

Supporting the journey of architecture students towards graduation through a design ePortfolio

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Supplementary Material

This supplementary material provides additional information regarding (A) the exercises undertaken during the study, (B) the development of written guidelines for the implementation into the capstone. This information is provided to support further study into scaffolded tasks and prompts for implementation.

Appendix (A): Timeline Diagrams: Interest & Subject Mapping

Figure S1 shows the template used in the interview students to assist students in structuring the development of their interest mapping. This template was used alongside the prompts described in Appendix (B) for the task. The template suggests a series of time periods throughout a student's life that may have influenced decisions moving into their undergraduate degree. Initially, the colour-coding of the post-it notes used in the interviews was not specified. However, as common themes developed through the interviews, coloured post-it notes are provided to similarly prompt students with suggestions such as extra-curricular activities or work experience.

Interest Mapping Template



Post-it-Note Template



Sample Interest Mapping

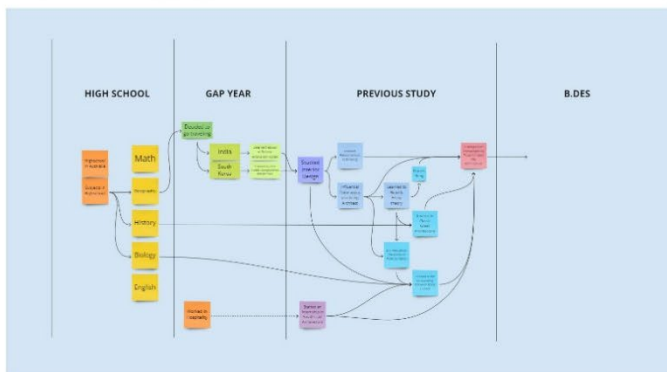


Figure S1. Miro board template for the interest mapping exercise.

Figure S2 shows the template used for the subject mapping exercise. The template provides a breakdown of the Architecture Major of the BDes degree into three years, with the core subjects listed, and spaces for the inclusion of breadth or elective subjects. Like the interest mapping, the exercise is paired with the interview prompts provided in Appendix B and is encouraged to track where specific interests in their design work originated from and were developed through their coursework. Students are also encouraged to refer to their earlier interest map to determine links to prior, or ongoing interests. The example provided with the template highlights how students may use this as an opportunity to reflect on their design work by including images from those projects from a wider context.

Subject Mapping Template



Sample Subject Mapping

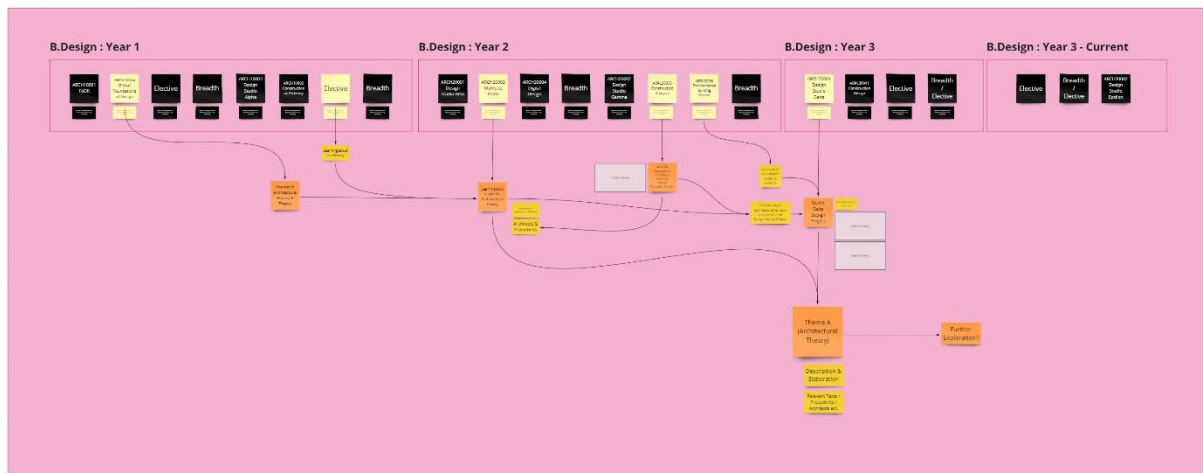


Figure S2. Miro board template for the subject mapping exercise.

Appendix (B): Study Guide Template for Capstone Implementation

The attached document is intended as a guide for integrating the ePortfolio within the capstone subject. It contains an overview of the ePortfolio, as well as detailed explanations of the four exercises developed through the paper. For each exercise, step-by-step instructions are available for students to refer to as well as the diverse range of prompts derived from the interviews for both the chronological interest mapping and non-hierarchical subject mapping exercises. It also provides suggestions for guided discussions and tasks to be performed in class, as well as those to be prepared independently and brought for review. Pages in green are intended as additional direction to tutorial staff for delivering the exercises and guiding discussions.

Capstone Implementation
Study Guide

DRAFT

What is an ePortfolio?

An ePortfolio is a repository of curated artefacts that describe a student's profile and their identity, either developed or under development.

It differs from a traditional 'portfolio' in that it focuses on reflection and the learning journey over time, rather than simply showcasing skills and competencies in design.

Over the course of the semester, you will be tasked creating an ePortfolio on Wix by first completing a series of mapping and diagramming exercises, and concluding with the development of your design identity through the ePortfolio.

All tasks will be submitted both via Canvas submission via PDF and uploading them to your online ePortfolio. These tasks are broken up to run alongside the Capstone assignment schedule with matching submissions to check-in on your progress.

ePortfolio Breakdown

Week 1 - 3: Phase 01

- Interest Mapping
- Subject Mapping

Deliverables:

- 1x Miro Image export of draft Interest Mapping uploaded to the LMS
- 1x Miro Image export of draft Subject Mapping uploaded to the LMS

Week 4 - 6: Phase 02

- Development of Thematic Links
- Exploration of Research Themes

Online Deliverables + Submitted to LMS via PDF

- Formal Timeline Diagram
- Thematic Exploration & Research

Week 7 - 9: Phase 03

- Reformatting & Development of ePortfolio Identity

Online Deliverables + Submitted to LMS via PDF

- Draft of ePortfolio Redevelopment
- Further development of Research Themes

Week 10 - 12: Phase 04

- Development of ePortfolio

Online Deliverables + Submitted to LMS via PDF

- Developed ePortfolio

Week 1-3**Phase 01:**

This first phase will be focused on reflecting on your past achievements, activities, and study via two timeline exercises. This phase will have two main deliverables as part of Assignment 4:

- Interest Mapping (IM)
- Subject Mapping (SM)

Deliverables:

- 1x Miro Image export of draft Interest Mapping uploaded to the LMS
- 1x Miro Image export of draft Subject Mapping uploaded to the LMS

Interest Mapping:

The IM aims to map out interests in or around design and architecture. By identifying key moments in both your personal and academic life, it is possible to identify relationships in your learning and work which may help propagate further interest in specific areas of research.

Process:

Start by identifying key aspects or interests of your life and place these chronologically starting from childhood, to the present. We recommend using a Miro board for drafting this task out. Refer to the IM prompts over page as a starting point

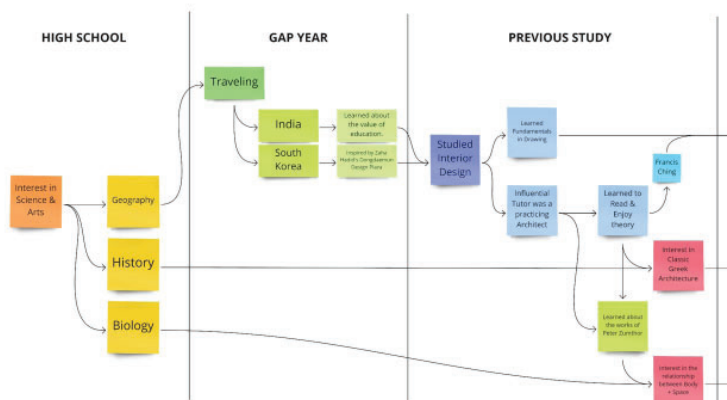
Identify connections between related aspects and reflect on why these are related:

- Did childhood drawings turn into an interest in the visual arts and art history? Is this something that still interests you in tertiary education?

- Were you culturally influenced by design and wanted to explore this further? Do you still value vernacular or site-specific design?
- Did you have a love of physics, but wanted a creative avenue as well? Does engineering and architectonics interest you? Which aspects in particular?

In Class

Present this to your small group in class and try to identify where there may be gaps in your diagram, or where there may be possible linkages which you didn't identify before.



Example Interest Mapping draft on Miro

Week 1-3**Interest Mapping Prompts:**

Use these prompts to help you get started with the IM exercise. Note that not all of these prompts may be relevant to you, but will provide a good foundation for further exploration.

Start by identifying any early interests in design you might have had:

- Did you draw or paint a lot in your early life?
- Did your family do anything design-related?
- Did you grow up in a place which was particularly inspiring (or uninspiring)?
- What did your parents do for a living and did this have any affect on your childhood?

In Highschool:

- Where did you study? What affect did this have on your development?
- Did you study any design subjects in high school? Did you have a particular field of interest, or inspiring teacher?
- Were you more of a Science/Math/English/Etc. student instead? Why did you study this, and what prompted the change to design?
- Did you have any other interests outside of school? Music, Literature, etc.?
- Were you always interested in Architecture and your decision to study it was a natural progression from your High School studies?

Before Commencement at UoM:

- Did you travel to some inspiring places? Where and Why?
- Did you study something else before Design? What was the reason and why did you change?
- Did you work before studying? Where did you work and did this have any affect on your development?
- Why did you come to UoM? Were there other options? Was it related to wanting to travel?

In the B.Des:

- What were your favorite subjects at each year level/ semester? Why these ones, and what did you learn from each of these?
- Do you remember a particular reading / text / video / lecture that was pivotal to your development?
- Did you have any tutors/academics who were huge influences on your learning? Who and why were they?
- Did you do any extra curricular activities (sports, clubs, etc.) which were heavy influences on your life at the time?
- Were you working / interning at the time? How do you think this changed your approach to design?

Week 4-6

Subject Mapping

The objective of the Subject Mapping exercise is to lay out everything you've completed at University so far to identify any common themes in your work. By writing a short reflection of what you learnt in each subject, you might find relationships you had not identified earlier.

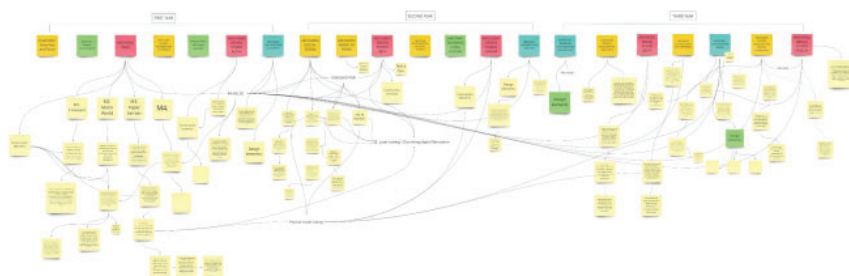
Process:

You will be provided a Miro template to start with. Start by filling out your breadth and elective subjects, and rearranging core subjects if needed. You will then need to write a short reflective comment on each of your subjects.

This might include:

- Did you enjoy the subject and why/why not?
- Did you do well in the subject? What might have affected this outcome?
- What did you learn in the subject?
- What was a personal key takeaway from the subject?

Your next task will be to categorise your subjects. Your instinct might be to group them based on subject types (e.g. 'studio' or 'construction'). However, you should look for deeper thematic links in what you learnt from them. You may even find connections with your interest mapping exercise!



Example of Non-Hierarchical Subject Mapping

Here is a non-exhaustive list of possible thematic links & connections you might find:

- Architectural History & Theory
- Cities & Urban Design
- Ecosystems & Ecology
- Environmental Sustainability
- Social Design
- Women in Architecture
- Biophilic Design
- Site-Specific Design
- Graphic Design
- Interiors, Finishes & Materials
- Architectonics & Structural Systems
- Digital Fabrication
- Model Making
- Visualisation & Rendering
- Speculative Architecture
- Senses & Phenomenology
- Coding & Parametric Design

Further to this, you should to elaborate further on these connections by writing a short statement. Some prompts to get you started are:

- Was there a construction technique or Architectural theory you learnt about which you later utilized in a design studio? How did this shape your design?
- Did you utilize a representation technique which you later utilized again? How did this help communicate your project?
- Was there a theory or process you learnt about which later changed how you approached your work?
- Is there anything you wish you had the opportunity to develop further?

Discretionary guide for staff only

Interest Mapping

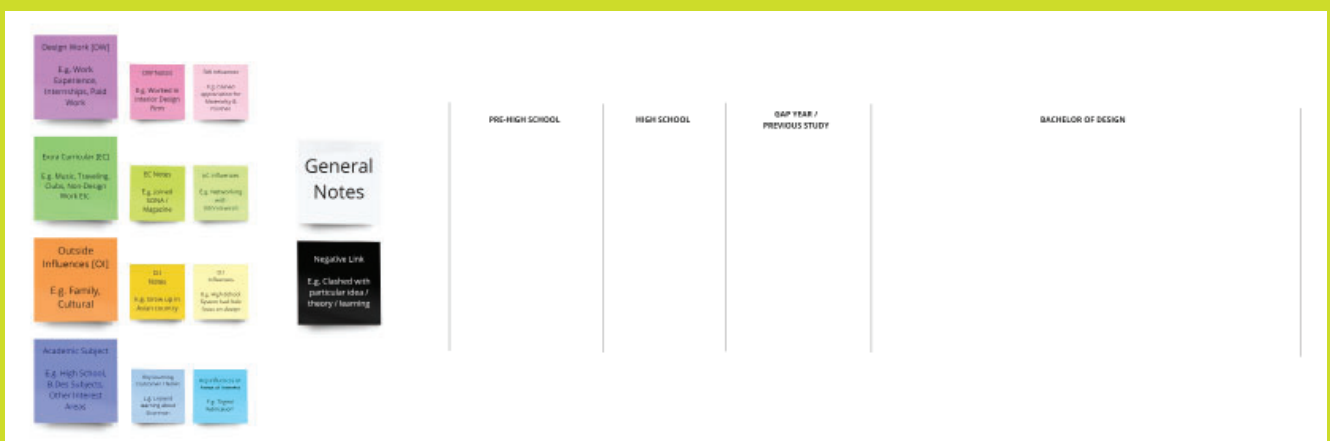
Tutors will be given access to a template to pass out to their students. In this template will be a set of coloured / themed post-it notes, as well as a timeline example to show students.

Instruction

In their groups, tell students to start filling out their interest mapping exercise focusing on key moments in their life which were pivotal to their development. Ask them to refer to the series of timeline prompts if they get stuck.

Students should mostly work independently, but should be prompted to evaluate why certain notes have been added to their timeline:

- “How was travelling in _____, what did you learn?”
- “Did you enjoy working for _____, what did this give you an appreciation of?”
- “You clearly have an affinity for _____, do you think you’ve brought this through your design work so far?”



Example Interest Mapping template on Miro

Discretionary guide for staff only

Subject Mapping

Tutors will be given access to a template to pass out to their students. In this template will be their subjects laid out in chronological order.

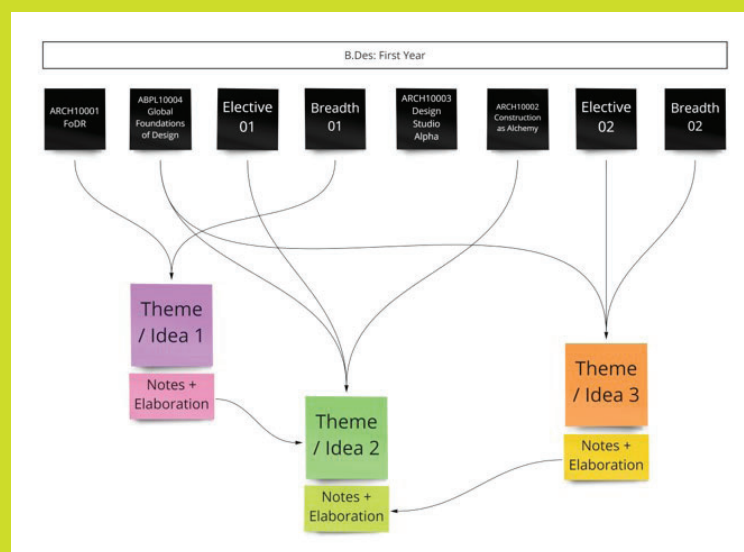
Instruction

Ask students to fill out the rest of their subjects.

Prompt them to re-colour the post-its based on similarities. They will most likely initially divide them by streams; design studio / construction / history.

Further prompt them to consider deeper connections through themes and ideas between them and start including this in the diagram:

- Did they learn about a theory which they then applied in a studio?
- Did they use a certain construction system which they learnt about?
- How did they apply knowledge from their electives / breadth?



Example Subject Mapping on Miro

Week 4-6**Phase 2**

The second phase will be focused on developing themes and research areas of personal interest. You will also be responding to a number of analysis and reflective prompts related to the lecture & reading content. This will be done through the following tasks:

- Formalised Timeline Diagram
- Thematic Research Development

From here on in, you will be uploading all your work for Assignment 4 to your Wix site. For each phase submission, you will need to 'print' your website to a PDF and submit it to Canvas. We highly recommend adding to any wix site you have made previously in your degree; you will have time to reformat it before the Assignment 4 submission.

Deliverables (Uploaded to Wix Site)

- 1x Formalised Timeline Diagram
- 3x Short Responses (Approx. 150 Words each) for Thematic Research

Deliverables (Uploaded to LMS)

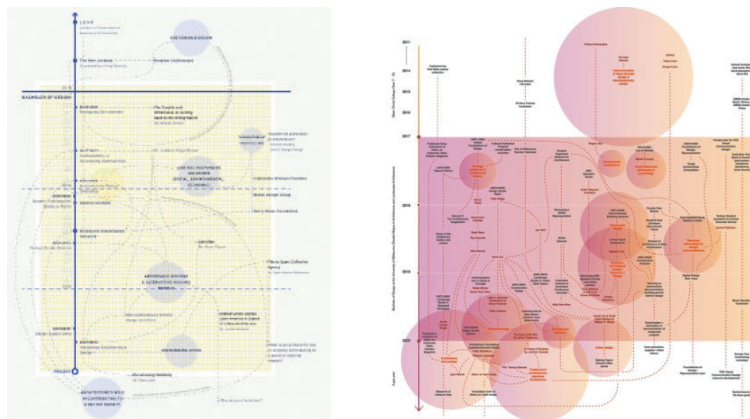
- Printed PDF of Wix site uploaded to the LMS

Formalised Timeline Diagram

Following the drafts developed in the previous phase, you will need to formalise your interest mapping and non-hierarchical subject mapping into a single cohesive 'Timeline' diagram.

This process will involve a negotiation between the two drafts, identifying the key aspects of each that were fundamental to your development as a designer. In addition, the format and graphical design of the diagram should be personal and reflective of your individual design journey.

Some examples of these timeline diagrams are shown in the tutorial video for Phase 2.



Examples of formal timelines by Veronica Lee & Saran Kim

Week 4-6**Thematic Research**

From your draft diagrams, subject categorisation, and formalising the Timeline, you should have identified a number of important themes to you as a designer.

You will need to select 3 of these to form the Thematic Research component of this assignment. You will be developing these throughout the remainder of the semester and these may also act as a way to guide your concept or approach for your Capstone design project.

Your task for the Thematic Research is to write a few paragraphs (Approx. 150 words) on each of your 3 selected themes. This should reference both your projects and learning, as well as relevant resources, readings, and lectures which are related to these themes.

The following prompts may help you develop your Research Themes as well as how you may incorporate discussion of your own work within them.

- What is the context & importance of this project within Architectural Discourse?
- How did this theme relate to / evolve / develop through your projects?
- Why is your project important to this theme or how does it explore ideas within the theme further?
- What did this project teach / demonstrate / accomplish?
- How did this project change how you think about Architecture?

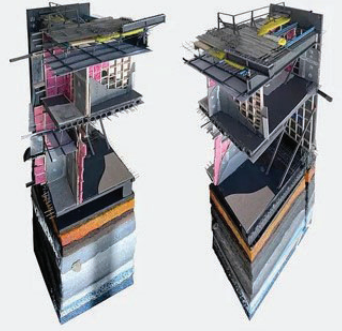
Be aware that where you have links to your projects, you may need to include a basic description of the project as well as drawings, diagrams, images, text etc. where needed to help communicate the theme and its relevance in your ePortfolio.

Construction Modelling

To gain a solid understanding of construction sequences and details, modelling also plays an important part. Different to the modelling of the architectural projects which requires a high level of delicacy, construction models focus more on the representation of the knowledge and the understanding of the different structural components and their properties. When building a construction model, it is also important to select the right material to represent the characteristics of those in the reality correctly.

When building the construction models, the modelling sequence is also of critical importance as the correct sequence will help one to identify the difference between primary and secondary structure and how each component connect together and provide structural support to allow the free-standing of the building. Additionally, by modelling the building components and structures physically, one will also be able to have a more comprehensive understanding of the architectural and construction documentation and will also be able to calculate the correct spacing of each element based on the information given. Consequently, construction modelling is never about modelling and fabrication technique, it is to first 'deconstruct' the building down to individual components, then resemble the components according to the proper sequence and construction methods into the building.

[Explore More >>>](#)



Modelling of the VCASS with critical components exposed

Us & Our Senses



The Eyes of the Skin by Juhani Pallasmaa

Pallasmaa expresses his apprehension about the vision-centric appreciation of architecture that has been prevailing in the society. While Pallasmaa explores the beauty of each sense in the context of the embodied human experience, he articulates the necessity of 'several realms of sensory experience which interact and fuse into each other' in order to establish Architecture that 'strengthens the existential experience'.

Furthermore, Pallasmaa discusses architecture concerning the phenomenological qualities of the world and the human experience, including the effects of light and shadows, the flow of time, memory and imagination. Pallasmaa also weaves in his perspective on the rationalism in modern architecture, pointing out that architecture cannot exist purely for functional reasons.

[Read the extended summary of the book >](#)



Example of Thematic Exploration by Junjie Zhang & Saran Kim

Discretionary guide for staff only

Research Themes

This exercise should flow directly from the previous task as students should be able to identify areas that interest them and develop them alongside their subject.

These themes should form the basis for discussions about Architecture with the student and their upcoming major project. For example, you might direct students towards certain precedents, architects, texts, etc. which are related to their identified themes of interest and push them to research it further before moving onto their major design project for their Capstone Studio.

For example; if a student shows a strong interest in environmental design, you can use this as a way to evaluate their process for their Capstone project.

Week 7-9**Phase 03**

At this stage, you will have a series of different diagrams and thematic research.

In this phase of the semester, you will need to reformat your ePortfolio to successfully include the diagrams previously completed and accommodate for continual expansion which will include the addition of other past projects and reflection on further analysis prompts.

The goal is to develop a seamless, graphically cohesive, and consolidated website which reflects your identity as a designer. For this phase, you will need to produce:

- Draft of your reformatted ePortfolio.

Deliverables (Uploaded to Wix Site)

- Redeveloped ePortfolio containing revised Thematic Research including responses additional reflective prompts.

Deliverables (Uploaded to LMS)

- Printed PDF of Wix site uploaded to the LMS

Redeveloping your ePortfolio

Over the page are a series of identities to get you started. Each type describes a different approach to formatting your website and are only intended as a starting point. None of the examples are mutually exclusive and can be configured depending on how you wish to communicate your ePortfolio.

You will have an opportunity to share your ePortfolio links with your peers for discussion about the success of its communication.

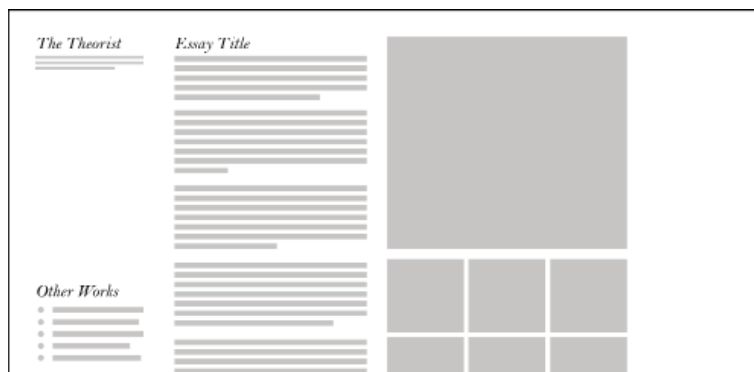
By Week 9, your UI and layout should be reconfigured and refined to contain all prior exercises and diagrams and ready for submission. This will be your final chance for feedback before your submission in Week 12.

Week 7-9

ePortfolio Identities

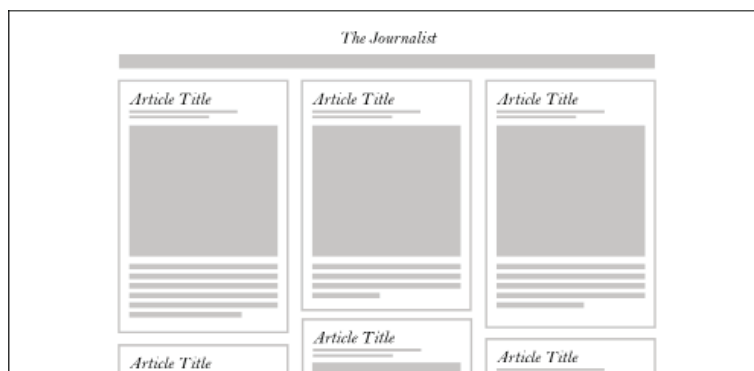
The “Theorist”

Collections of works, combined with essays & extended pieces of text about, or surrounding your work. Great for developing complex ideas related to projects or elaborating on thoughts.



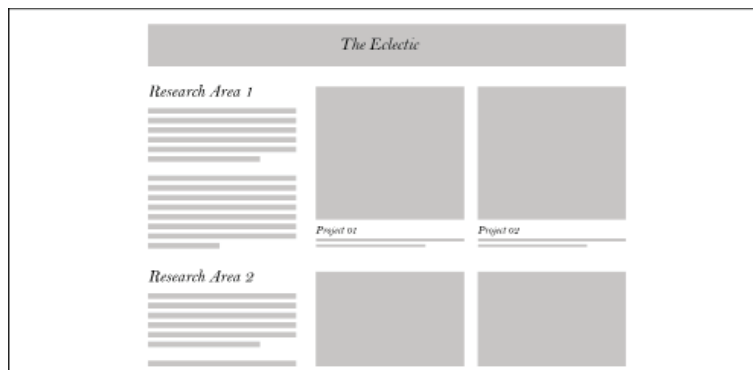
The “Journalist”

Collections of works, combined with short essays, book & lecture reviews, general musings etc. Good for record keeping of conversations, thoughts, and articles for yourself and viewers. May also be used to stimulate conversation.



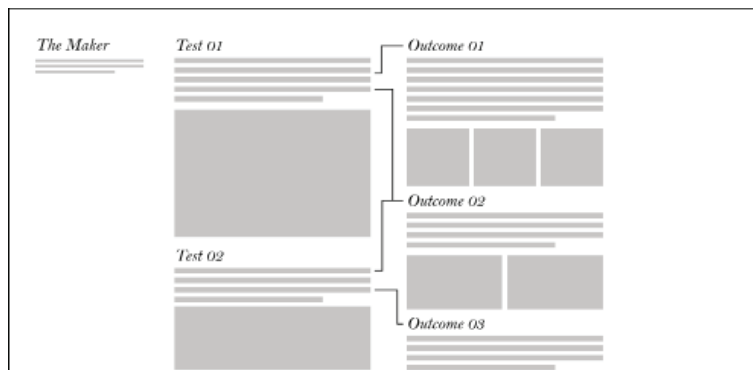
The “Eclectic”

Thematic-based approach with a focus on specific areas of research. Individual projects are categorised by themes. Good for analysing and developing specific areas of interest or study.



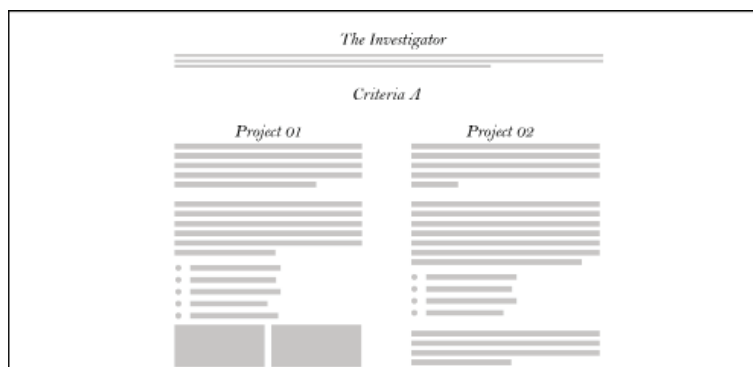
The “Maker”

“Learn through testing” based approach. Individual projects are used as testing grounds to evaluate greater theories or ideas.



The “Investigator”

Compares and analyses projects or outcomes based on a set of established criteria. Good for developing deeper analysis of specific topics or themes of interest.



Discretionary guide for staff only

Tutors:

Students should already have built up an extensive ePortfolio from previous tasks at this stage. This phase will be prompting students to reconfigure what they've done to formulate an online identity through their body of work.

Instruction

Using the templates a starting point, ask students to consider how they'd like to portray themselves through their ePortfolio, or how they think their work & research is best communicated.

Remind students that these thematic development should not be independent from their capstone projects. More likely than not, their areas of interest should be reflected in how they approach designing their Architecture.

Week 10-12**Phase 04**

This final phase will be primarily focused on consolidation. As you continue to fill out your ePortfolio with projects, research, and responding to the analysis prompts, this will not only help clarify your design identity, but also assist in the development of your Capstone design project.

Your ePortfolio will continue to grow after the week 12 submission as you add more projects, themes, and areas of interest in the future. This ePortfolio will be able to help you consolidate your own ideas and reflection about Architecture as well as assisting you in applying for jobs, graduate schools, or as a tool for continued reflection.

Deliverables (Uploaded to Wix Site)

- Refined Online ePortfolio

Deliverables (Uploaded to LMS)

- Printed PDF of Wix site uploaded to the LMS