The Problem Definition

UX design students need a tutorial on design thinking which covers all five (5) stages and associated tools and techniques, concisely in clear, simple language. The tutorial should allow them to access more detail if they wish and should be free without requiring signing up for an account.

The User

User Stories

Graham: As a 1st year design student, I want to quickly find instructions on how to write good user stories and create user personas, in a way that is applicable to my course.

Sue: As a student I want a tutorial on design thinking that is free and requires no signup or subscriptions.

Jay: As a developer, I want to be able to understand UX jargon in as little time as possible.

Dawn: As a student-designer, I want a concise, step by step guide to developing wireframes, user stories and ideas, so that I can complete my assignments well.
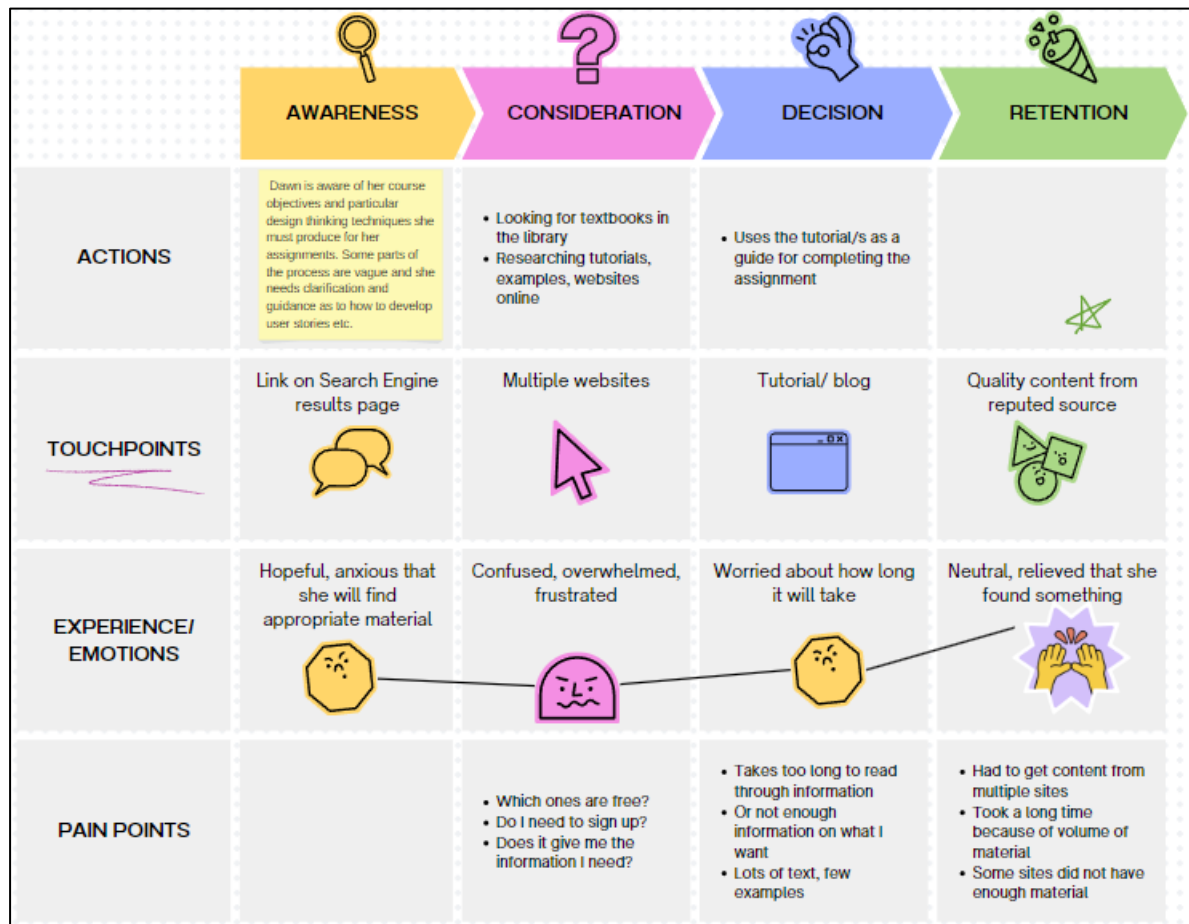
Mark: As a student I want to learn about design thinking without having to do a lot of research

User Persona

A SHORT DESCRIPTION	
Dawn	• Dawn is a fun-loving design student, who loves her school experience. • She enjoys puzzles, visiting art galleries and photography

KEY ATTRIBUTES

Inquisitive • Likes challenges **Outgoing** • Interacts with peers	**Ambitious** • Works hard at her courses, wants to do well **Talented/ Artistic** • Designer and photographer

NEEDS	CHALLENGES
• User-friendly, easy to understand design thinking tutorial • Wants it to be concise without lengthy explanations, in clear simple language • Wants practical examples and exercises with feedback or answers	• Little to no free time to research multiple tutorials and complete assignments • Finding quality content that is free

OPPORTUNITIES

• A free tutorial
• Put everything about design thinking in one place so there is no need to research mulitple sites
• Provide practical examples
• Use clear, simple language, free of jargon, explain jargon if it must be used

The User Journey Map

This journey map is a map of the experience students currently face when trying to find tutorials or guidelines on Design Thinking.

	AWARENESS	CONSIDERATION	DECISION	RETENTION
ACTIONS	Dawn is aware of her course objectives and particular design thinking techniques she must produce for her assignments. Some parts of the process are vague and she needs clarification and guidance as to how to develop user stories etc.	• Looking for textbooks in the library • Researching tutorials, examples, websites online	• Uses the tutorial/s as a guide for completing the assignment	
TOUCHPOINTS	Link on Search Engine results page	Multiple websites	Tutorial/ blog	Quality content from reputed source
EXPERIENCE/ EMOTIONS	Hopeful, anxious that she will find appropriate material	Confused, overwhelmed, frustrated	Worried about how long it will take	Neutral, relieved that she found something
PAIN POINTS		• Which ones are free? • Do I need to sign up? • Does it give me the information I need?	• Takes too long to read through information • Or not enough information on what I want • Lots of text, few examples	• Had to get content from multiple sites • Took a long time because of volume of material • Some sites did not have enough material

Competition

Market Research

Existing competitors

- Require signup or offer courses which the user must pay for
- Courses which are free (blogs, videos or sites often provide less content
- Some do offer high- quality content but volume is high and user will have to navigate through a lot before getting to what they need

Target Market

Anyone interested in learning about UX design or doing UX design for a project, particularly:

- UX design students

- Novice UX designers

- Developers with little experience in UX design

- UX designers looking for a different perspective

Competitors

According to a Moz survey of people searching using Google, 75% of them click on the first one or two results on the first results page and only 7% bother to go past that first results page.

When conducting research on competitors, search phrases included:

- design thinking process for beginners
- design thinking blog tutorial
- design thinking blog tutorial

The following table compares some of the results

Website	Pros	Cons
Design Thinking Blog - IDEO U Articles		Contained links to different articles about

		design, including design thinking, user would need to go through list of articles to determine which were relevant
[What is Design Thinking? The Ultimate Beginners Guide (workshopper.com)](#)	Great content, very descriptive	Apart from a few videos, scattered throughout, all text-based without images
[The Design Thinking Process: 5 Steps Complete Guide (careerfoundry.com)](#)	Great content, very descriptive	Text-based, no images or examples based on scenarios

Other competitors

[HECMontrealX: UX Design | edX](#)	
Self-paced	Long duration
Well established program by recognised institute	Large volume of material some of which may be inapplicable to user
Accredited program option	Considerable time investment

[Digital Skills: User Experience - Online Course - FutureLearn](#)	
Low time investment	Less material
Free	Lots of videos, which may not work for all learners

Google UX Design Professional Certificate | Coursera	
Well established program by recognised institute Accredited program option Free 7 day trial	Large volume of material some of which may be inapplicable to user Considerable time investment Pay for time taken, so speed determines cost

A complete guide to the design thinking process | Mural

Ideate stage

Your priority here is to think outside the box and source as many ideas as possible from all areas of the business. Bring in people from different departments so you benefit from a wider range of experiences and perspectives during ideation sessions. Don't worry about coming up with concrete solutions or how to implement each one — you'll build on that later. The goal is to explore new and creative ideas rather than come up with an actual plan.

Key steps in the ideation phase:

1. **Define your problem**: Creating a problem statement ensures that your team can focus on solving the right problem and staying aligned with your end-user or customer's problem

2. **Start ideating**: Choose a brainstorming technique to help organize team participation that fits your goal (More on that in the next section.)

3. **Prioritize your ideas**: Once you have several ideas, prioritize them based on how well they take into account the customer's needs

4. **Choose the best solution**: Choose the best ideas to move forward to either the define stage or the prototype stage

Figure 1 Screenshot from Mural: Ideate Stage

Good written content about the design thinking process

Links to application of design thinking in large projects with some images | No reference to use of user stories, affinity diagrams, POV or how to generate them

Not really a case study approach that a student can follow

Ideate stage lacks description of techniques that students can use |
| The UX Cookbook | |
| Great content when each card is opened

Clear language | A novice ux designer may not which of the cards applies to the stage of design thinking without looking at the card, quite time-consuming

No direct reference to stages of design thinking

Largely text based content, photographs provided, very few actual diagrams |

UX Tutorial 1: What Exactly Is UX Design? (Free Course) (careerfoundry.com)

User personas & user flows

Armed with meaningful insights from the research phase, I then get to work on crafting user personas—one of my favorite tasks as a UX designer! A user persona is a fictional but realistic representation of a set of target users based on their goals, needs, and behaviors (all discovered during the research phase!).

A user persona is an extremely valuable tool in the UX design process as it reminds designers and other stakeholders that they're designing for real people. Rather than designing for user group A and user group B, I will design for "Jane", a mother of two living in London, and "Steve", a recent retiree in the process of relocating to Rome. Can you see how personas help to humanize different target user groups? This helps the designer to build empathy with the user and to prioritize key features and design decisions based on real user data.

Jane Smith

Age: 32
Single, mother of two. Living in London.
Describes herself as a foodie.
Education: BA in Marketing from Kingston University.
Behaviours: Writes her own food blog, she's a regular user of social media channels.
Needs / goals: To easily manage her daily tasks, blog and photo library. She would like to become a full-time food writer.

Figure 2: Screenshots from Career Foundry UX tutorial

As you break into a career in UX, user personas are one tool you'll certainly want to have available as you gather user research and find design solutions to solve problems and create more human-friendly products and experiences.

In this guide, CareerFoundry UX design mentor Raven Veal teaches you how to define a user persona, step by step. Here's what she'll cover:

1. What is a user persona?
2. Why do you need a persona?
3. How do you define a user persona?
4. Additional suggestions
5. Final thoughts

If you want to find out more about UX Design, check out our free online starter course here: CareerFoundry UX Design for Beginners Course. And here's our video guide on how to create a user persona:

Has career suggestions, skillset required, as well as detailed explanations linked to main page Construction of some UX diagrams are described in detail	To learn more, user has to go to separate page In some instances, there is a lot of text where a diagram or example would be more helpful, too much detail for user to sort through

Alternative Solutions

- YouTube Videos – narrated video split into chapters for each design thinking stage or a series of videos, each of which covers a different stage. The video will walk the user through the stage, the techniques used and how to develop the associated graphics and tools.
- Pros – videos appeal to some learning styles
- Cons - even though videos can be organised into chapters, it may be difficult to pinpoint where in the chapter required information is located.

- Interactive PDF – Similar to the online handbook, it will outline each stage at a higher level and provide links to more detailed descriptions, lists of techniques which also link to more detailed guides on how to apply the techniques.

  Pros - Can be used when student does not have Internet access, at work or on the bus, relatively small file

  Cons - Requires some knowledge of software such as InDesign or Adobe Acrobat, Development languages, HTML, CSS, JavaScript are available within the Visual Studio environment for free, both e-book and interactive PDF require access to different software.

- E-book, published via Kindle – Can be created like a regular book that provides information on each stage in separate chapters

- Pros – It can be free to benefit students or sold at a small price to ff set development costs
- Cons – the user will need to have an Amazon Kindle account, this restricts its market somewhat

The online handbook is the best solution because:

- Online handbook requires no account setup like a Kindle e-book would.
- Online handbook displays content as text and images, can be used anywhere unlike YouTube video which has audio and may not play well in some areas due to network security restrictions or bandwidth
- Online handbook allows user to quickly jump to relevant parts,

The Solution

Create content for a free online handbook for students which uses clear and simple language to describe the Design Thinking Process.

Present the handbook as a responsive, easily navigable, accessible website with clean and minimalist design, built using HTML (content), CSS(style), JavaScript(logic).

Technical Solution

[nic-dgl409-wi24/dgl-409-capstone-project-Jan-elle-Chan at mvp (github.com)](nic-dgl409-wi24/dgl-409-capstone-project-Jan-elle-Chan)

The MVP was built using BootStrap 5.3.2 which allows for the rapid development of a responsive website which the user can navigate to using any browser at no cost and without sign-up.

Features that demonstrate idea

- Clear and simple language
- Clean and minimalist design since there will be diagrams etc
- Responsiveness
- List/ show the five (5) stages of the design thinking process: Empathize, Define, Ideate, Prototype, Test
- For one of the five (5) design thinking stages provide

    - Concise one-line description of what the stage accomplishes

        *Example: In the **Empathize** stage you try to understand the user and their needs.*

- Brief description explaining the role in the overall process, activities undertaken, techniques used and any deliverables produced.

  Example: During the empathize stage you try to get to know the user and the problem/s they are facing. This will involve observation, immersion, interviews, surveys…

- List techniques used

- Provide an example of a technique/ stage deliverable from successfully completed school project.

SWOT ANALYSIS

Strengths

- Simple, conveys minimal information with opportunity for further exploration
- Free and no sign-up
- Covers material in a trending field of study
- Developer is using a known tech stack
- User focused

Weaknesses

- Limited income stream
- Not developed by an expert in Design Thinking or UX Design

Opportunities

- Explore potential sponsorships with software companies that sell software for development of graphics, or possibly educational organisations
- Expand content based on user feedback, build client loyalty as they feel involved in development of platform

Threats

- Other online resources

Biography

At NIC I had ample opportunity to create and solve problems through active learning and projects. Throughout all my courses at NIC I had to work through projects of varying sizes, some with set specifications which the entire class had to replicate, some where we were allowed variations and others where we had a high degree of leeway. This project-based approach provided me with practical experience in delivering projects that closely mirror those in the real world of work. The completion of each project required me to problem-solve and create, as well as refine my web-development skills.

During my two years of study at NIC I have become proficient in several languages, environments and tools. For most projects I have used GitHub for version control and Visual Studio Code as my development environment. For web development I have learnt and have become proficient in HTML and CSS. I have also become competent in JavaScript, SCSS and BootStrap, as well as WordPress. For graphic design, wireframes, mock-ups, publications and other graphic elements I have used and become proficient in Adobe Suite (particularly Illustrator, InDesign and XD) and Canva. All of the above make me quite capable of completing this project successfully.

Work Plan

Project Plan

Create content for a free online handbook for students which uses clear and simple language to describe the Design Thinking Process.

Present the handbook as a responsive, easily navigable, accessible website with clean and minimalist design, built using HTML (content), CSS(style), JavaScript(logic).

Write a case study detailing the development of the project.

Stage	Time	Activities and deliverables
Prototype	Feb 6th to Feb 13th	Use low-fidelity and eventually high fidelity wireframes or prototypes
Create MVP Description	Feb 6th	Write complete MVP description, including but not restricted to wireframes, feature prioritization
Testing	Feb 6th – Mar 4th	Ongoing, spanning several weeks and states of completion, including but not restricted to usability testing and accessibility testing
Research, curate and edit content	Feb 6th – Mar 4th	Ongoing until final site delivery
Develop MVP	Feb 4th to Mar 4th	Use HTML, CSS and JavaScript to build site
Implement	Mar 4th	Produce final website, based on feedback from testing and critique
Present final site	Mar 4th – Mar 11th	Present final site, critiques
Write Case Study	Mar 18th – Mar 25th	Write case study, present complete project, critiques

Revise Project	Apr 1st	Streamline code, refactor, debug

UX Research Plan

For this project the following UX research activities will be undertaken, some of them have already been completed.

Completed Activities (See below)

- Survey
- Brainstorming
- Affinity Diagram
- User stories
- Low fidelity wireframes

Activities to be completed

- Low fidelity wireframes (another iteration)
- High fidelity wireframes
- Prototype Feedback and testing
- Usability Testing
- Accessibility Evaluation