PREVIEW CHAPTER

PRE_1: Welcome
stand-up (2):
(M)Hello, welcome to the course prototyping interaction! I'm Maaike van Cruchten / Frank Kloos

(F)We are very glad you decided to follow this course and we think you won't be disappointed by what we have to offer.

(F)We come from very diverse backgrounds and have experience in designing multimedia, web design, producing video, creative coding, sketching and interaction design.

(M)We have been teaching this course for over five years, at the faculty Communication and Multimedia Design, here at the Amsterdam University of Applied Sciences.
[-beelden in de klas, muziekje met iets langer stukje beeld?]

(M)Last year we came up with the idea to transform this practical course into a MOOC and enrich it with interviews and reports from experts from the field of user experience and interaction design.

(M)For us, this course is also a prototype. We have never made a MOOC before, and therefore we are very curious about what you think of this course. If you have ideas about how we can improve it, please let us know!

(F)The course prototyping interaction is a practical hands on experience for making prototypes for digital interactive products and services.

You will learn:
- why prototyping is one of the most important parts in a design process;
- where and how you can apply prototyping;
- using various tools and techniques;
- there are countless of ways to do it.

There are many angles in which you can look at prototyping, and therefore it is important to put things into practice and be willing to fail. Prototyping is about learning by doing, in fact, we see prototyping as a way of learning: namely, learning about designing the best possible product or service.

(M)
We hope you will learn new things this coming weeks and you will have a lot of fun!

PRE_2: Course Background and Overview

stand-up (F) course background.

For this course, we wanted to get an idea of how designers currently are using prototyping in their design process. Interaction design is a field of design that is rapidly evolving. Remember, in 2007, we never could have guessed the launch of the iPhone would totally transform the way people interact with digital products and the internet.

Toby describes how the field of interaction design is expanding. The services, the products and the interactions that people use in daily life, are more and more designed. Human computer interaction keeps changing all the time, and therefore we think interaction is one of the most interesting areas in design.

Course structure:

post it: interviews, best practices

As true user centred designers, we got out of the building and started interviewing designers, researchers, teachers, visionairs, tool makers and gurus. These experts share best practices and views on what role and added value prototyping has in design processes.

post it: assignment

Every week you will work on an assignment. There are two types of certificates to be earned: a certificate stating the fact you covered prototyping a digital user interface for screens from chapter 1 to 4, and a additional certificate for prototyping both the screen interface and a physical prototype, where you have to complete the course up to chapter 6. If you decide to do the whole course, you will need to have a prototyping kit or tool for the physical prototyping part. Depending on your experience and goals for the physical prototype, you need to be in possession of a makey makey, an arduino or an equivalent of these. You can find a list in the resources on the bottom right side of this page.

post it: workshop

To help you on your way with the assignments, each week we will provide a small workshop in which experts show you how to make the prototypes and evaluate the different stages of prototypes.

post it: student reviews

In each chapter we will monitor the progression of student's work here at our faculty in Amsterdam, to give you an idea what other designers come up with. In pre-recorded video's you will get an idea where they are heading with their solutions. Of course, we want you be as original as possible. Have faith in your own creativity, and try not to copy any of these examples!

course overview. inhoudelijk

stand-up (M)

This is what you can expect week by week:

1
In week one you will start on your assignment: you will define the design challenge and generate ideas for one or more solutions. In this chapter we will explain what design challenge you will be working on for the next six weeks.
The topics we will cover are:
An introduction to prototyping interaction, research, idea generation and experience prototyping.
In the weekly workshop we show you how you can make a storyboard.

2
Make the first visualizations by sketching and paper prototyping [beeld: schetsen]
The topics in this chapter are: sketching interfaces and paper prototyping.
We will provide a practical workshop about paper prototyping.

3
We will be making digital prototypes & and try out digital prototyping tools to make your prototype interactive. [beeld: digital prototype]
The topics we will cover are: digital prototyping, tools, transitions & gestures, connectivity
In the weekly workshop we will use a simple digital prototyping tool.

4
You will test your digital prototype and iterate on your design. [beeld: testopstelling / heatmaps]
The topics we will cover are: user centered design and usability testing
A workshop about making a test plan and testing your prototype on a user from your target audience.

5
In this week, we will make a leap into the world of physical prototyping by making a physical object or a maquette, we will help you translate your idea from your screen to the physical world by showing examples and interviews with “makers”. [beeld: model / knutselmoment]
The topics we will cover are: model making, materials and rapid prototyping
There will be a workshop about modeling an object, exploring form and materials.

6
This week we will be making an object or space interactive [beeld: physical prototyping tool]
You will be experimenting with your design and test it using your physical prototype.
The topics we will cover are:
Internet of things, hacking stuff, interactive toolkits
In a workshop about interactive tools we will explore several ways to make things interactive.

The Prototyping Canvas
stand-up (F)

For this course we developed the *prototyping canvas*, which you can use as an aid to get the right focus and determine all the details. You should use this canvas as a living, dynamic document which keeps changing and evolving throughout the design process. Here's what it looks like: [beeld van canvas]

The yellow section (design challenge, requirements list, user and context, initial ideas and concept) conveys information from general or user research or a briefing.
This is typically the input for the start of your project. It is also likely to change over time, while you are testing and communicating with stakeholders. It might even be so that you reframe the problem all together.

The orange section consists of a short visualisation and story of your concept. In the story board and scenario you show and tell how the product or service works in context of the social world of the user.

In the pink section you make some important decisions about tools, what to fake and what to make, how high the fidelity of the seperate elements of your prototype should be, and what the test plan should look like.

Finally, and most importantly, the red section answers the questions:
What do you want to achieve with your prototype?
What is the key question you want to solve?

The triangle you see here, originates from a paper by Stephanie Houde and Charles Hill, who identify 3 prototyping 'dimensions' wherein you can place prototypes, according to their purpose. It shows if your concept originates from:

- a user perspective,
- a technological possibility,
- an exploration of the look and feel,

A prototype can also combine these dimensions into a more integrated model.

I highly recommend reading their paper. You can find a link to it in the references section on the left bottom on this page. We will go into detail on this principle in Chapter one of this course.

Over the weeks you start filling in all parts of this canvas, and use this information as input for creating your prototypes. By doing so, you have a much clearer focus on what you actually are going to make. But don't let the canvas stand in the way if you want to try out new things, or change the solution: this is a tool for focus, nothing more.

PRE_3: **Introduction Prototyping Interaction**
stand-up voice-over en beeld.

(M)
First of all, we recommend a couple of books that cover prototyping:
Prototyping, a practitioner's guide by *Todd Zaki Warfel:*
This book shows how prototypes are more than just a design tool by demonstrating how they can help you market a product, gain internal buy-in, and test feasibility with your development team.
Sketching User Experiences, the workbook, by Bill Buxton et al
This book provides information about the step-by-step process of the different sketching techniques. It offers design thinking methods, as a way to think as a user, and sketching, a way to think as a designer.
While targeted at organisational teamwork, Dave Gray's *Gamestorming* is a great book on sketching and visualizing thinking. Highly recommended.

During the course we will point you to several other books and many more articles.

(F)
Now, we know prototyping is considered a useful way to get feedback from users. In UCD, knowing the user is key to a successful product. UCD answers questions about users and their tasks and goals, then uses the findings to make decisions about development and design. Therefore, prototyping is essential in the UCD process. In this way, your design has a much higher chance of succeeding in being meaningful to the end users.

(M)
~~W~~hat is the Return On Investment?
While you and I may think it's obvious that prototyping reduces the cost of developing a product or service, you might need to convince your management or client. Remember to address the fact that solving a bug in a finished product is almost always very costly. But even more important: product features that aren't tested by users have a chance of failing all together. And what if this feature is key to the success of the entire product? By prototyping you reduce the chance of these kind of scenarios considerably.

If you ask any two designers on the planet what they think prototyping or a prototype is, you'll never get the same answer. Here are some examples of the people we interviewed for this course.

[quotes]

Exercise:
(M)
Now you have an idea of what to expect of this course, we would like to know from you what you consider a prototype. What do you think a prototype is? Is it a table, an idea, an elephant? Take 10 minutes to visualize the concept of what a prototype is, and upload your image to the

pinterest page, you can find a link underneath this video. We are very curious what you will come up with! Good luck and see you at chapter one!

(http://pages.cpsc.ucalgary.ca/~saul/hci_topics/pdf_files/prototyping.pdf):

Integrating prototypes and products

throw-away

– prototype only serves to elicit user reaction
– creating prototype must be rapid, otherwise too expensive

incremental

– product built as separate components (modules)
– each component prototyped & tested, then added to the final system

evolutionary

– prototype altered to incorporate design changes
– eventually becomes the final product

Limiting prototype functionality (Nielsen)

vertical prototypes

– includes in-depth functionality for only a few selected features
– common design ideas can be tested in depth

horizontal prototypes

– the entire surface interface with no underlying functionality
– a simulation; no real work can be performed