to adopt this user-friendly approach to understand our audience

and craft a space dedicated to them. This principle guided every aspect of our design from interface to content presentation to make sure that the platform would align with users' expectations of a consolidated space for crafts.

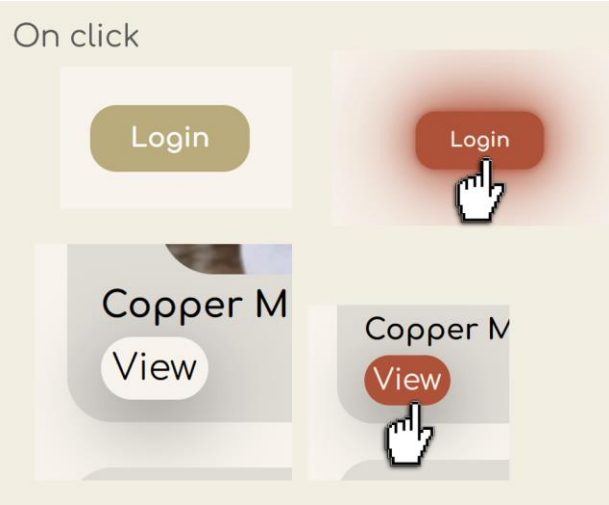
2. Consistency:
   Consistency is seen throughout every page of the website design-wise, with consistent typography, navigation elements and colour schemes to keep the feel and environment of the site the same throughout - a sense of cohesiveness and predictability for the user experience side - an easy website to get used to and understand which is perfect, particularly for the niche, when for example you would want to document your project or save it to keep track urgently, this website gives it this according ease of use and access.

3. Accessibility:
   A non-negotiable, considering the demographic our features must enhance usability and accessibility and be rather straight forward in most aspects

4. Affordance and Feedback:
   Interactive elements are enhanced by visual cues and everything on the website is rather self-explanatory based on the visual design of it. It is easy to understand the functionality of each component and feedback mechanisms such as hover effects or audio were implemented to enhance this.

## User Feedback Design Decisions

We incorporated the use of buttons, animations, and sound for user feedback. As a user hovers or clicks on a button / link there is a visual response.




In this image you can see how the styling of a button changes as the user hovers over it. This is a very important design decision since it clearly indicates to the user that this is an interactable object.

Animations such as our welcome title really add to the personable and fun aspect to the website. The hand drawn effect especially. From the start we were clear on the fact that we wanted our website to feel warm and inviting.


We used more animations also in the row counter part of our website. As the user increments the row count a confetti animation as well as an audible “hooray” is fed back to the user. This further increases interactivity, the multimedia aspect and the sense of achievement and satisfaction for the user.

## Multimedia aspects

We included, as mentioned also earlier in this document a variety of multimedia.

- Animations - Example: welcome drawing
- Image - Example: users project image

- Text - Example: explanation texts

- Sound - Example: mp3 “hooray” sound
- Video - Example: integrated YouTube videos

All these contribute to a richer and more engaging user experience, improved communication, and positively impact user retention, and brand perception.

# Chapter 3. Implementation

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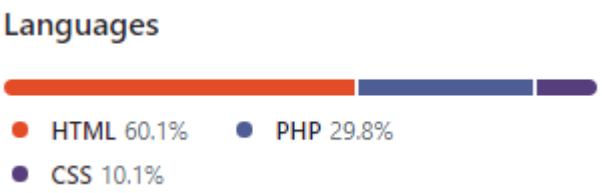
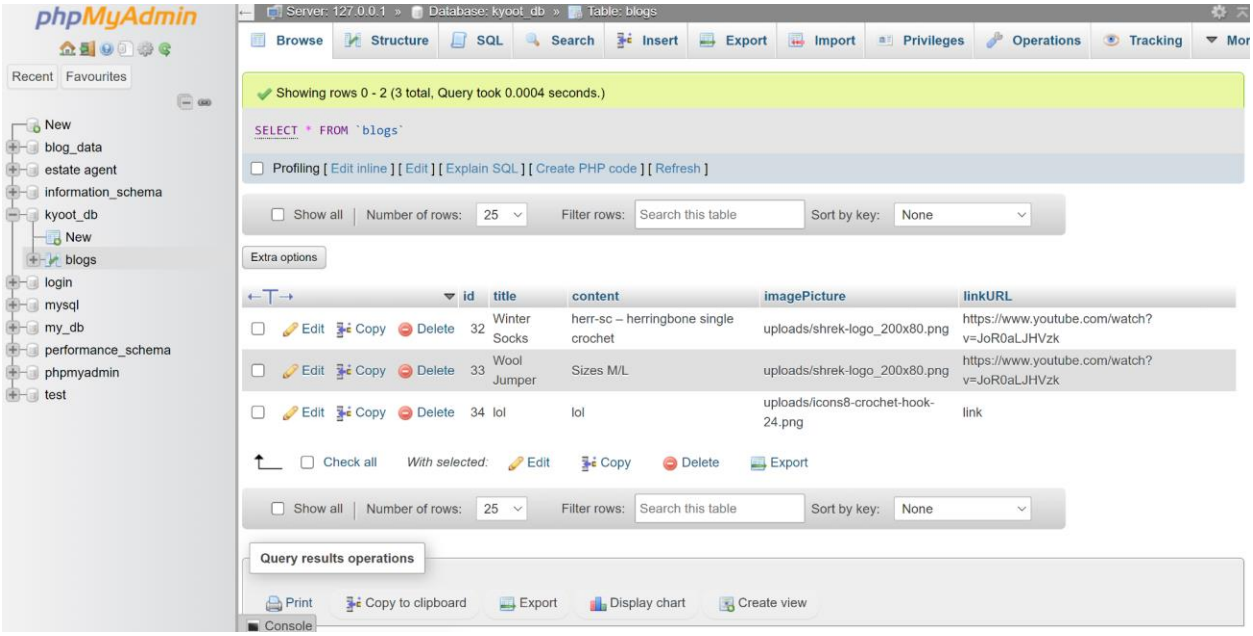
## Development environment, tools, time management and responsibilities

Our primary tools included Visual Studio Code for coding, GitHub for version control and a tech stack consisting of HTML5, CSS, JavaScript and PHP.

VS Code was our basis for coding in which we wrote, debugged, and deployed code, enabling us to see a live preview as we were working on our website. GitHub was key in managing our project collaboration where our application source code was hosted on a repository, allowing us to work simultaneously on different aspects of the codebase. The branching and pull request features facilitated this approach which enabled us to contribute, review and merge our changes through commits seamlessly. The commit history and version tracking provided a transparent record of our development as shown.




PHP allowed us to create a database for our user posts.




In this image you can see the database schema name on the left called “kyoot_db” and inside this there is a table called “blogs”. The blogs table has 5 columns titled id, content, imagePicture and linkURL and you can see 3 records in this table. This allowed us to create a post project form that when submitted will be reflected in this database and then our user profile page will be able to GET this information and display it in the user profile page as a project post.

# Chapter 4. Evaluation

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## Heuristic Evaluation

### Visibility of System Status:

**Positive**: The application provides clear feedback on user actions, such as object state changes, animations, and audio feedback (confetti and “hurray” when user increments row count)

**Improvement**: Include pop up indicators for when user posts blog.

## Match between System and the Real World:

**Positive**: The language used, and the terminology align well with the crochet/knitting community, making it relatable.

**Improvement**: Add video explanations for any technical terms that might be less familiar to newer users, not just purely text explanations.

## User Control and Freedom:

**Positive**: Users can easily navigate back and forth between sections and have the freedom to edit or delete their projects.

**Improvement**: Implement feature that allows users to change the gallery layout to make it more personable, and to increase user control and freedom.

## Recognition Rather than Recall:

**Positive**: The main navigation is clear and straightforward, reducing the need for users to remember specific actions.

**Improvement**: Include a quick tutorial or onboarding process for first-time users to familiarize them with the application's features. Could be in the form of a video that goes through the website and explains the features - would be particularly useful for older 55+ users who are not used to well-known internet metaphors/icons for example.

## Aesthetic, Minimalist and Consistent Design:

**Positive**: The design is minimalistic and user-friendly, catering to a wide range of users.

**Improvement**: Regularly gather user feedback on the design to ensure it remains appealing and relevant to the community's preferences.

Overall, the website’s development would benefit from more testing and feedback to enhance the user experience. Also, to ensure the application meets the needs of the crochet/knitting community.

# User’ feedback

Some feedback received from the final presentation:

Most notably, the features that the audience wanted to see implemented are a search feature and a likes/comment feature.

## Search feature:

Implement a robust search functionality that allows users to search for specific patterns, projects, or users. Further, include filters and sorting options to refine search results based on criteria such as project type, difficulty level, or user ratings.

## Likes/Comment Feature:

Introduce a 'like' button for users to express appreciation for projects or patterns they find interesting. Implement a commenting system where users can leave feedback, ask questions, or share tips on specific projects. Further, add a notification system to alert users when their projects receive likes or comments.

# Chapter 5. Conclusion

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## Conclusion

In conclusion, the development of the kyoot application has been driven by a passion for knitting and crocheting. Its aims were to create a dedicated space for other enthusiasts. The project successfully addressed a niche market and offers a platform that goes beyond scattered content found on various platforms.

The minimalist, user friendly design, in combination with HTML5, CSS, JavaScript, and PHP, ensured a simple intuitive experience for users of all skill levels and generations. The project objectives, including community establishment, knowledge sharing through posts, introduction to reading patterns, and demographic-aware accessibility, have been thoughtfully integrated into the application's design and functionality.

Feedback from the final presentation was also key in highlighting the interest in additional features. Moving forward, this feedback as well as the points of improvement from the heuristic evaluation can be used to enhance the website/application. Creating an ever more vibrant and interactive community space for knitting and crochet enthusiasts.

## Acknowledgment

Icons: https://icons8.com/icons/set/status

Prototype: https://www.canva.com/

Version control: https://github.com/

Database: 1. https://www.phpmyadmin.net/ 2. https://www.apachefriends.org/

animations : https://mediamodifier.com/free-svg-editor

## References

Audio file: https://pixabay.com/sound-effects/search/hooray/

Youtube videos sampled in website:
https://www.youtube.com/watch?v=ypNQrGcj8Pw&t=2s

https://www.youtube.com/watch?v=ifxggKOJQG8&t=5s

## Code research:

https://www.w3schools.com/html/html_css.asp

https://www.w3schools.com/css/css_grid.asp

https://www.w3schools.com/howto/howto_js_animate.asp