# Comp 341/441 - HCI - Notes

Spring Semester 2018 - week 11

Dr Nick Hayward

#### considerations - part I

- tasks and activities a user can and should be able to perform with the product
- ie: what is the considered scope of the product's functionality?
- as we consider each task, how will the interaction develop and be processed?
  - in effect, what are the expected steps and actions for the user and the product?
- we need to consider carefully the overall visual style or appearance of the application
- eg: visual design and layout for the basic page templates or screen layout fonts, colours, typography and iconography, any branding...
- what are the defined **places** in our application?
  - eg: pages for a website, navigation controllers and panels for mobile apps, levels in games, and so on...
- how does our user actually navigate between these **places** within our application?
- as we consider further our app's places, what content and layout will be presented to the user in each place.
- which controls are available, how will they be presented, arranged, and so on?

#### Fun exercise - part I

Consider the design of an application to help a person **learn to play a** game/s...

# Then, outline the following

- what is the considered scope of the product's functionality?
- what are the expected steps and actions for the user and the product?
- what are the defined **places** in our application?

#### considerations - part 2

- how will the user interact with these controls?
  - ie: just mouse and keyboard, is touch accepted?
  - are there behaviours associated with these controls?
- are there any events within our application that are not triggered by the user?
  - eg: timer driven events, remote calls and services, backup protocols, automatic updates...
- are any behaviours actioned during such events?
- does the application store, request, manage any data?
  - what type of data, where, format, protocols, services...
  - how do we present this data on-screen and to the user?
- is there a naming scheme for interface and interaction elements?
- eg: data, elements, places, objects, controls, navigation, and any other pertinent concepts...

### Fun exercise - part 2

Continue the design of an application to help a person **learn to play a** game/s...

# Outline the following

- which controls are available, how will they be presented, arranged, and so on?
- are there any events within our application that are not triggered by the user?
- consider effective management of these events...
- does the application store, request, manage any data?

### considerations - part 3

- error handling scheme for the app
  - how will the user be informed? will the user have the option to gracefully recover from errors etc?
- are there defined user roles in the app?
  - what actions, privileges are permitted per role?
- how do our users request or find assistance within the app?
  - is it an active system or passive? ie: interactive or reference based documentation, tutorials, videos, discussion forums etc...
- how is the app structured to promote app guidance for users through tasks?
  - help for the users to work out how the app actually works...

### Fun exercise - part 3

Continue the design of an application to help a person **learn to play a** game/s...

# Outline the following

- are there defined user roles in the app?
- how do our users request or find assistance within the app?
- how is the app structured to promote app guidance for users through tasks?

#### considerations - part 4

- need to engage in a number of related tasks
  - eg: gathering requirements and their analysis
- need to understand our user base, the target audience for our app
  - includes their characteristics, requirements, how they intend to interact with the app
- as designers and developers we will need to understand
  - the type of work users want to complete
  - the inherent tasks
- the effective problem domain
- to a lesser degree, this will also require an understanding of the technology requirements
  - eg: chosen languages, frameworks, device hardware...
- impacts how and what we are able to design and provision for our users
- need to consider prototypes, mockups, design documentation and specifications, and testing...

# Video - Design

## **Paper Prototyping**



Rapid Prototyping I of 3: Paper Prototyping

Source: YouTube - Google

# Video - Design

## **Digital Prototyping**



Rapid Prototyping 2 of 3: Digital Prototyping

Source: YouTube - Google

# Video - Design

## **Native Prototyping**



Rapid Prototyping 3 of 3: Native Prototyping

Source: YouTube - Google

#### **Users and Skills**

#### intro

- continue to consider our application's users
- primary challenge involves consideration of product development relative to both beginner and advanced users
- how to make usable and productive app for all concerned
- comprehensible and learnable for beginners
- do not hinder expert users from optimal productivity
- carefully consider user skill levels
- be aware of changes to skill levels over time
- aware of practical ways to help our users attain and improve skill levels
- understanding user's skill levels helps application of interaction concepts and principles

#### **Users and Skills**

### user categorisation - part I

• we can often categorise users by application skill levels and aptitude

#### evaluation user

- testing and evaluating an app and not yet committed to its usage
- trying to determine its suitability for their requirements
- no pressing tasks or action at hand

### beginner user

- trying to accomplish some tasks with the application
- little or no prior experience with the app's usage
- general feelings of uncertainty and learning by trial and error, general experimentation
- some, but not all, will use the available tutorials, help documentation etc

## **Video - Users and Skills**





Apes and Touch Screens at Lincoln Park Zoo Source: YouTube - Chicago Tribune

#### **Users and Skills**

### user categorisation - part 2

#### intermediate user

- more confident and experienced user, able to complete most of their required tasks
- unlikely they will have explored all of the app's features and options
- user comfort and fluency will not have been achieved for the application
- perpetual intermediates
- Cooper et al. 2007.

### expert user

- greater application confidence and certainty
- awareness of product's domain and advanced options
- able to complete tasks with ease, solving problems as they arise...

#### power user

- considered an extension of an **expert** user with a fascination of the application
- normally enjoys customising the application and testing its limits

# **Video - Usability**

### **Users and skills**



Your First Script - Apps Script Tutorials

Source: YouTube

# References

-	Shackel, B. University	Usability - o Press. PP. 2	context, frame 21-38. 1991.	ework, design, o	and evolution.	Human factors	s for informatics	usability. Cambrid	lge