Welcome to interface design session

By: Ali Darejeh
Which is more important: content or design? Usability
What is usability?

When we say a software or website is usable, it means that it is easy to use.

- **Usability main elements:**
  - **Effectiveness:** If the design fits to its purpose.
  - **Efficiency:** Amount of effort or time required to use.
  - **Satisfaction:** How pleasant it is to use the design.
How to create an interface with a good usability?

For creating a user friendly interface we should:

1. Match between system and the real world and the users’ mental model.
2. Consider consistency and standards
3. Prevent users’ errors
4. Consider visibility of system components
5. Consider visibility of system status
6. Consider flexibility of system features
7. Consider beauty and minimalist design
8. Help users recognize, diagnose, and recover from errors
9. Create help and documentation

10. Create an appropriate structure (layout)
11. Use constraints
12. Provide feedback
13. Apply Affordances
14. Reuse familiar elements
15. Consider User Experience
Match between system and the real world

The system should speak the user's language, with pictures, and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order (users’ mental model).
Match between system and the real world
Match between system and the real world
Match between system and the real world
Adapt the software to the users’ mental model
Consistency and standards

All the similar words, situations, or actions should have the same style and meaning.
Error prevention

We should try to prevent errors. For example providing users with a confirmation option before they commit to the action.
Design should organize the user interface purposefully, in meaningful and useful ways by putting related elements together and by eliminating unrelated things.
The interface elements should be seen able by users easily.
Visibility of system status

The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.
Flexibility

It is about having different ways for doing a same task.
We should try to use the simplest form of graphic & design to keep users’ concentration on the main purpose of the system.
Minimalist design

For example for Instagram icon, it is not necessary to use a full camera picture to show the concept of a photo website. Just one rectangle and two circles can convey the same concept.
Which one has the most minimalist design?  
Windows phone       Android                 iOS
Help users recognize, diagnose, and recover from errors

Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.
Exception detected by Bloomberg

Details: Program has crashed. Exception Caught (Access violation writing at 0x00000000 at 0x0059FF86)

A report will be sent (whatever the option you choose). An issue and an email will be created.

System Error

Error Number 2.
Error text = Null object reference.
Window/Menu/Object = w_product_master.
Error Object/Control = w_product_master.
Script = pfc_postopen.
Line in Script = 34.

Microsoft Visual C++ Runtime Library

Runtime Error!

Program: C:\Ubisoft\GRO\PDC-Live\Yeti_Release.exe
R6025 - pure virtual function call
It is better if the system can be used without documentation, however, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.
Excel help

Create your first workbook using Excel 2016

- Explore Excel 2016
- Find commands quickly with Tell Me
- Create a workbook using a template
- Create a basic chart
- Save a workbook to the cloud

Go to tutorial

Topics by category

- What's new in Excel 2016
- Videos from Microsoft Data Insights Summit 2016
- Get started
- Troubleshoot problems
Filter data in an Excel table

Applies To: Excel 2016, Excel 2013

When you put your data in a table, filtering controls are added to the table headers automatically.

For quick filtering, do this:

1. Click the arrow in the table header of the column you want to filter.

2. In the list of text or numbers, uncheck the (Select All) box at the top of the list, and then check the boxes of the items you want to show in your table.
Constraints are some limitations to help users. The things like deactivating buttons and validation in online forms.
Email
Email address: forced_error

IP Address
IP: 192.168.3.

Date
ISO 8601 dates only YYYY-mm-dd
Date: 201-12-01

Submit
When your visitor first lands on your website or software, they’re like an alien visiting earth for the first time. You need to show them how to use the system by using familiar visual elements.
Affordances
The design should reuse internal and external components and behaviors. This can reduce the need for users to rethink and remember.
The reuse principle
How many interface design principles can you see in this video?
A **website wireframe**, represents the skeletal framework of a website. The wireframe depicts the page layout or arrangement of the website’s content, including interface elements and navigational systems, and how they work together. The wireframe usually lacks typographic style, color, or graphics, since the main focus lies in functionality, behavior, and priority of content. **Wireframe** focuses on what a screen does, not what it looks like.
Balsamiq Mockups Software
A paragraph of text.
A second row of text.
A Web Page

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Prototype

A **prototype** is an early sample, model, or release of a product built to test a concept or process or to act as a thing to be replicated or learned from.
Axure software for functional prototyping
Usability testing methods

Usability testing is a technique to evaluate a product by testing it on users.

Task analysis: Task analysis is the process of learning about ordinary users by observing them in action to understand in detail how they perform their tasks and achieve their intended goals.
Usability inspection methods

**Usability inspection** is the name for a set of methods where experts inspects a user interface.

- **Heuristic evaluation**: in this method evaluators examining the interface and judging its compliance with recognized usability principles.

- **Pluralistic walkthrough**: The method centers on using a group of users, developers and usability professionals to step through a task scenario, discussing usability issues associated with dialog elements involved in the scenario steps.
UX means users’ feeling about the system and their perceptions of different aspects of the system.

<table>
<thead>
<tr>
<th>Positive aspects of UX</th>
<th>Negative aspects of UX</th>
</tr>
</thead>
<tbody>
<tr>
<td>A good user interface should be:</td>
<td>The interface won’t be:</td>
</tr>
<tr>
<td>• Satisfying</td>
<td>• Boring</td>
</tr>
<tr>
<td>• Enjoyable</td>
<td>• Frustrating</td>
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<tr>
<td>• Fun</td>
<td>• Unpleasant</td>
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<td>• Entertaining</td>
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<td>• Motivating</td>
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<td>• Pleasing</td>
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<td>• Rewarding</td>
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Determining Stakeholders

The first step of UX is Determining Stakeholders.

Who are the stakeholders?

Who are the stakeholders for a library application for UNSW?

– Student
– Lecturer
– Different universities
– Liberians
– People outside the university
– People with disabilities
How to enhance UX?

One of the most efficient techniques to enhance UX is having a game thinking in design. There are three different solutions that we can apply based on the different purposes to make the software game-like.
Game based designs

- **Game inspired design**: is a user interface that mimic from games’ artwork.

- **Serious game**: is similar to normal games but they are developed with the purpose of training a concept to a specific group of users.

- **Gamification**: is about use of video game mechanics in non-game contexts to encourage and engage users in the context by making sense of playfulness and fun.
Difference between these techniques

Game Thinking, Broken down by design goal.

<table>
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<tr>
<th></th>
<th>Game Thinking</th>
<th>Game Elements</th>
<th>Game Play</th>
<th>Just for Fun</th>
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<tbody>
<tr>
<td>Game Inspired Design</td>
<td>![Game Thinking]</td>
<td>![Game Elements]</td>
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</tr>
<tr>
<td>Gamification</td>
<td>![Game Thinking]</td>
<td>![Game Elements]</td>
<td>![Game Play]</td>
<td>![Just for Fun]</td>
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<tr>
<td>Serious Game / Simulation</td>
<td>![Game Thinking]</td>
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Types of Game Thinking and Primary Design Goal

- **Gamification**
  - No Gameplay
- **Serious Games**
  - Gameplay
- **Game Inspired Design**
  - Fun
- **Games**

Marczewski, 2013
A sample of Game inspired design
A sample of serious game in learning
Gamification process

Win Condition

Challenge

Point System

Social network & Status

Badges

Rewards

Leader board
Different areas of using serious games

- **Teaching Games**: Teaches you something using real gameplay.
- **Simulators**: A virtual version of something from the real world that allows safe practice and testing.
- **Meaningful Games**: Uses gameplay to promote a meaningful message to the player and if possible promote change with that message.
- **Purposeful Games**: Uses games to create direct real world outcomes.
Different areas of using gamification

- **Human resource**: increase personnel motivation, engagement and working performance.
- **Health care and sport**: increase physical activities, promote to live healthy and motivate patients to continue their healing process.
- **e-Learning**: motivate students to spend more time in e-learning system, motivate them to learn more, and increase their virtual class activity such as asking and answering question by the system.
- **Data collection**: motivate people to participate in data collection process such as crowdsourcing for a research, survey, etc.
- **Online community**: increase users motivation to participate in a specific online community like a blog, social web site and question/answer web site.
- **Software popularity**: increase users loyalty to use a specific software for a long time, increase frequency of using software and increase discovery-based learning.
A sample of Gamification in learning
A sample of Gamification in a CRM systems
A sample of Gamification in sport
Gamification in AutoCAD

Encourage novice users to improve their AutoCAD working knowledge.
Microsoft Ribbon hero
CONGRATULATIONS!

CLIPPY'S RÉSUMÉ

Objective
To obtain a position that will enable me to use my skills and experience in an environment that encourages growth and development.

Work experience
1996 - 2001
Office Assistant
- Responsible for filing and maintaining records
- Assisted in scheduling appointments

1995 - 1996
Chief Traffic Control
- Responsible for traffic flow and safety

1994 - 1995
The home office of Xerox
- Held paper together

1992 - 1994
Box of Large Spring
- Second shelf on right

AWESOME! NOW I'LL APPLY FOR THAT JOB!
A sample of gamification in survey system
Like to learn more about interface design ...

Take **Human Computer Interaction (HCI)** course in the third year of your study.