WELCOME
Product Development Workshop
HOUSE KEEPING

in today's session

- When signing into the webinars, please use your team name and your first name only e.g. <Team Name_First Name> or <TC_Team Name_First Name>
- Please respect the Code of Conduct throughout all the webinars
- Only click on links which are shared by Panellists in the chat
- Get involved! We want to hear from you, so please make use of the interactive features of Zoom:
  - Q&A - please put any questions here
  - Chat - this can be used for more general discussion
  - Raise hand - opportunity for attendees to be unmuted and speak
  - Polls - these will pop up at different stages during the webinars and are anonymous

- Webinars and the slides will be available to watch after this week: https://longitudeexplorer.challenges.org/im-a-longitude-explorer-finalist/
- There will be three multiple choice evaluation questions at the end of the webinar which we ask all attendees to please answer
WELCOME
Product Development Workshop
Ideas designed for real life.
Making a real difference.

As a design studio, we think we have the best job in the world: we bring ideas to life for our clients. Ideas designed to improve experiences, products and environments. Ideas designed to have a positive impact on the world around us.
WHAT ARE WE HERE TO DO in today's session

- LEARN ABOUT NPD
- DEVELOP YOUR IDEAS
- COMPLETE YOUR WORKBOOK
SNAP UP THE PRIZE
WHAT ARE YOU GOING TO NEED during the session
WHAT ARE WE GOING TO COVER in today's session

- PRODUCT DEVELOPMENT PROCESS
- EXTERNAL TEAM RESOURCE
- PROTOTYPING METHODS
- PROTOTYPING PLANNING EXERCISE
- USER TESTING METHODS
- USER TESTING PLANNING EXERCISE
- QUESTIONS & ANSWERS
WHERE ARE WE IN THE PROCESS

the deliver phase
DELIVER
what do we do here

REFINE
MAKE LOTS OF PROTOTYPES
CONDUCT USER TESTING
IMPROVE THE CONCEPT
EVALUATE AGAINST THE BRIEF
SELECT SINGLE SOLUTION
MODEL MAKER
GIFTED CRAFTSPERSON
TRANSLATE CONCEPT INTO 3D
TEST HOW THINGS WORK
CREATE BEAUTIFUL MODELS

DELIVER
who can help
WHY DO WE PROTOTYPE CONCEPTS
the deliver phase

- BETTER UNDERSTAND YOUR CONCEPT
- EVOLVE YOUR DESIGN
- DEVELOP TECHNICAL DETAILS
- EVALUATE ERGONOMICS & USABILITY
- TURNING 2D INTO 3D
PROTOTYPES FOR PRODUCTS

Methods to use when refining your concepts
SKETCH MODELS

the deliver phase

HANDMADE MODELS
QUICK & LOOSE OUTPUT
USING FOAM, CARD & PAPER
SCALE & PROPORTION
SOLVE PROBLEM IN 3D
EXPLORATIVE METHOD
3D PRINTING
the deliver phase

FROM 3D CAD DATA
ACCESSIBLE TECHNOLOGY
ACCURATE PROTOTYPES
MANY DIFFERENT MATERIALS
CONSIDER PRINTING TIME
FUNCTIONAL PROTOTYPES

the deliver phase

LEARN HOW CONCEPT WORKS
MECHANICAL / ELECTRONIC
PROVING THE PRINCIPLE
REQUIRES LOTS PLANNING
REQUIRES TECHNICAL HELP
APPEARANCE MODELS

the deliver phase

LOOKS LIKE END PRODUCT
SOLID / NO MOVING PARTS
TEST IDEA WITH USERS
DESIGN PHASE PRESENTATION
REQUIRES MODEL MAKER
PROTOTYPES FOR SERVICES

Methods to use when refining your concepts
UX PAPER PROTOTYPES
the deliver phase

PLAN INTERFACE WORKFLOW
QUICK TO ITERATE
LOW TECH METHOD
SOLVE COMPLEX UX DESIGN
INTERACTIVE METHOD
DIGITAL UX PROTOTYPES
the deliver phase

STEP UP FROM PAPER
ANIMATED & INTERACTIVE
COMBINED GRAPHIC LAYOUT
LOG USABILITY DATA
SOFTWARE TOOLS AVAILABLE
LOW TECH OPTIONS
ENVIRONMENT
MOCK UPS
the deliver phase

FULL SCALE ENVIRONMENT
TRACK USER MOVEMENT
ERGONOMIC CONSIDERATIONS
QUICK AND LOW TECH
REQUIRES PHYSICAL SPACE
DESKTOP ROLE PLAY

the deliver phase

LARGE COMPLEX SYSTEMS
QUICK & LOW TECH
SCALE MODELS
WALK THROUGH JOURNEY
EASILY MODIFIED
HOW TO PLAN A PROTOTYPE

the deliver phase

- CHOOSE APPROPRIATE METHOD
- WHAT DO YOU WANT TO LEARN
- WHO WILL INTERACT WITH IT
- WHAT MATERIALS DO YOU HAVE
- WHAT EXPERTISE DO YOU HAVE
WORKSHOP 2 - PRODUCT DEVELOPMENT
Workshop Task - Thursday 7th May 2020
Print one worksheet per person

PLANNING YOUR PROTOTYPE

Use this worksheet to help plan out a strategy for prototyping your idea. Use the different methods presented in the workshop as inspiration. Please be mindful of what is achievable during lock-down and how you might need to modify your aspirations. Complete as a group.

<table>
<thead>
<tr>
<th>1. CONCEPT TITLE</th>
<th>5. WHAT MATERIALS DO YOU HAVE AVAILABLE?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Copy from Worksheet 5)</td>
<td>(You may have to be creative here and source what is within the home)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. WHAT IS THE FUNCTION OF THE PROTOTYPE?</th>
<th>6. IF THERE WAS NO COVID-19 LOCK DOWN HOW WOULD IT CHANGE YOUR PROTOTYPING APPROACH?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(This is the primary function of your product / service)</td>
<td>(Would you source different materials or engage with external experts?)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. WHO WILL INTERACT WITH THE PROTOTYPE?</th>
<th>7. HOW WILL YOU NEED TO MODIFY/ SIMPLIFY YOUR CONCEPT TO PROTOTYPE IT?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(This could be your development team or user research respondent)</td>
<td>(You may have to concentrate on specific aspects of your concept)</td>
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PLANNING YOUR PROTOTYPE

Use this worksheet to help plan out a strategy for prototyping your idea. Use the different methods presented in the workshop as inspiration. Please be mindful of what is achievable during lock-down and how you might need to modify your aspirations. Complete as a group.

Print one worksheet per person.

PROTOTYPE DRAWING (Use this area to sketch how you will prototype your concept, doodle, plan and stick sample down)
CAPTURING CONCEPTS

Use this worksheet to transform your post-it note ideas into robust concepts. Create 3 concepts individually and share with your team and score the concept as a group, selecting the highest ranking. Please have your favourite concept selected before Workshop 4 on Thursday.

CONCEPT TITLE (give it a fun name)
'OCEAN HOOVER'

CONCEPT ILLUSTRATION (draw a image of your idea)

CONCEPT DESCRIPTION (give a little bit more detail)
A REMOTE FLOATING RIG THAT IS SELF POWERED. ( USING WIND + SOLAR ENERGY ) EXTRACTS + Sorts MARINE WASTE Bailing into PARCELS TO BE AIRLIFTED USING DRONE TECHNOLOGY

GROUP SCORING (circle where your team agrees)

1  2  3  4  5  6  7  8  9  10

EXAMPLE WORKSHEET 5
PLANNING YOUR PROTOTYPE

Use this worksheet to help plan out a strategy for prototyping your idea. Use the different methods presented in the workshop as inspiration. Please be mindful of what is achievable during lock-down and how you might need to modify your aspirations. Complete as a group.

1. CONCEPT TITLE
   (Copy from Worksheet 5)
   'THE OCEAN HOOVER'

2. WHAT IS THE FUNCTION OF THE PROTOTYPE?
   (This is the primary function of your product / service)
   TO REMOVE PLASTIC WASTE FROM THE OCEAN AND RECYCLE IT

3. WHO WILL INTERACT WITH THE Prototype?
   (This could be your development team or user research respondent)
   - OUR TEAM

4. WHAT DO YOU WANT TO LEARN FROM THE PROTOTYPE?
   (This could be Scale, Ergonomics, Appearance, Function, User Experience etc.)
   - HOW THE INFRASTRUCTURE AND SYSTEM WILL OPERATE, OPERATION OF SYSTEM OVER TIME.

5. WHAT MATERIALS DO YOU HAVE AVAILABLE?
   (You may have to be creative here and source what is within the home)
   - CARDBOARD, PAPER, PLASTIC
   - LEGO
   - CAMERA / VIDEO

6. IF THERE WAS NO COVID-19 LOCK DOWN HOW WOULD IT CHANGE YOUR PROTOTYPING APPROACH?
   (Would you source different materials or engage with external experts?)
   - WE WOULD MAKE A SMALL FUNCTIONAL PROTOTYPE, SHOWING HOW THE DEVICE SUCKS UP THE PLASTIC WASTE

7. HOW WILL YOU NEED TO MODIFY/ SIMPLIFY YOUR CONCEPT TO PROTOTYPE IT?
   (You may have to concentrate on specific aspects of your concept)
   - WE NEED TO SIMPLIFY ALL COMPONENTS... CAPTURE UNIT, FILTER UNIT... POWER... BAGGING AND TRANSPORTATION...
PLANNING YOUR PROTOTYPE

Use this worksheet to help plan out a strategy for prototyping your idea. Use the different methods presented in the workshop as inspiration. Please be mindful of what is achievable during lock-down and how you might need to modify your aspirations. Complete as a group.

PROTOTYPE DRAWING (Use this area to sketch how you will prototype your concept, doodle, plan and stick sample down)
WHY DO WE CONDUCT USER TESTING
the deliver phase

- IMPROVE OUR DESIGN
- TEST AGAINST THE ORIGINAL BRIEF
- SELECT THE BEST SOLUTION
- VALIDATE OUR THINKING
- COLLECT DATA FOR CLIENT APPROVAL
FOCUS GROUPS
the deliver phase

OPEN DISCUSSIONS
6-12 PARTICIPANTS
BLEND OF PERSONALITIES
HELD IN RESEARCH FACILITY
MODERATED BY RESEARCHER
DESIGN TEAM OBSERVE
QUICK LITMUS TEST
ONE TO ONE INTERVIEWS

the deliver phase

FACE TO FACE DISCUSSION HELD IN USERS HOME MODERATED BY RESEARCHER DISCUSSION GUIDE USED FILMED FOR DESIGN TEAM TIME CONSUMING INDEPTH INSIGHTS
USER SURVEYS
the deliver phase

LARGE USER SAMPLE
COMPLETED REMOTELY
DIGITAL TOOLS AVAILABLE
QUICK TO PRODUCE
LOTS OF DATA TO ANALYSE
NO PERSONAL INSIGHTS
HOW TO CONDUCT USER TESTING
the deliver phase

- CHOOSE APPROPRIATE METHOD
- WHAT DO YOU WANT TO LEARN
- WHO WILL SPEAK TO
- HOW WILL EXPLAIN YOUR IDEA
- WHAT QUESTIONS WILL YOU ASK
In order to get the most out of your research it's important to plan carefully the type of questions to ask and how to ask them. Use this worksheet to plan a questionnaire or interview that you can digitally share or conduct with potential users. Complete as a group.

**CONDUCTING USER RESEARCH**

<table>
<thead>
<tr>
<th>Worksheet Task - Thursday 7th May 2020</th>
</tr>
</thead>
</table>

| 1. CONCEPT TITLE  | 5. WHAT ADDITIONAL ITEMS DO YOU NEED TO CREATE? |
| (Copy from Worksheet 5) | (Additional sketches, photographs, models etc?) |
| ___________________________ | ___________________________ |
| ___________________________ | ___________________________ |
| ___________________________ | ___________________________ |

| 2. WHAT DO YOU WANT TO FIND OUT?  |
| (What aspects of the concept do you need user feedback on?) |
| ___________________________ |
| ___________________________ |
| ___________________________ |

| 3. WHO ARE YOU GOING TO INTERVIEW?  |
| (It's important that this correlates to the information in your brief) |
| ___________________________ |
| ___________________________ |
| ___________________________ |

| 4. WHAT DO YOU HAVE TO COMMUNICATE YOUR IDEA?  |
| (Do you have sketches, photographs, models etc?) |
| ___________________________ |
| ___________________________ |
| ___________________________ |
CONDUCTING USER RESEARCH

In order to get the most out of your research it’s important to plan carefully the type of questions to ask and how to ask them. Use this worksheet to plan a questionnaire or interview that you can digitally share or conduct with potential users. Complete as a group.

WHAT QUESTIONS WOULD YOU ASK YOUR INTERVIEWEE...

1. ABOUT THEMSELVES?
(This can break the ice and also give context to answers given)

2. ABOUT THEIR THOUGHTS ON THE PROBLEM
(Do they feel the same as your team about the problem you are solving?)

3. ABOUT YOUR CONCEPT
(Be careful how you frame the questions. We need open questions)

4. ABOUT HOW TO IMPROVE YOUR CONCEPT?
(This will help you improve your concept during development)
CONDUCTING USER RESEARCH

In order to get the most out of your research, it's important to plan carefully the type of questions to ask and how to ask them. Use this worksheet to plan a questionnaire interview that you can digitally share or conduct with potential users. Complete as a group.

Print one worksheet per person.

**EXAMPLE WORKSHEET 7a**

**WORKSHOP 2 - PRODUCT DEVELOPMENT**

Workshop Task - Thursday 7th May 2020

1. CONCEPT TITLE
   (Copy from Worksheet 5)

   'THE OCEAN HOOVER'

2. WHAT DO YOU WANT TO FIND OUT?
   (What aspects of the concept do you need user feedback on?)

   THE IMPACT ON MARINE WILDLIFE WHEN OPERATED

3. WHO ARE YOU GOING TO INTERVIEW?
   (It's important that this correlates to the information in your brief)

   MARINE BIOLOGIST

4. WHAT DO YOU HAVE TO COMMUNICATE YOUR IDEA?
   (Do you have sketches, photographs, models etc?)

   - A SKETCH OF IDEA
   - PROTOTYPE + MAP OF HOW SYSTEM WORKS

5. WHAT ADDITIONAL ITEMS DO YOU NEED TO CREATE?
   (Additional sketches, photographs, models etc?)

   - A DIAGRAM SHOWING
     HOW IT SITS IN THE OCEAN
   - A MAP OF LOCATIONS IT WILL BE USED

6. HOW WOULD YOU DESCRIBE YOUR CONCEPT?
   (This must be in a language that your user will understand)

   - OUR PRODUCT AND SYSTEM SITS ON THE SURFACE OF OCEAN
   - IT IS SELF POWERED AND NAVIGATES USING AI TECHNOLOGY
   - 3 POOLS FILL WITH WATER FILTERING PLASTIC AS IT MOVES
   - WASTE IS SORTED + BAIRED
   - AND TRANSPORTED BACK TO SHORE USING DRONE TECHNOLOGY
CONDUCTING USER RESEARCH

In order to get the most out of your research it's important to plan carefully the type of questions to ask and how to ask them. Use this worksheet to plan a questionnaire interview that you can digitally share or conduct with potential users. Complete as a group.

WHAT QUESTIONS WOULD YOU ASK YOUR INTERVIEWEE...

1. ABOUT THEMSELVES?
   (This can break the ice and also give context to answers given)
   - What is your job title?
   - How long have you worked with marine wildlife?
   - What is your favorite thing about your job?

2. ABOUT THEIR THOUGHTS ON THE PROBLEM
   (Do they feel the same as your team about the problem you are solving?)
   - What is the impact of waste on wildlife?
   - Is there an area that is most affected?
   - What is the biggest offender?

3. ABOUT YOUR CONCEPT
   (Be careful how you frame the questions. We need open questions)
   - Looking at our idea what are you biggest concerns regarding wildlife?
   - What are your thoughts on the filtration system?
   - Do you think system will work to remove waste?

4. ABOUT HOW TO IMPROVE YOUR CONCEPT?
   (This will help you improve your concept during development)
   - How could we improve safety of the system?
   - What should we think about when sucking up water?
   - How could we lessen impact on ocean environment?
CREATE A PROTOTYPE
- Use Worksheet 6 to help you

CONDUCT USER TESTING
- Use Worksheet 7 to help you
WHAT HAVE WE COVERED
the new product development process

Double Diamond

DISCOVER
- insight into the problem
DEFINE
- the area to focus upon
DEVELOP
- potential solutions
DELIVER
- solutions that work

PROBLEM

PROBLEM DEFINITION

DESIGN BRIEF

SOLUTION

Slide 39
QUESTION & ANSWERS

do you have anything you want to ask me
BEFORE YOU GO

To help us continue to improve these sessions, please answer these three short multiple choice polls which will pop up on your screen now.