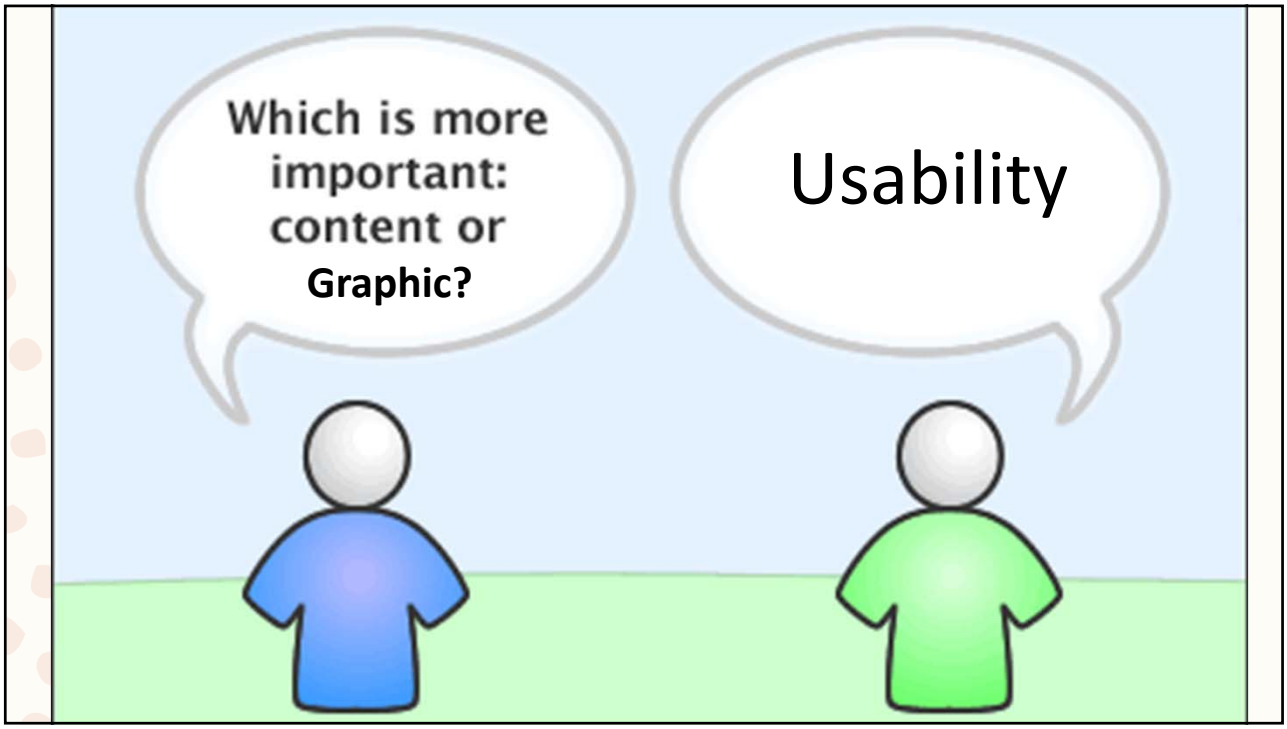
Welcome to interface design lecture

Topics

- Interface design principles
- Different stages of design
- How to increase users engagement with the use of Gamification.
- Augmented reality and its design considerations.



What is usability?

When we say a software or website is usable, it mean 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

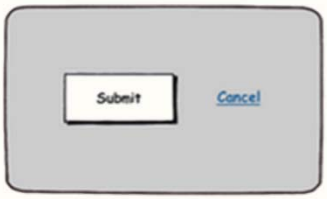
Match between system and the real world

The system should speak the user's language, with pictures, and concepts familiar to the user, rather than system-oriented terms.

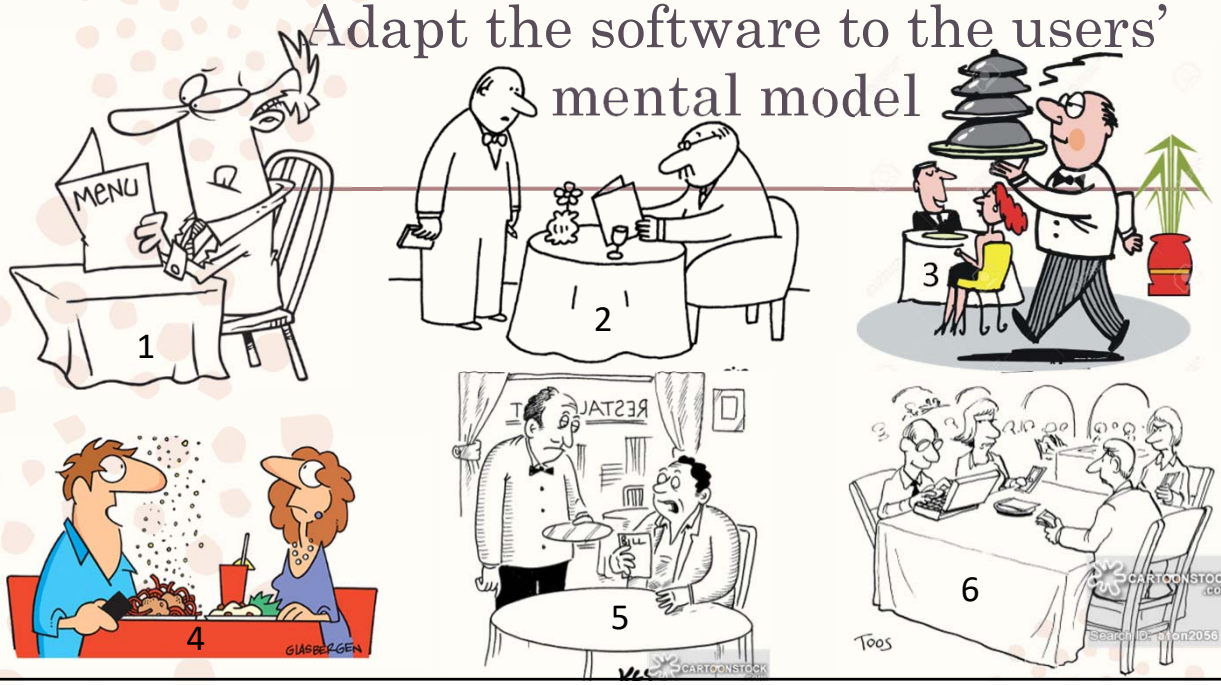
Match between system and the real world (Icons)

Match between system and the real world (text)

You want to buy something online



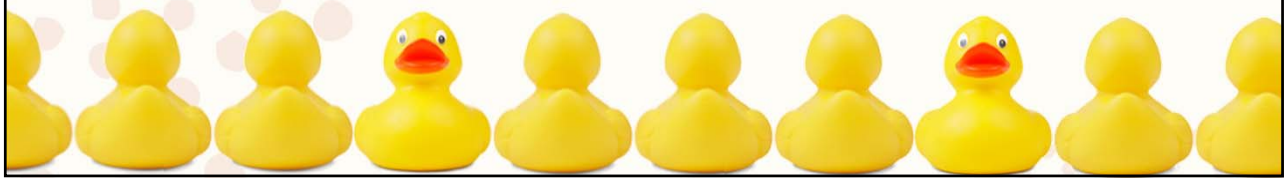
Adapt the software to the users' mental model

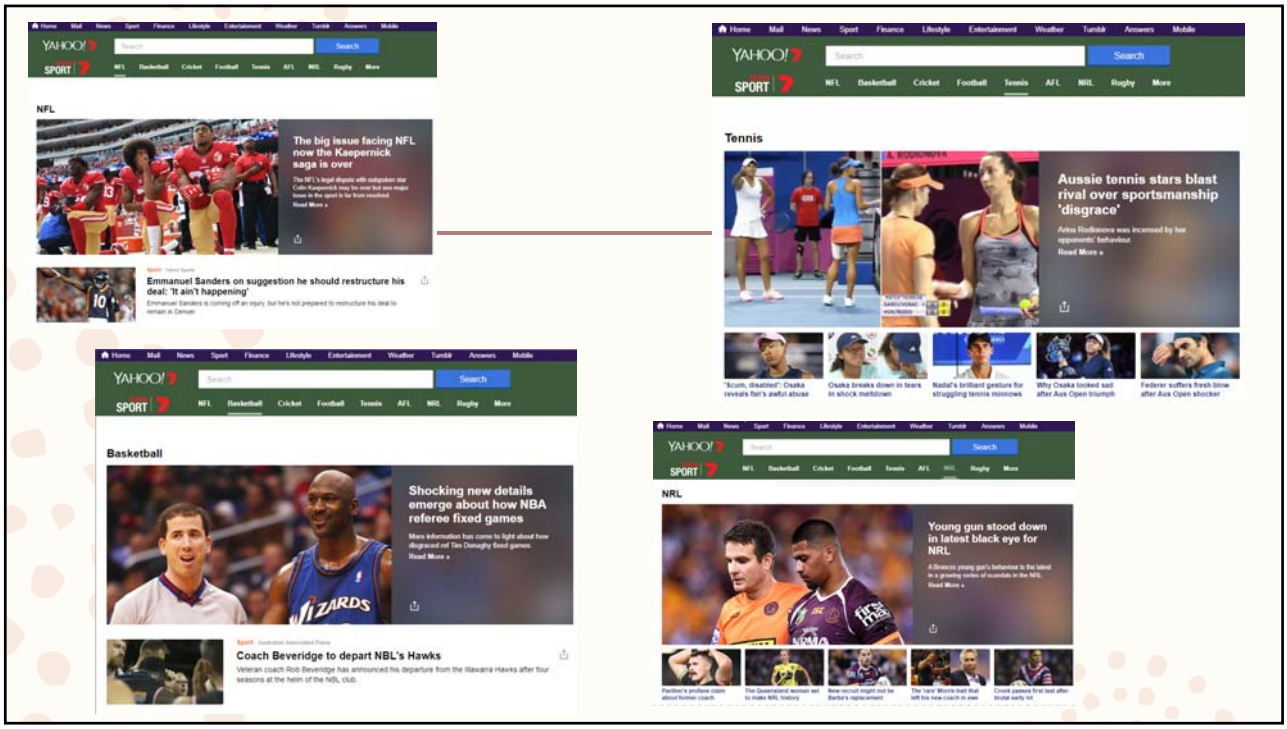


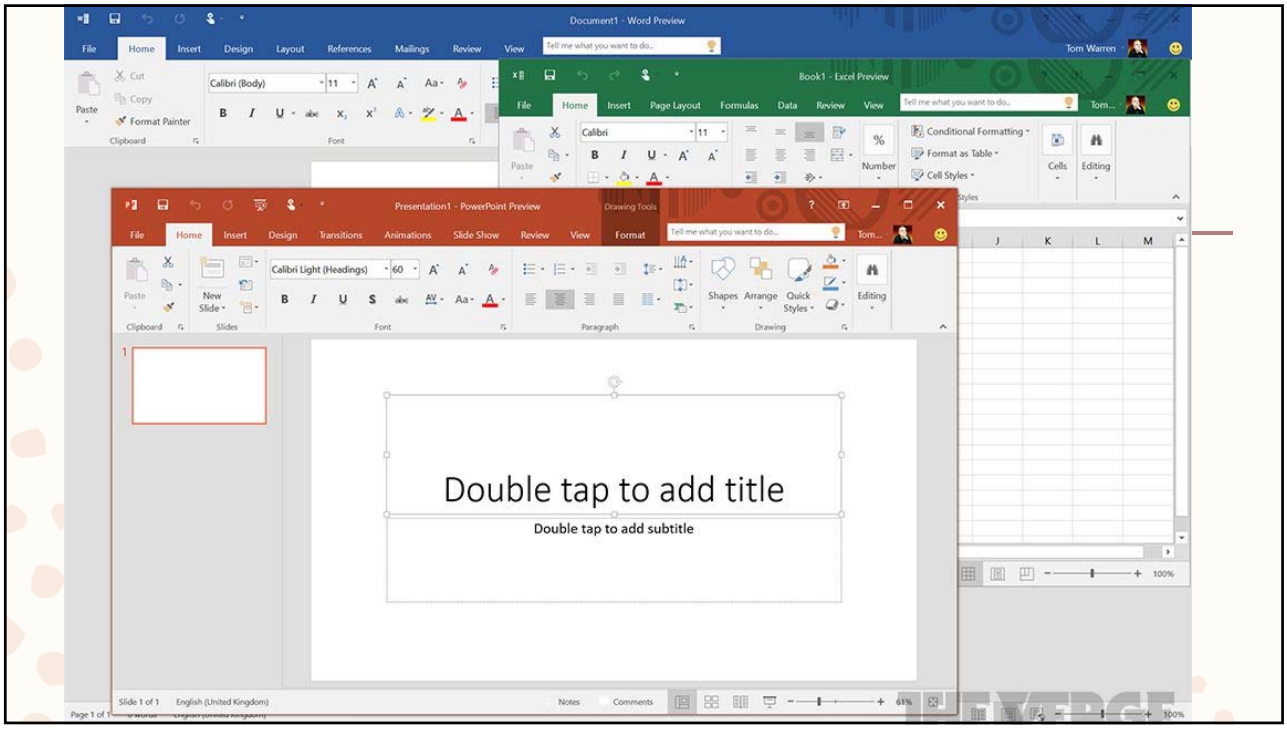
Consistency and standards

All the similar words, situations, or actions should have the same style and meaning:

1. Consistency with the other pages of the system.
2. Consistency with the similar or related systems.

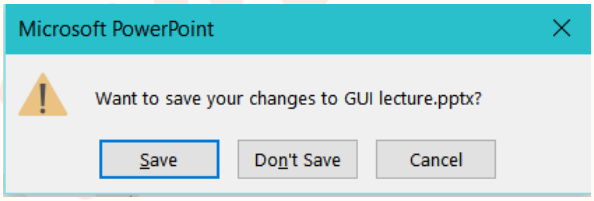


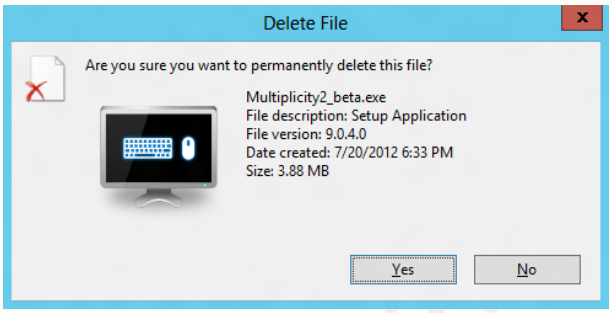

NFL
The big issue facing NFL now the Kaepernick saga is over
Emmanuel Sanders on suggestion he should restructure his deal: 'It ain't happening'
Tennis
Aussie tennis stars blast rival over sportsmanship 'disgrace'
Basketball
Shocking new details emerge about how NBA referee fixed games
Coach Beveridge to depart NBL's Hawks
NRL
Young gun stood down in latest black eye for NRL


Document1 - Word Preview
Book1 - Excel Preview
Presentation1 - PowerPoint Preview
Double tap to add title
Double tap to add subtitle

Prevent users errors

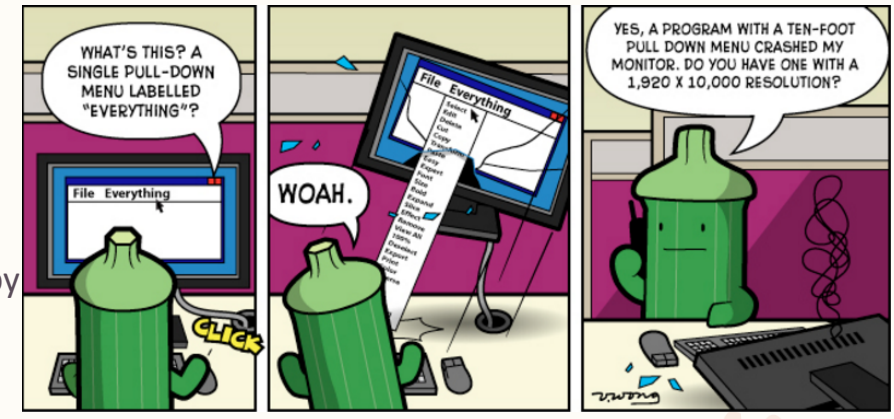
We should try to prevent users errors by providing users with a confirmation option before they commit to take an action.

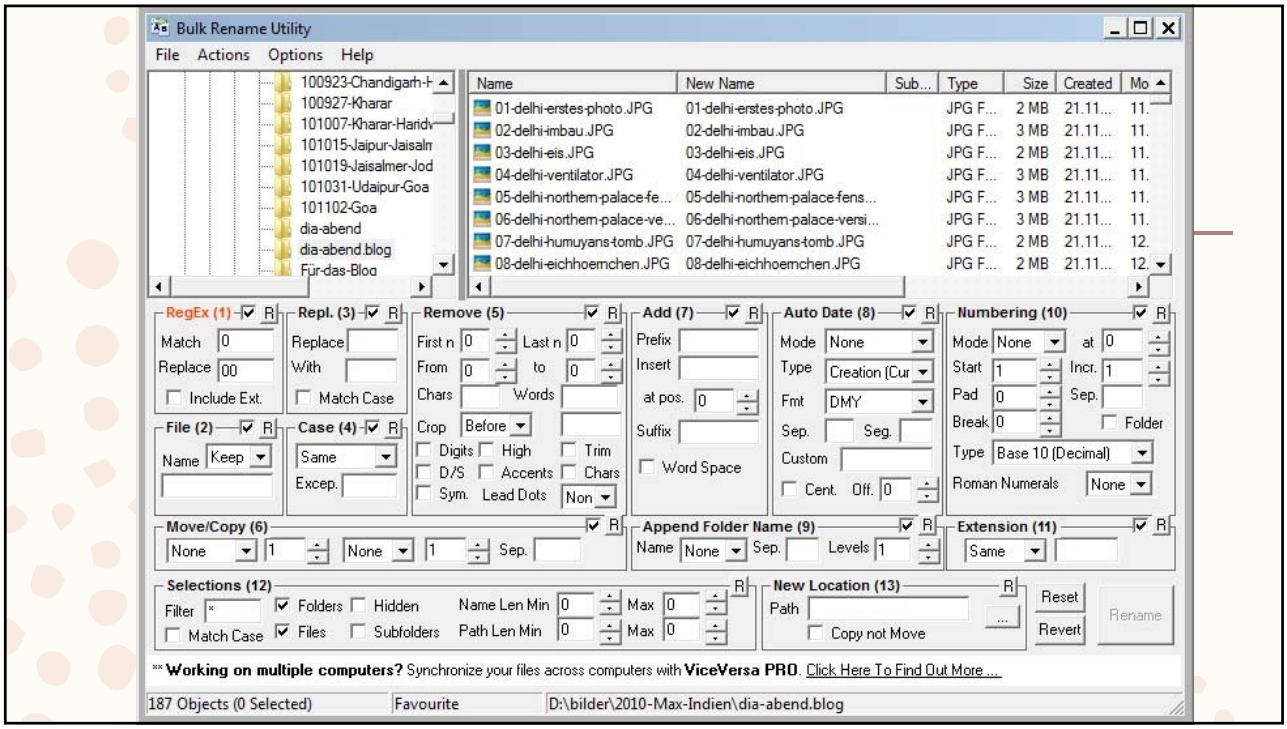




Structure and layout

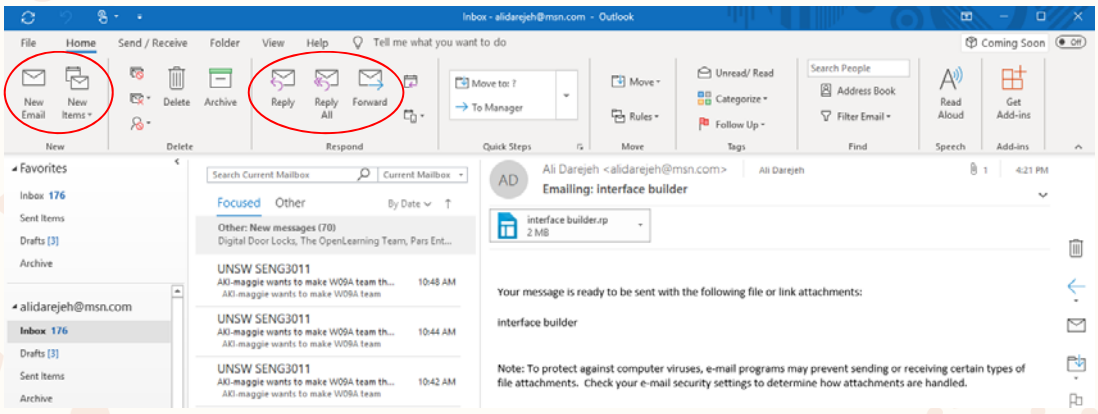
Design should organize the user interface purposefully, in meaningful and useful ways by putting related elements together and by eliminating unrelated things.





Visibility

Main elements of the website or application should be designed to be more visible.

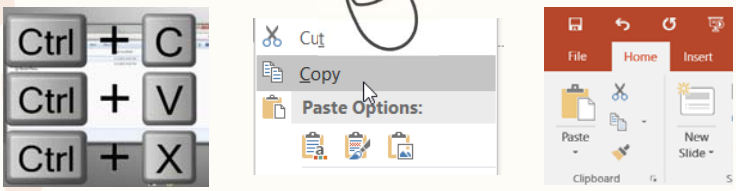


Visibility of system status

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 the same task.



Minimalist design

We should try to use the simplest form of graphic & design to keep users' concentration on the main purpose of the system.

Minimalist design

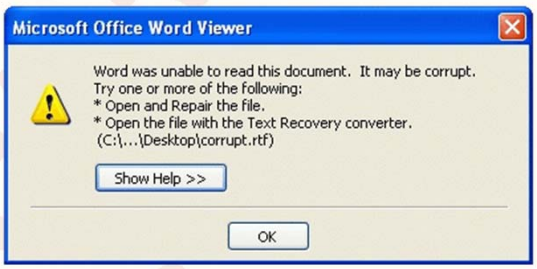
For example for Instagram icon, it is not necessary to use a full camera picture to show the concept of a photo website. Just one rectangle and two circles can convey the same concept.

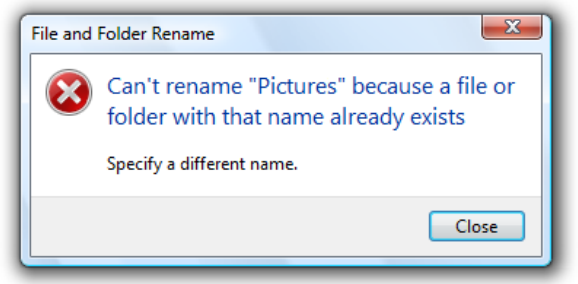
Which one has the most minimalist design?

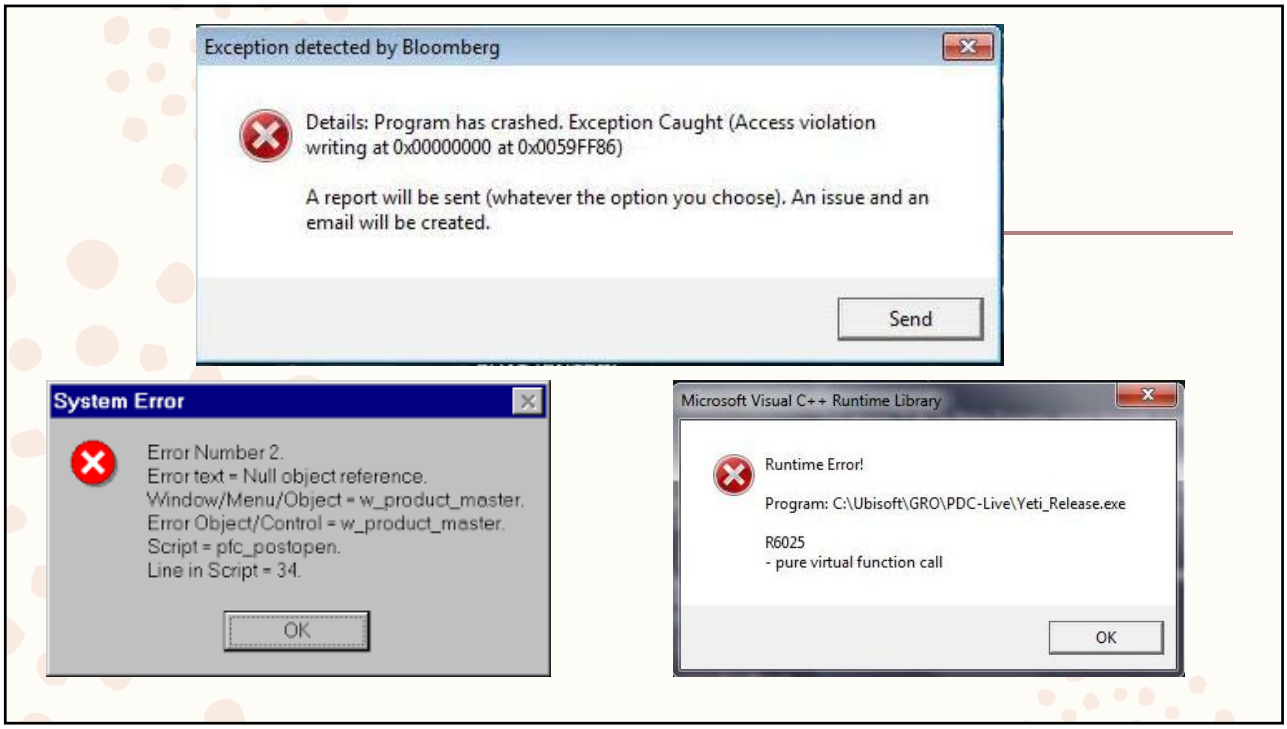
Windows phone Android iOS

Help users recognize, diagnose, and recover from errors

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



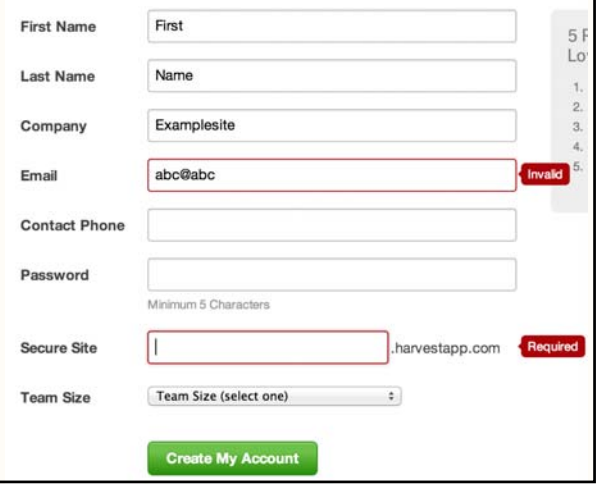


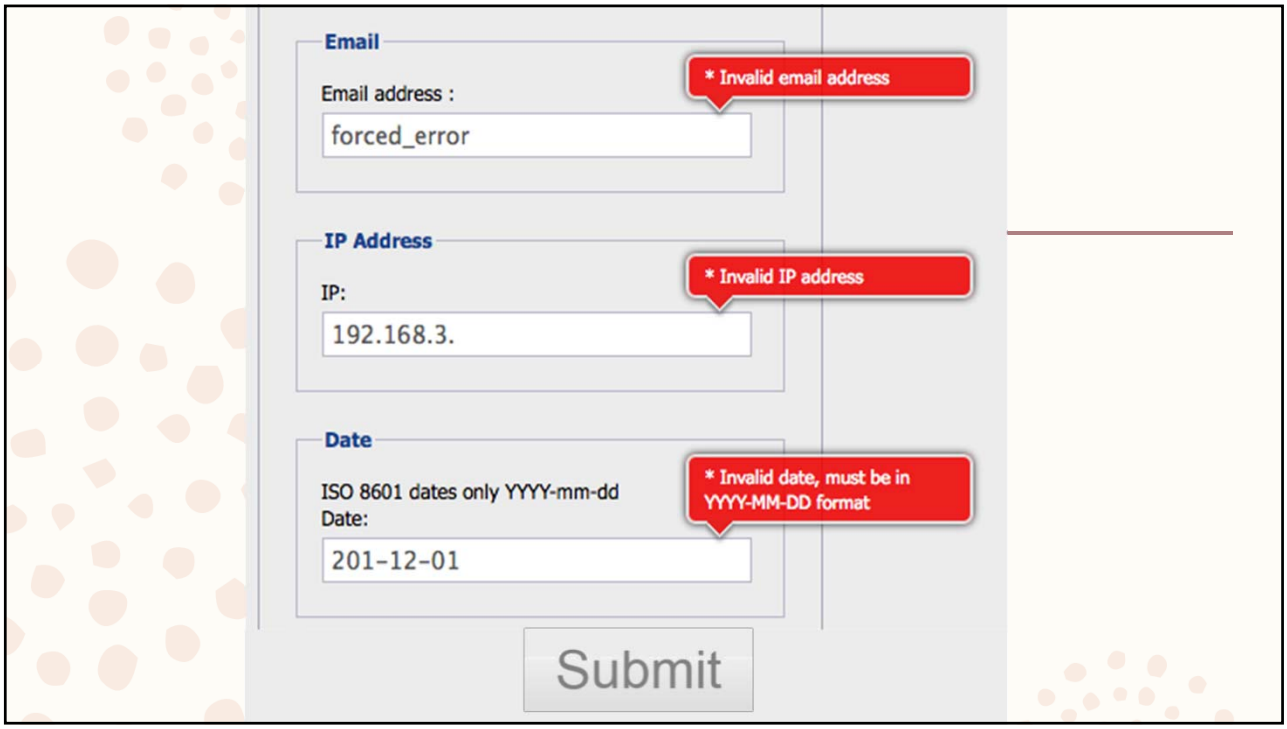


Constraints

Constraints are some limitations to help users. Such as:

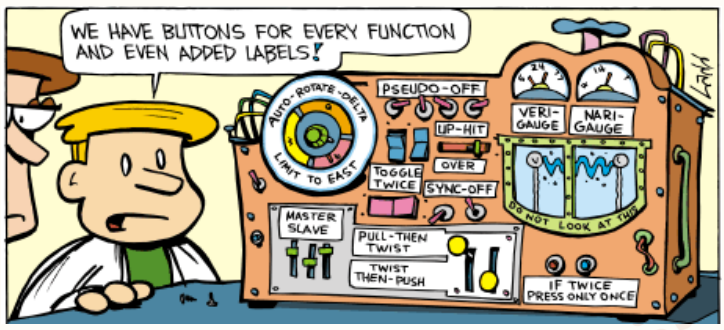
- Deactivating buttons
- Validating online forms





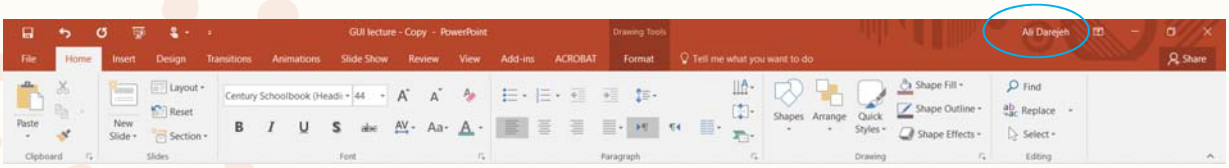
Affordances

Affordance shows the possible actions users can do with an object and how they can interact with that object.



Affordances

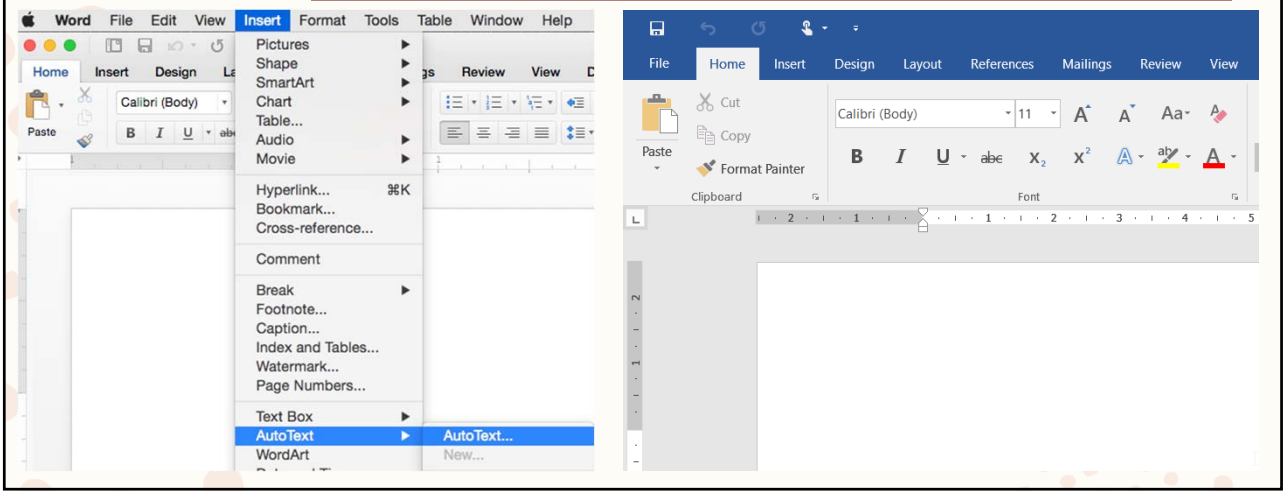
Does the user profile has a good affordance?

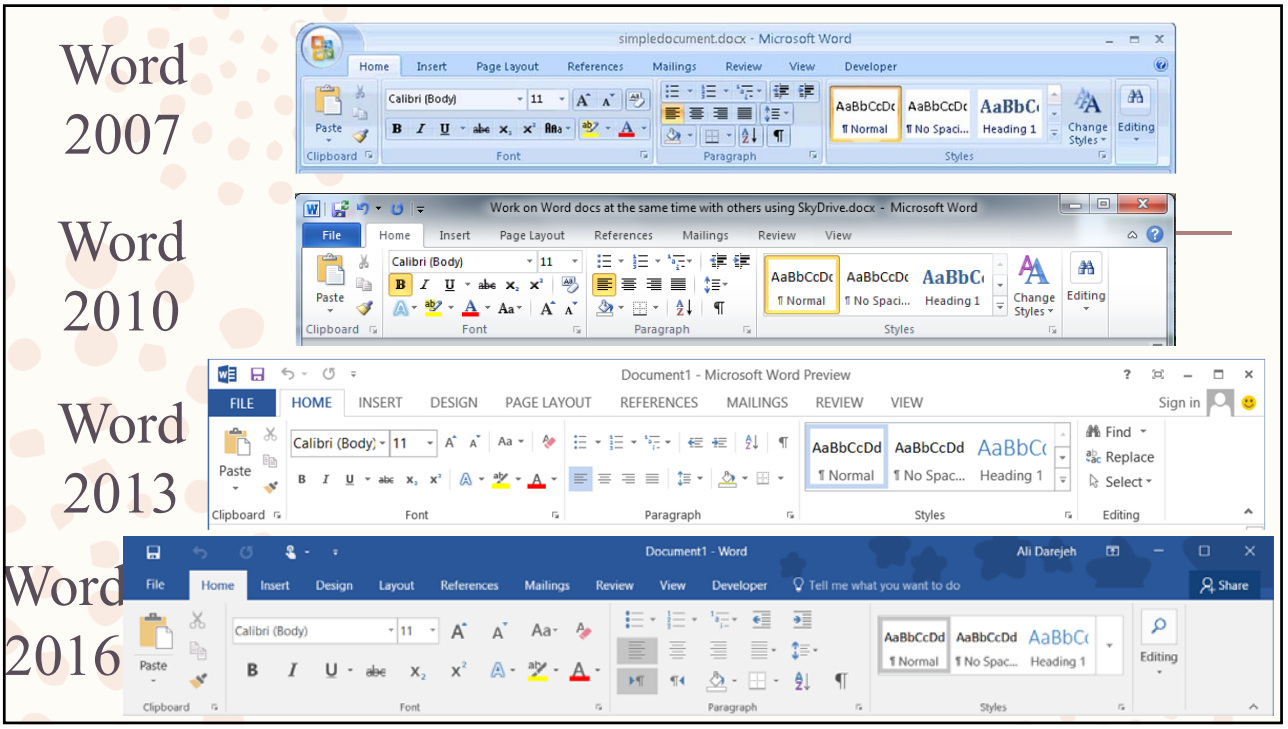


The reuse principle

The design should reuse internal and external components and behaviors to reduce the need for users to rethink and remember.

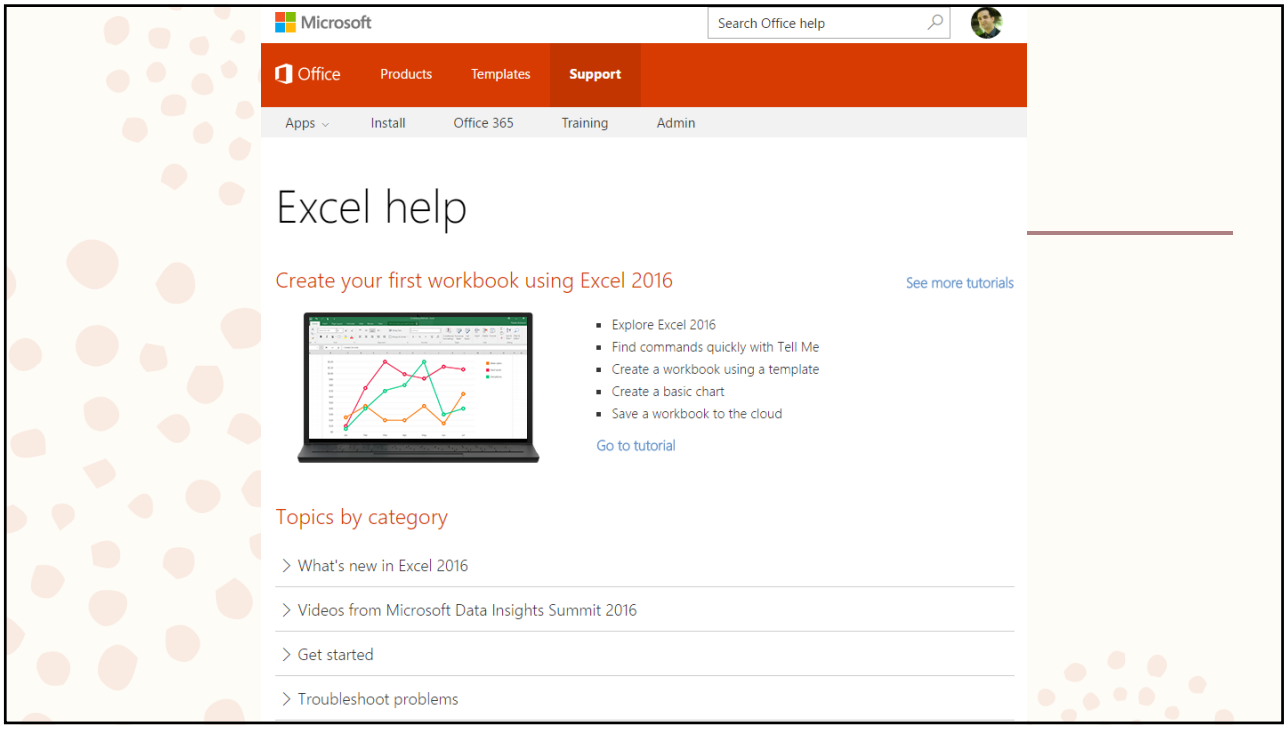
The reuse principle

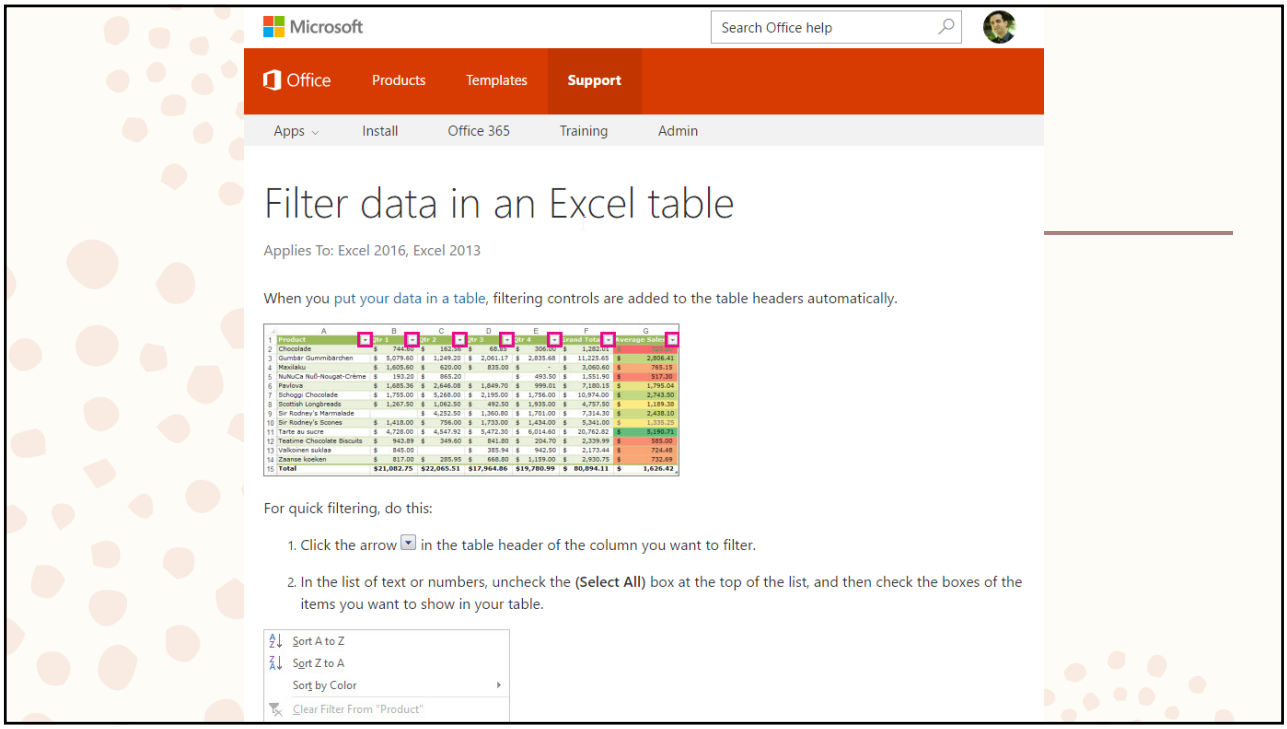


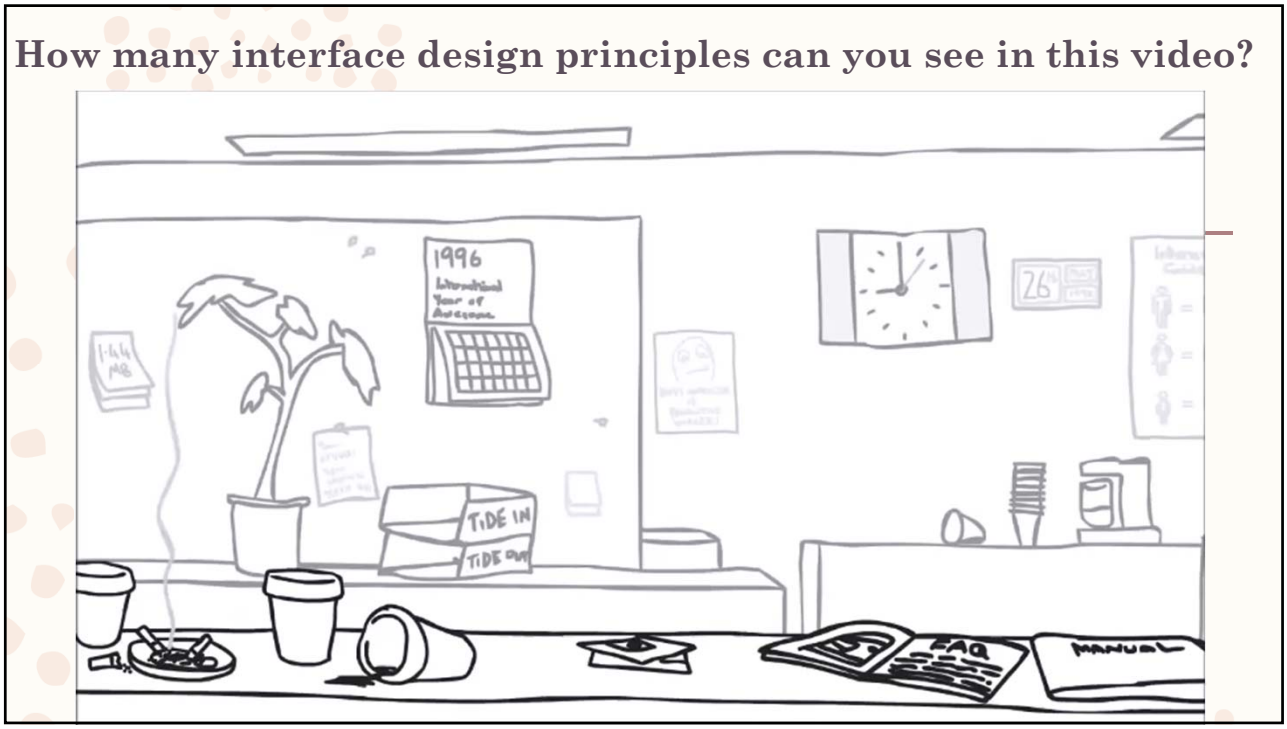


Help and documentation

It is better if the system can be used without documentation, however, it may be necessary to provide help and documentation. It should be easy to search, focused on the user's task, list steps, and not be too large.



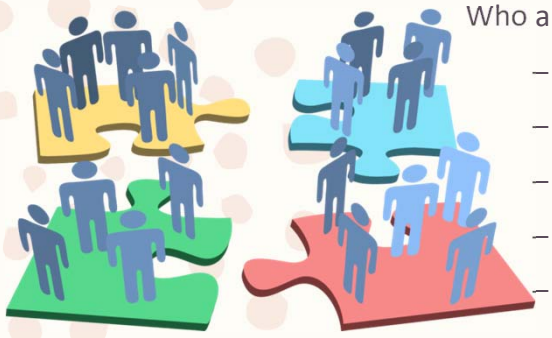

Microsoft
Search Office help
Office
Products
Templates
Support
Apps
Install
Office 365
Training
Admin
Filter data in an Excel table
Applies To: Excel 2016, Excel 2013
When you put your data in a table, filtering controls are added to the table headers automatically.
For quick filtering, do this:
1. Click 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.
Sort A to Z
Sort Z to A
Sort by Color
Clear Filter From "Product"


How many interface design principles can you see in this video?
1996
TIDE IN
TIDE OUT
FAQ
MANUAL

Different stages of design

1. Determining stakeholders
2. Writing different users' scenarios
3. Collecting data from users
4. Wireframing
5. Prototyping
6. Evaluating usability
7. Finding techniques to improve User Experience (UX)

Determining Stakeholders



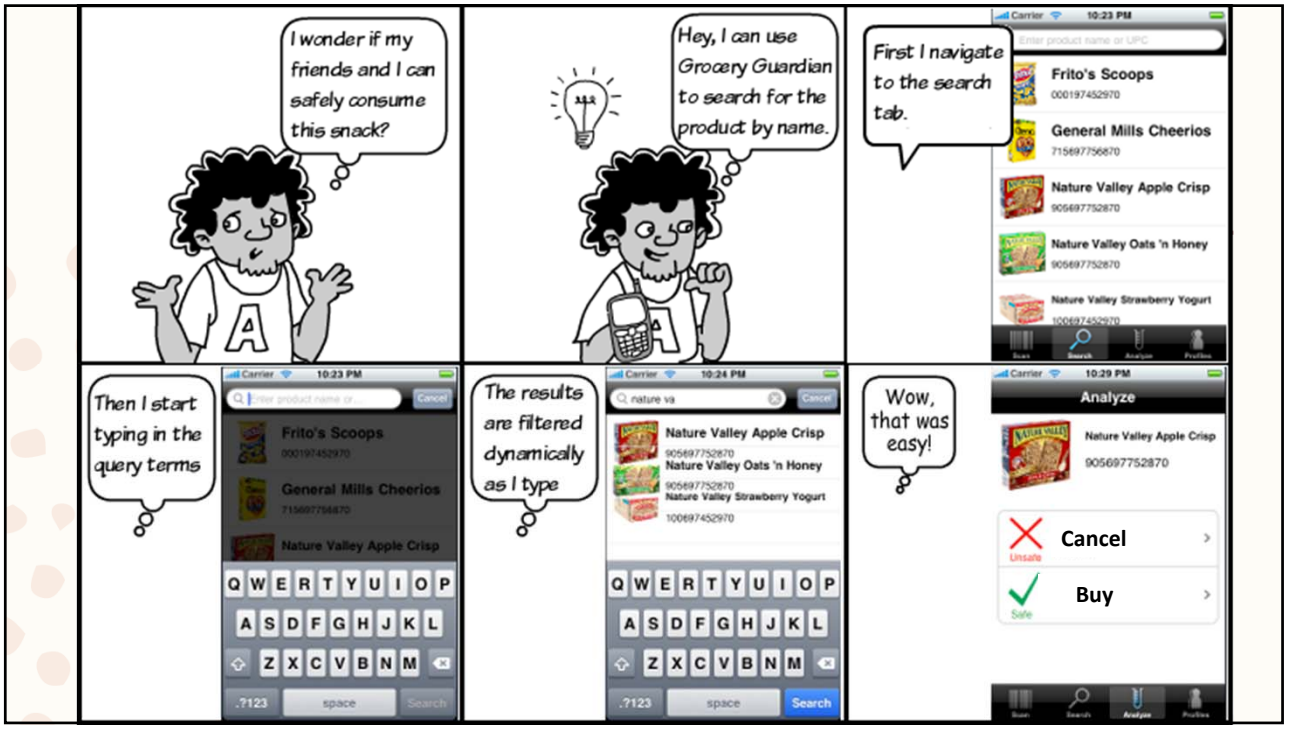
Who are the stakeholders?

Who are the stakeholders for a shopping app?

- *Buyers*
- *Retailers*
- *Suppliers*
- *Advertisement companies*
- *People with disabilities like visually impaired users*

Scenario Development

A scenario is a narrative. It is a sequence of events that users carry out in order to achieve some goals.



Data collection by Interview and Questionnaire

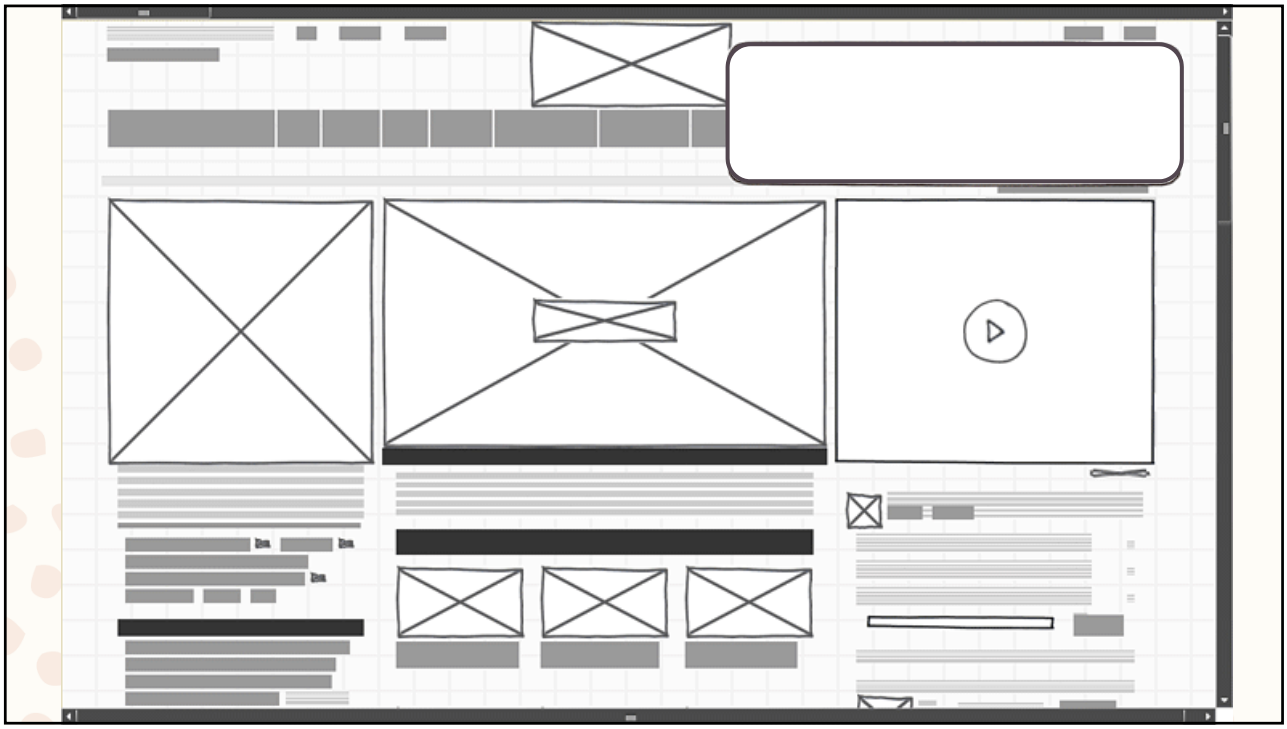
- Interview/Questionnaire are usually used to find out two important things:
  - How do people usually do the tasks that you want to address in your interface?
  - Would people accept your software idea?

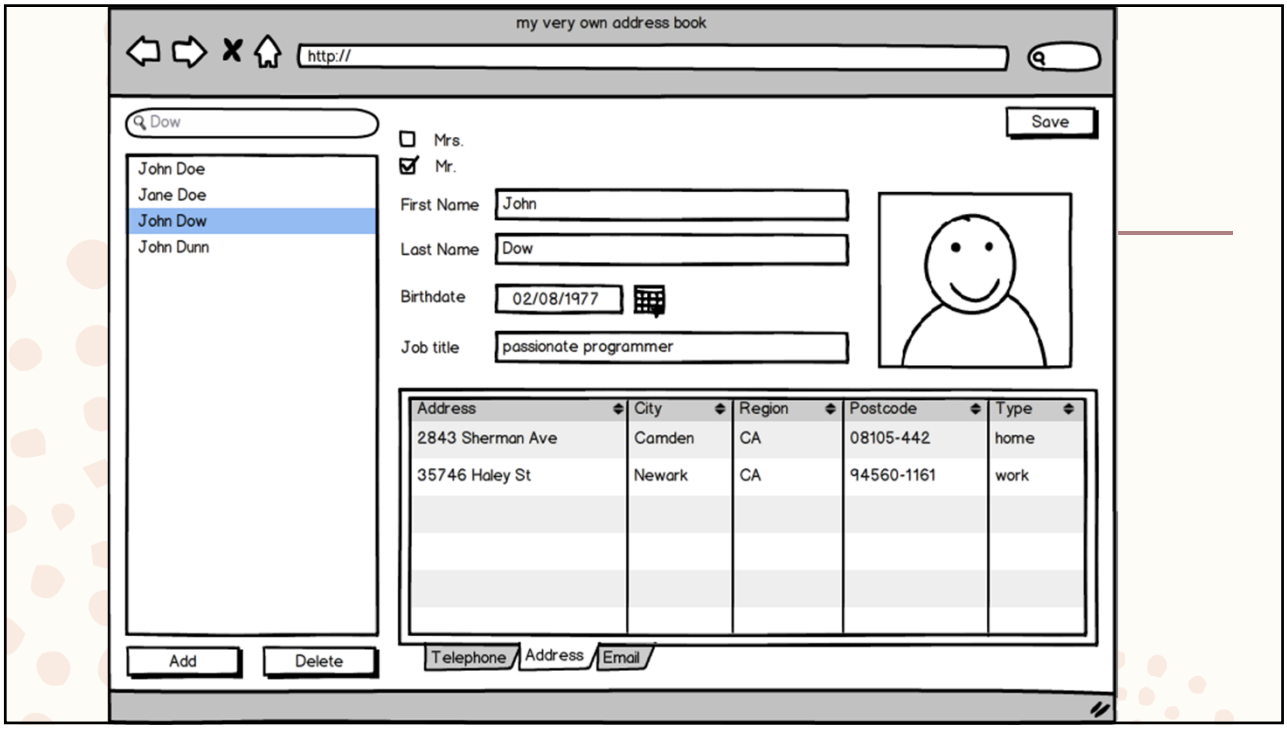
Types of questions:

- Closed questions: to identify demographics and find out who someone is.
- Open questions: to find out how users deal with the problem and what kind of interface they might like to use.

Wire-framing

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.




my very own address book
http://
Dow
John Doe
Jane Doe
John Dow
John Dunn
Add
Delete
Save
Mrs.
Mr.
First Name
John
Last Name
Dow
Birthdate
02/08/1977
Job title
passionate programmer
Address
City
Region
Postcode
Type
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Camden
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08105-442
home
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Newark
CA
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work
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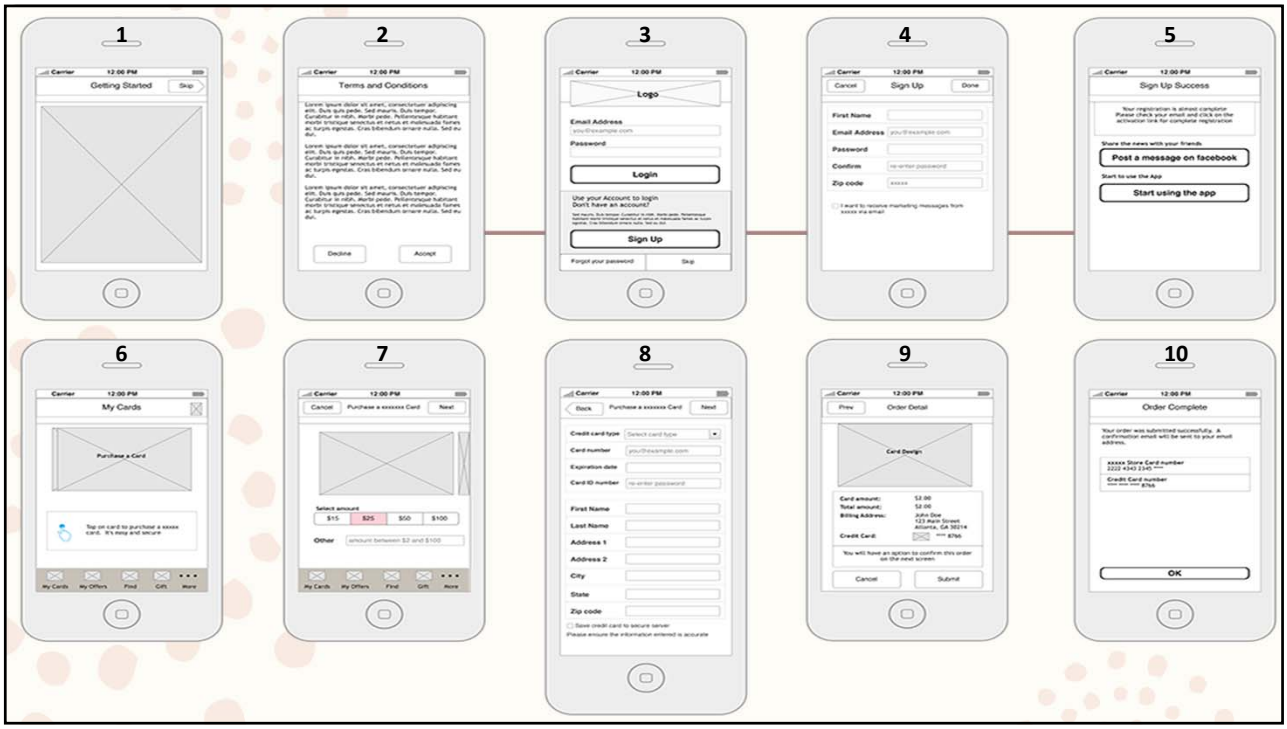
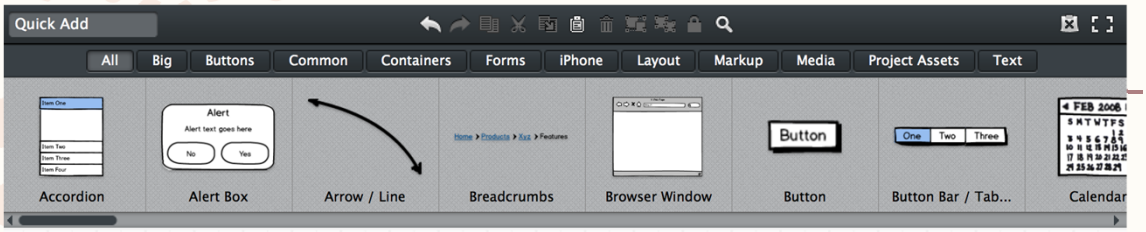
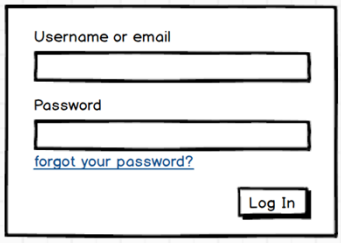
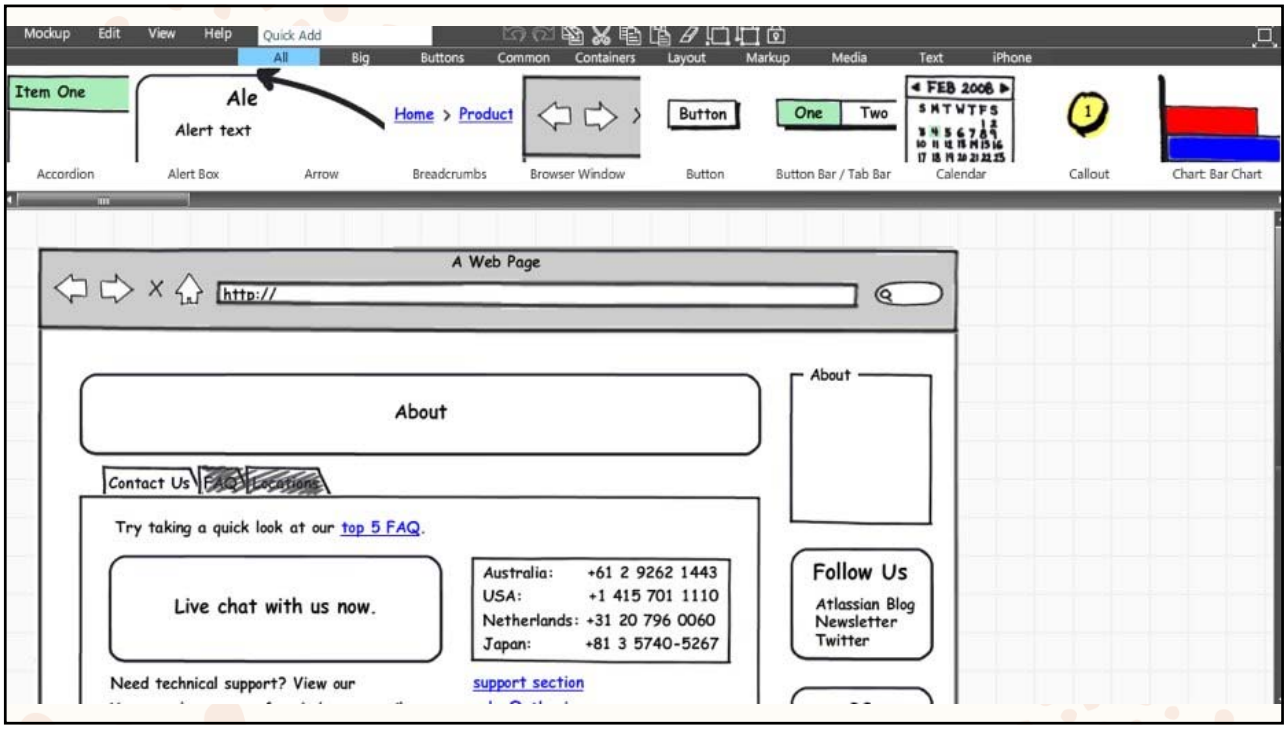
Email



Balsamiq Mockups Software



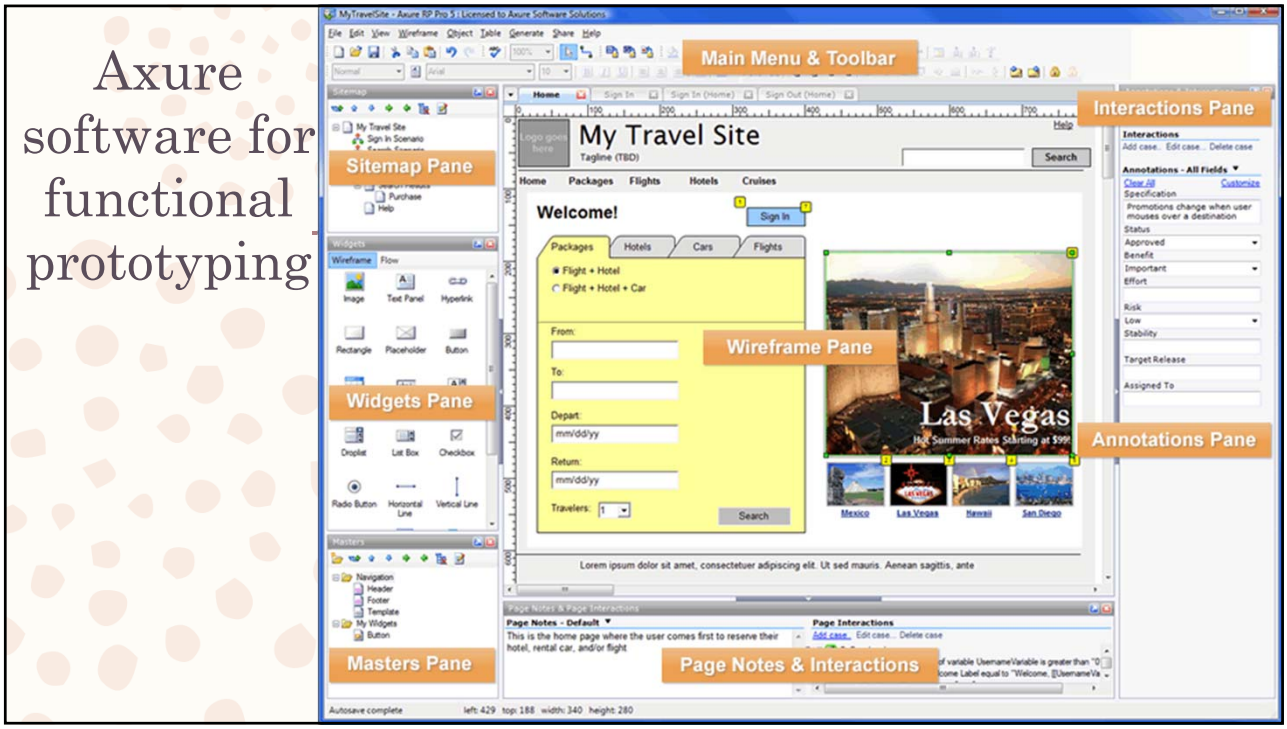


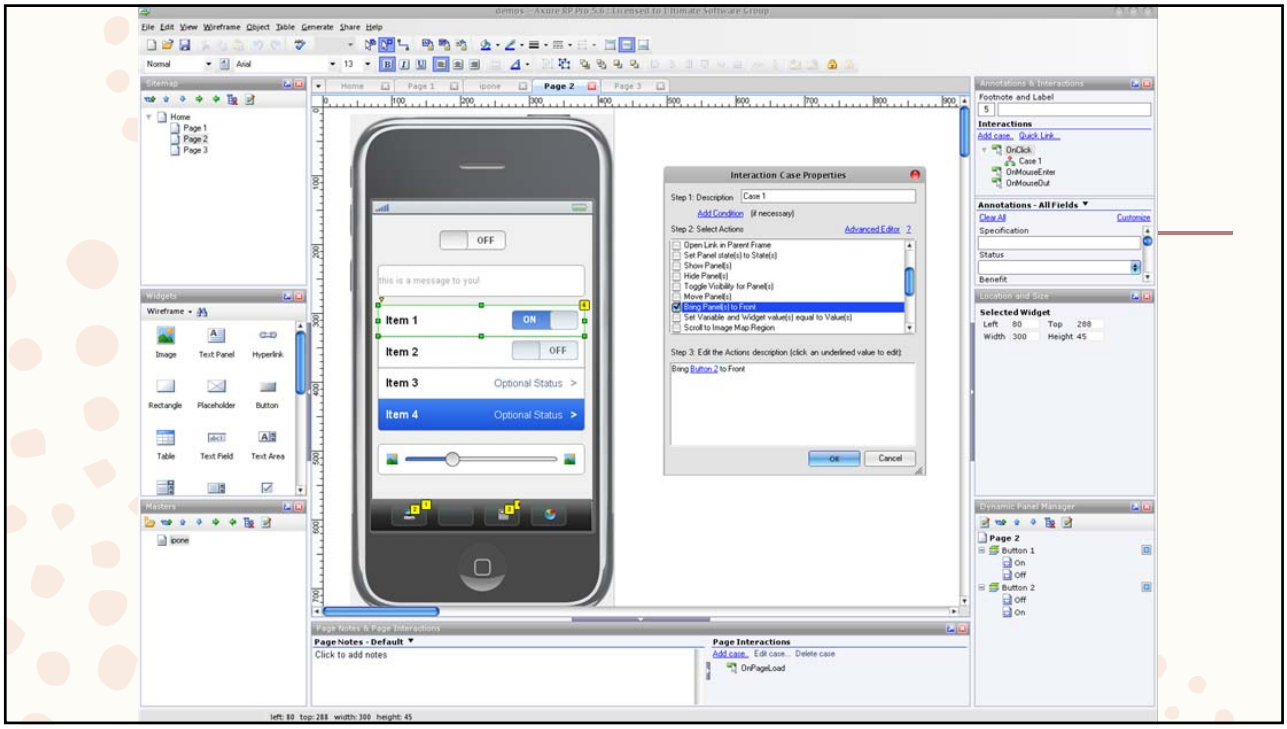


Prototyping

A **prototype** is an early sample, model, or release of a product built to test a concept or process.

Axure software for functional prototyping





Usability testing methods

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

Task Scenarios: assigning some tasks to the users in different versions of the design and measuring their performance:

- Think aloud
- Time duration
- Number of clicks
- Mouse move distance

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 examine the interface by comparing it to the usability principles.
- Pluralistic walkthrough: In this method a group of usability professionals and developers try to complete a task scenario, to find the usability issues.

Finding techniques to improve User Experience (UX)

UX means users' feeling about the system and their perceptions of different aspects of the system.

Good UX	Bad UX
The interface should be: • **Satisfying** • **Enjoyable** • **Fun** • **Entertaining** • **Motivating** • **Pleasing** • **Rewarding**	**The interface should not be:** • **Boring** • **Frustrating** • **Unpleasant**

Finding techniques to improve User Experience (UX)

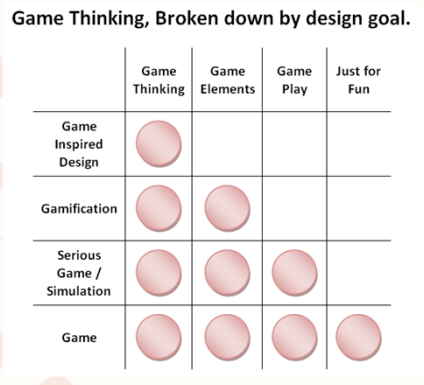
Having game thinking in design and make the software game like:

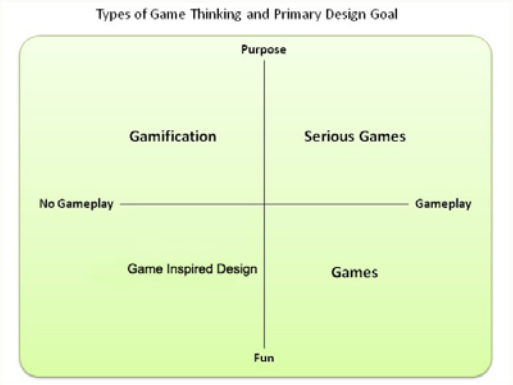
- Game inspired design
- Serious game
- Gamification

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.

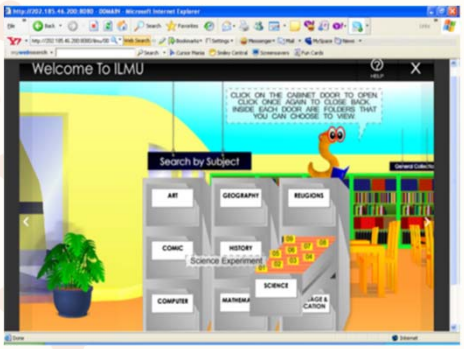
Difference between these techniques

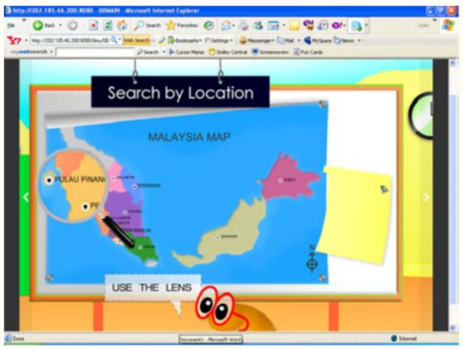




Marczewski, 2013

A sample of Game inspired design





A sample of serious game in learning

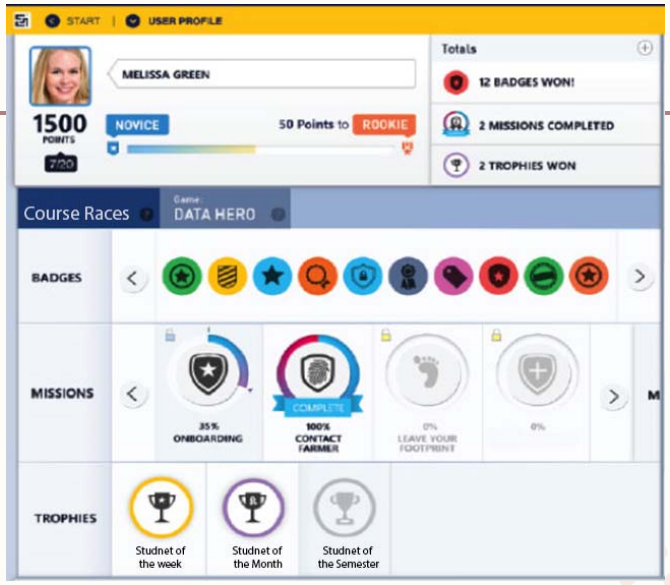
Different areas of using serious games

- Teaching Games
- Simulators
- Meaningful Games
- Purposeful Games

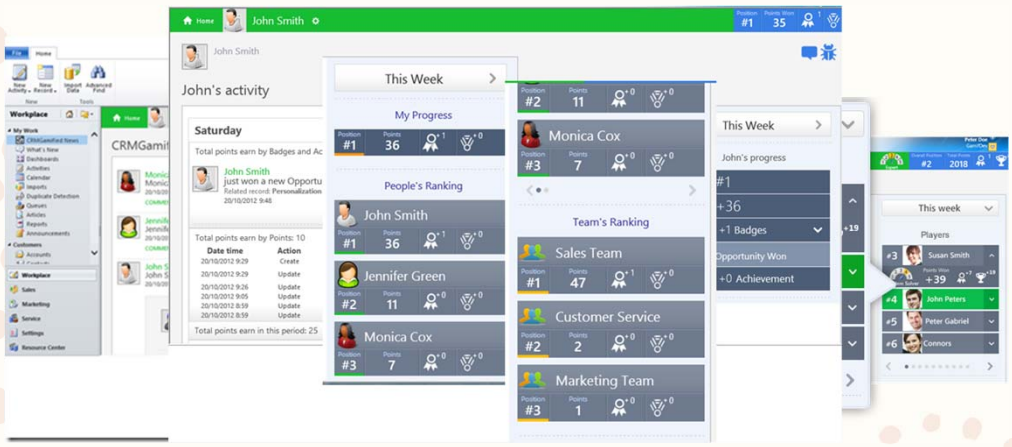
Different areas of using gamification

- Human resource
- Health care and sport
- e-Learning
- Data collection
- Online community
- Software popularity

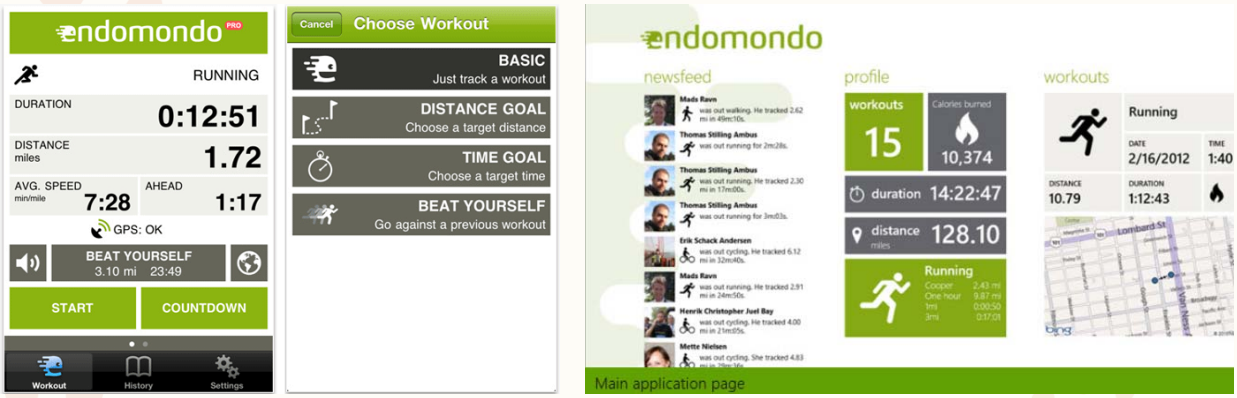
A sample of Gamification in learning



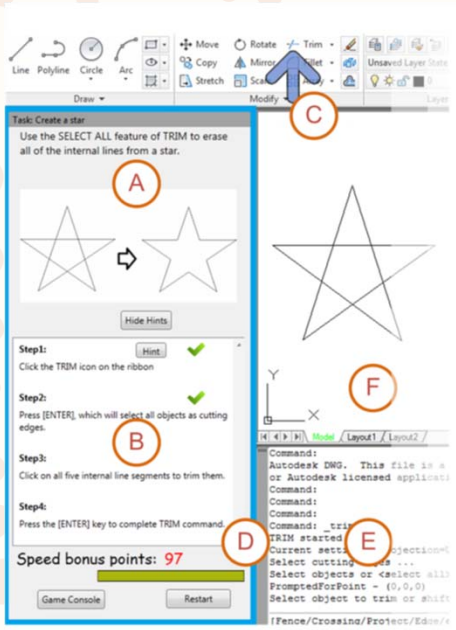
A sample of Gamification in a CRM systems

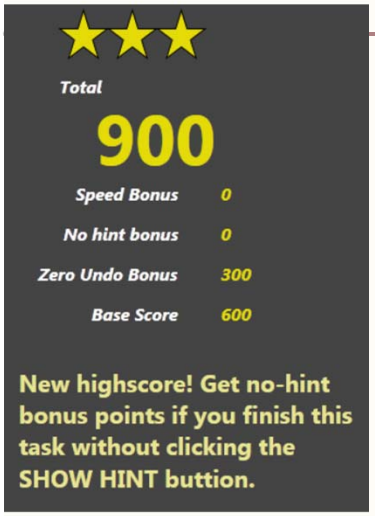


A sample of Gamification in sport



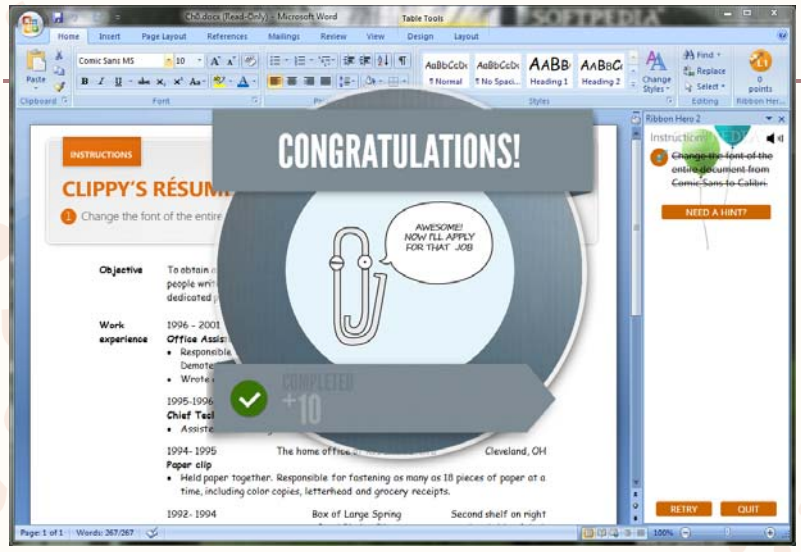
Gamification in AutoCAD





Microsoft Ribbon hero

Microsoft Ribbon Hero



A sample of gamification in survey system

New technology that needs special design considerations

What is Augmented Reality?

Augmented reality is the blending of virtual world and real world, and users are able to interact with virtual contents in the real world.

Augmented Reality example

Special design principles for Augmented Reality

Discoverability: It is about giving users enough freedom and guidance to discover what they can do with the platform.

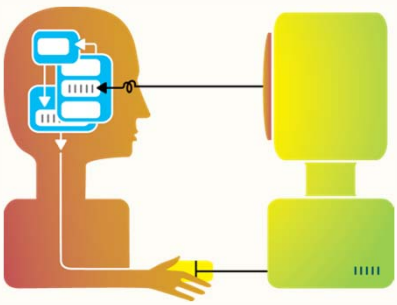
Special design principles for Augmented Reality

Scalability: how well gestural interactions work on objects with different sizes.

See how Gamification can change our life style

Like to learn more about interface design …

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



Q&A