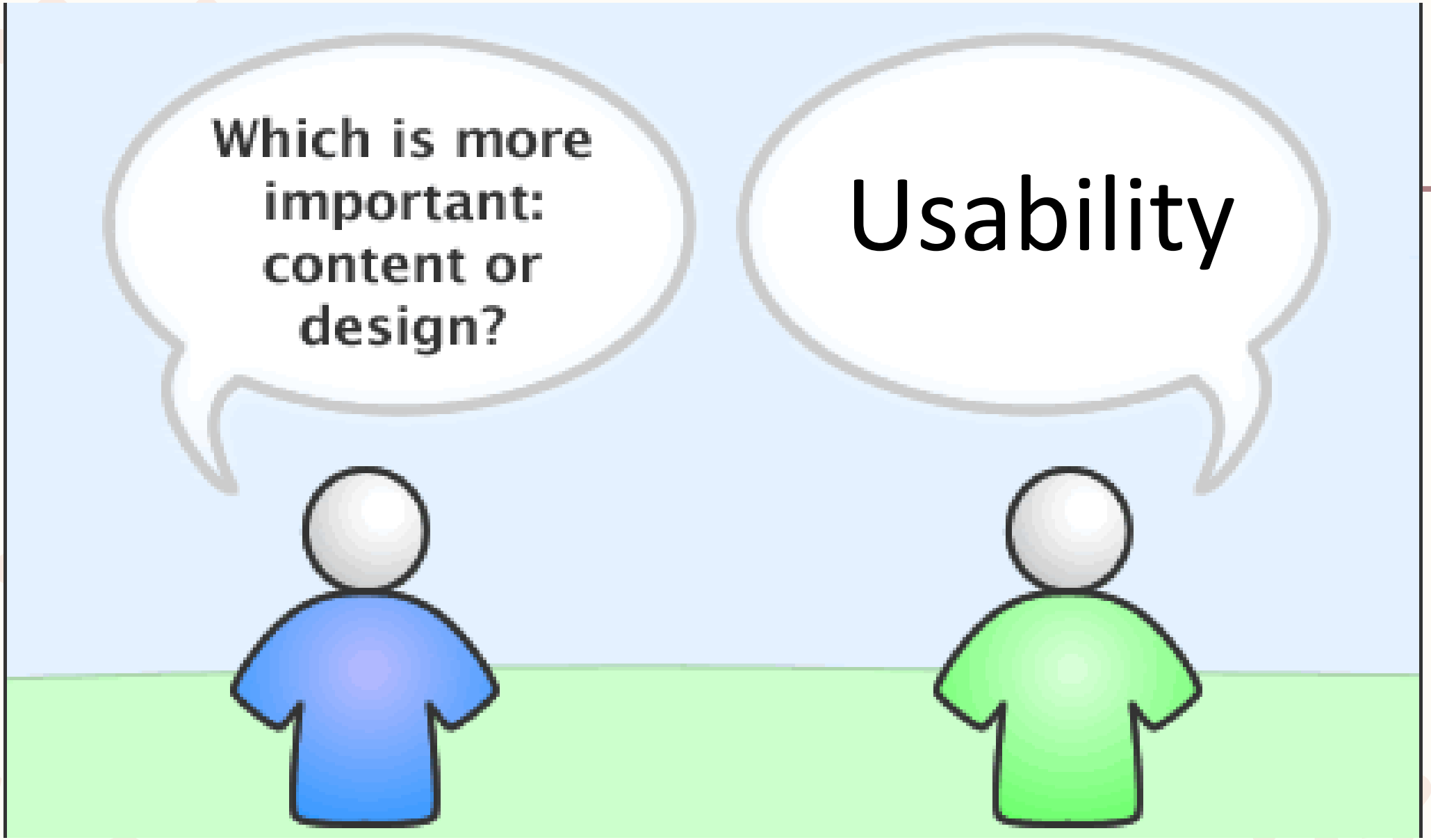
Welcome to interface design session

By: Ali Darejeh


Which is more important: content or design?
Usability

What is usability?

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

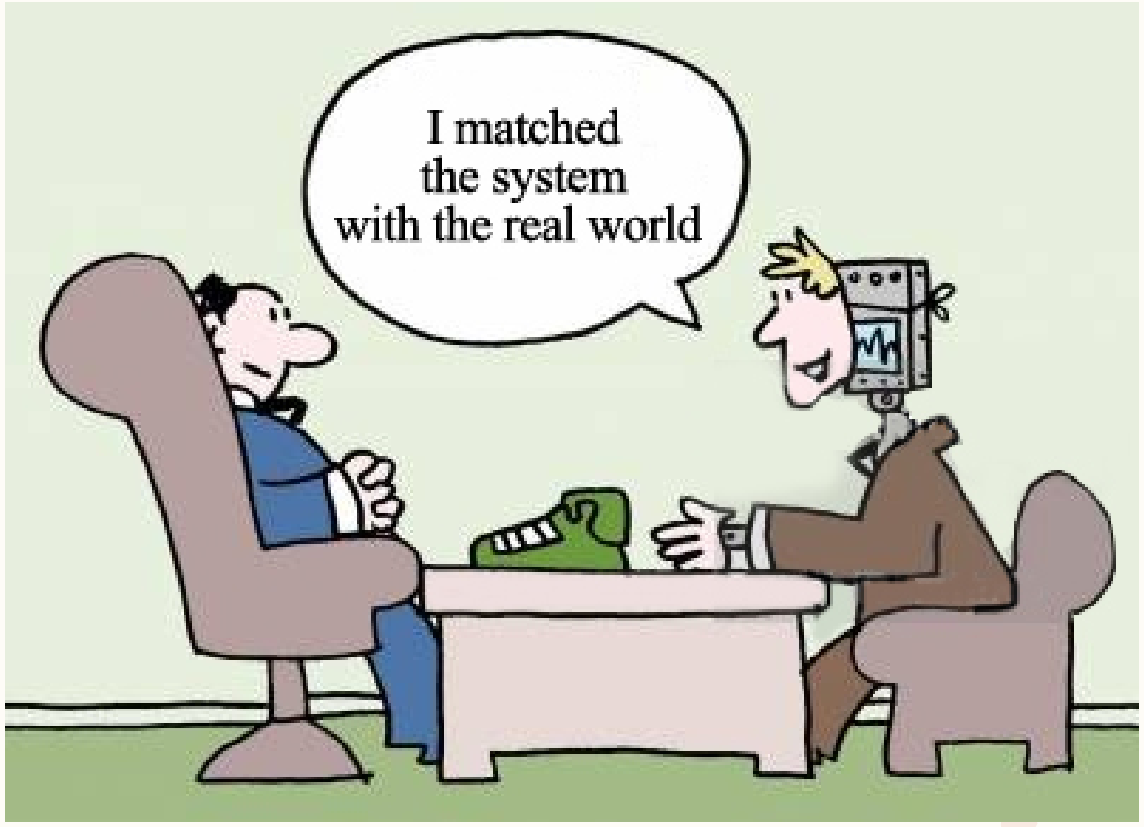
How to create an interface with a good usability?

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

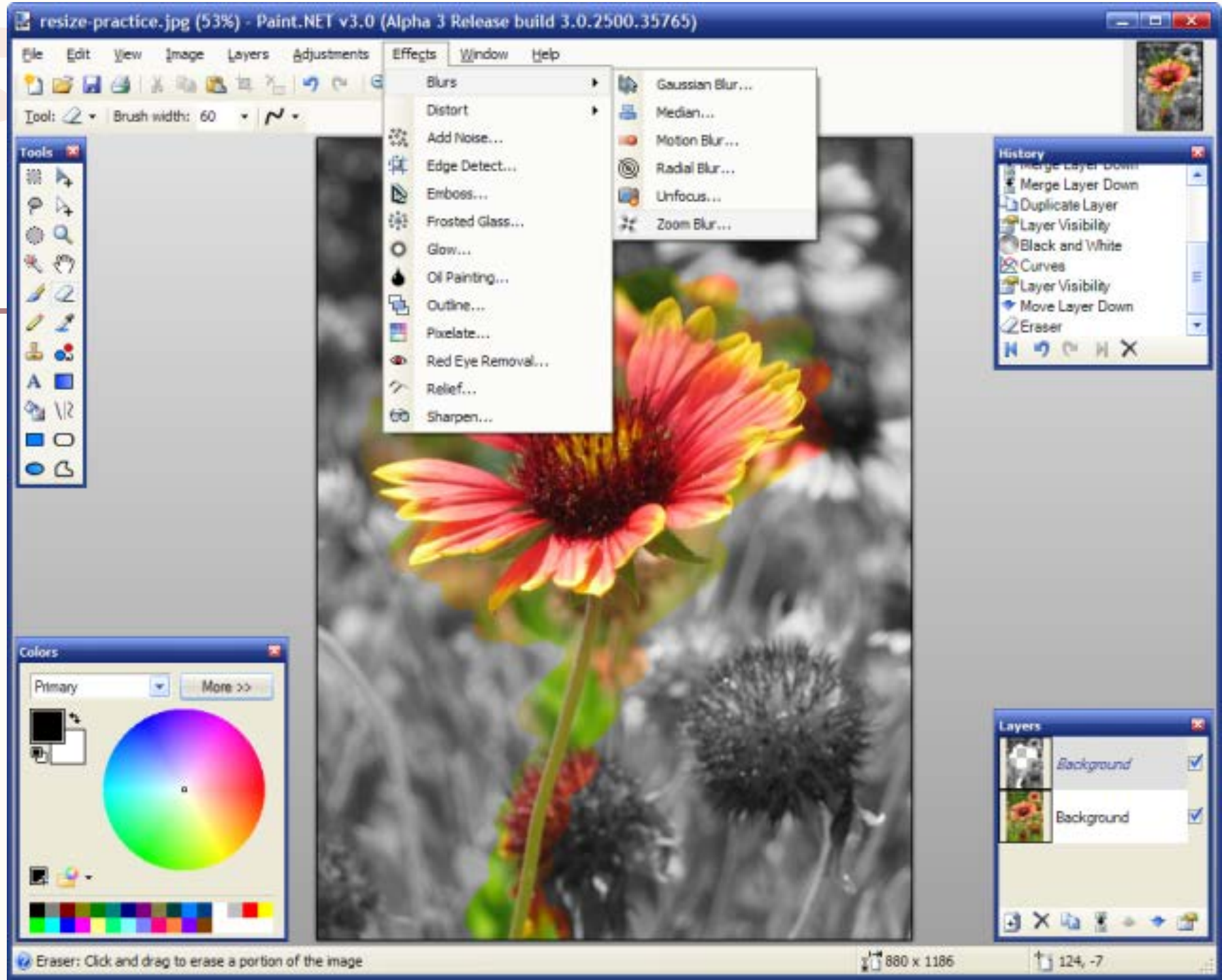
Match between system and the real world

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

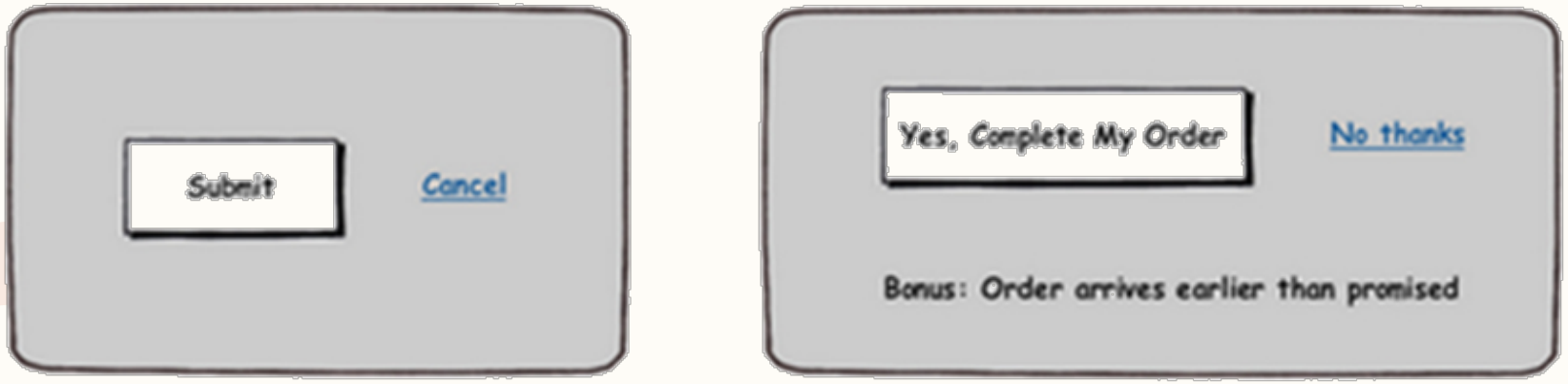


Match between system and the real world

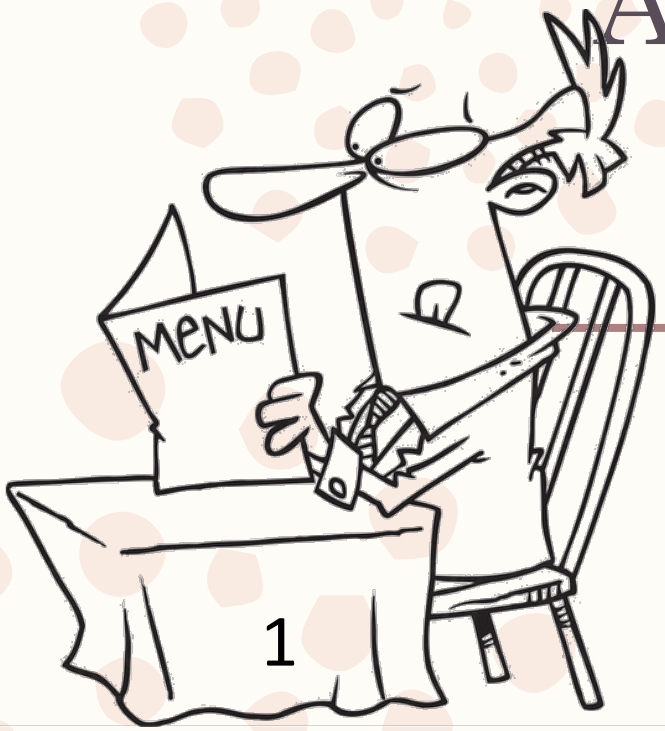
Match between system and the real world



Match between system and the real world



Adapt the software to the users' mental model



1

2

3

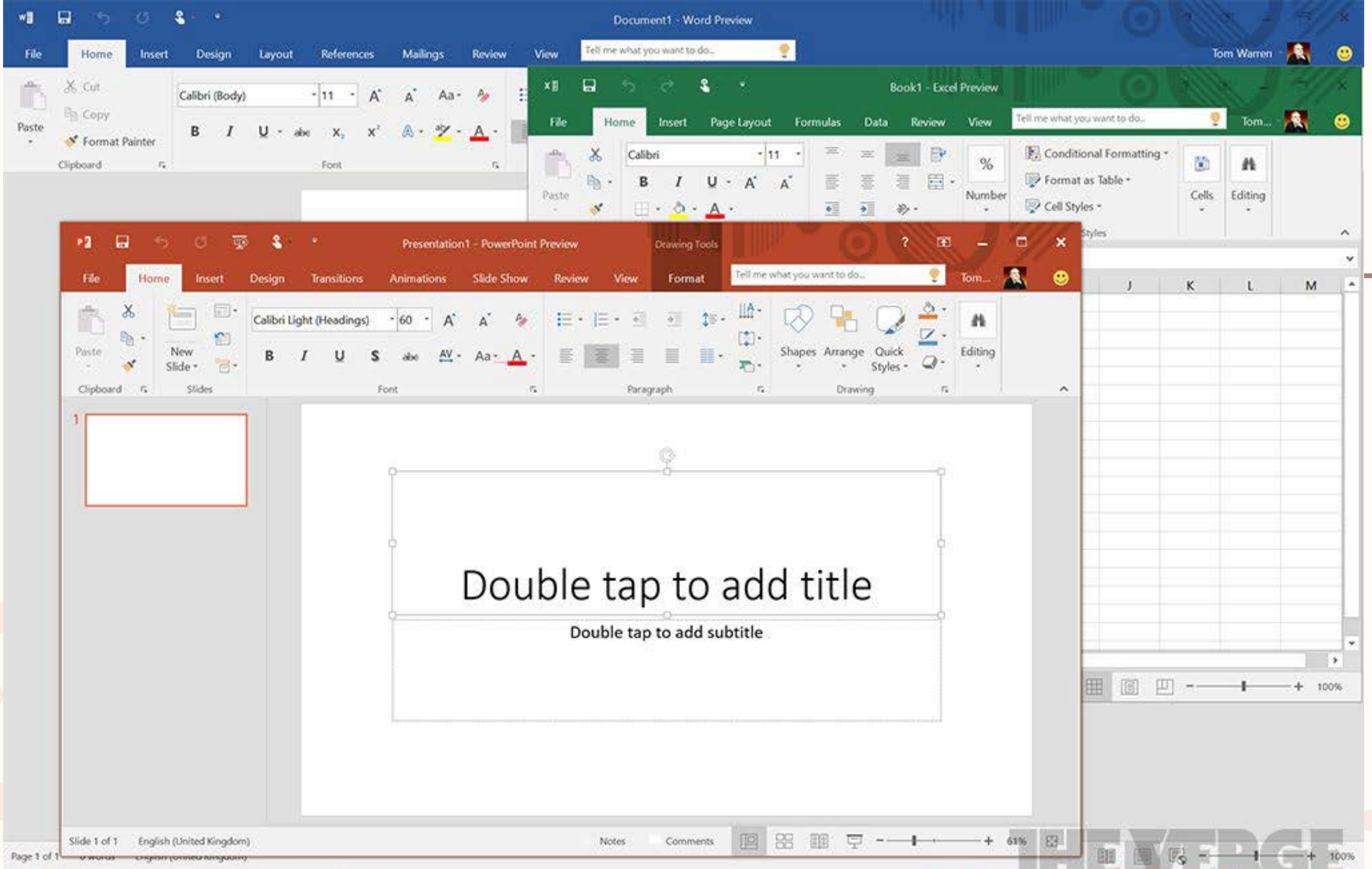
4

5

6

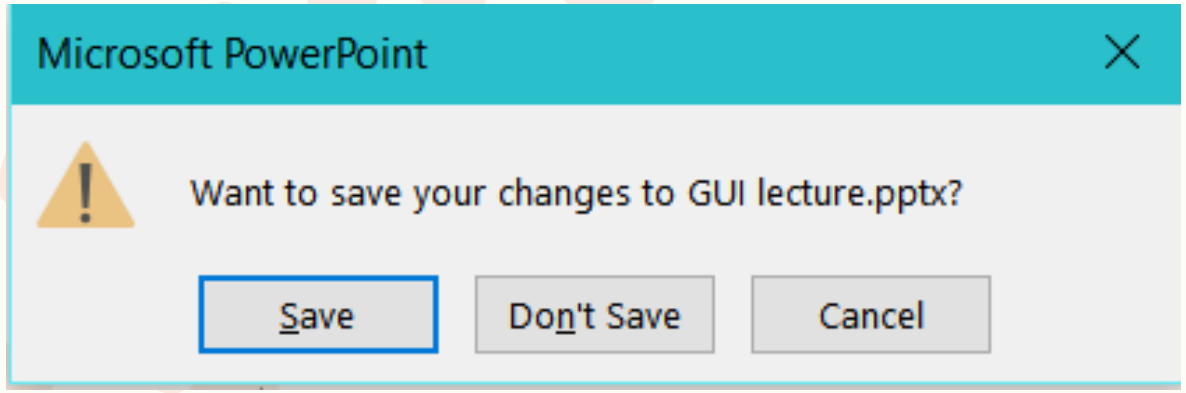
Consistency and standards

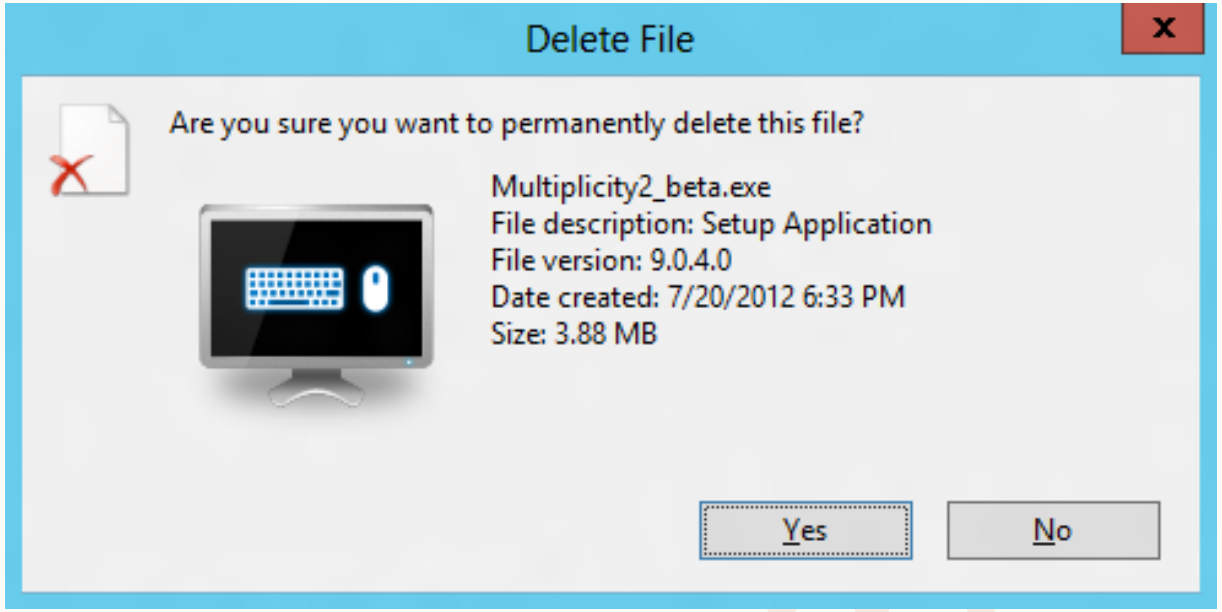
All the similar words, situations, or actions should have the same style and meaning.


Document1 - Word Preview
File Home Insert Design Layout References Mailings Review View
Tell me what you want to do...
Tom Warren
Paste Cut Copy Format Painter
Calibri (Body) 11
Clipboard Font
Book1 - Excel Preview
File Home Insert Page Layout Formulas Data Review View
Calibri 11
Paste
Number
Conditional Formatting
Format as Table
Cell Styles
Cells
Editing
Styles
Presentation1 - PowerPoint Preview
Drawing Tools
File Home Insert Design Transitions Animations Slide Show Review View Format
Tell me what you want to do...
Calibri Light (Headings) 60
Paste
New Slide
Shapes
Arrange
Quick Styles
Editing
Clipboard
Slides
Font
Paragraph
Drawing
Double tap to add title
Double tap to add subtitle
Slide 1 of 1
English (United Kingdom)
Notes
Comments
61%
J K L M
100%

Error prevention

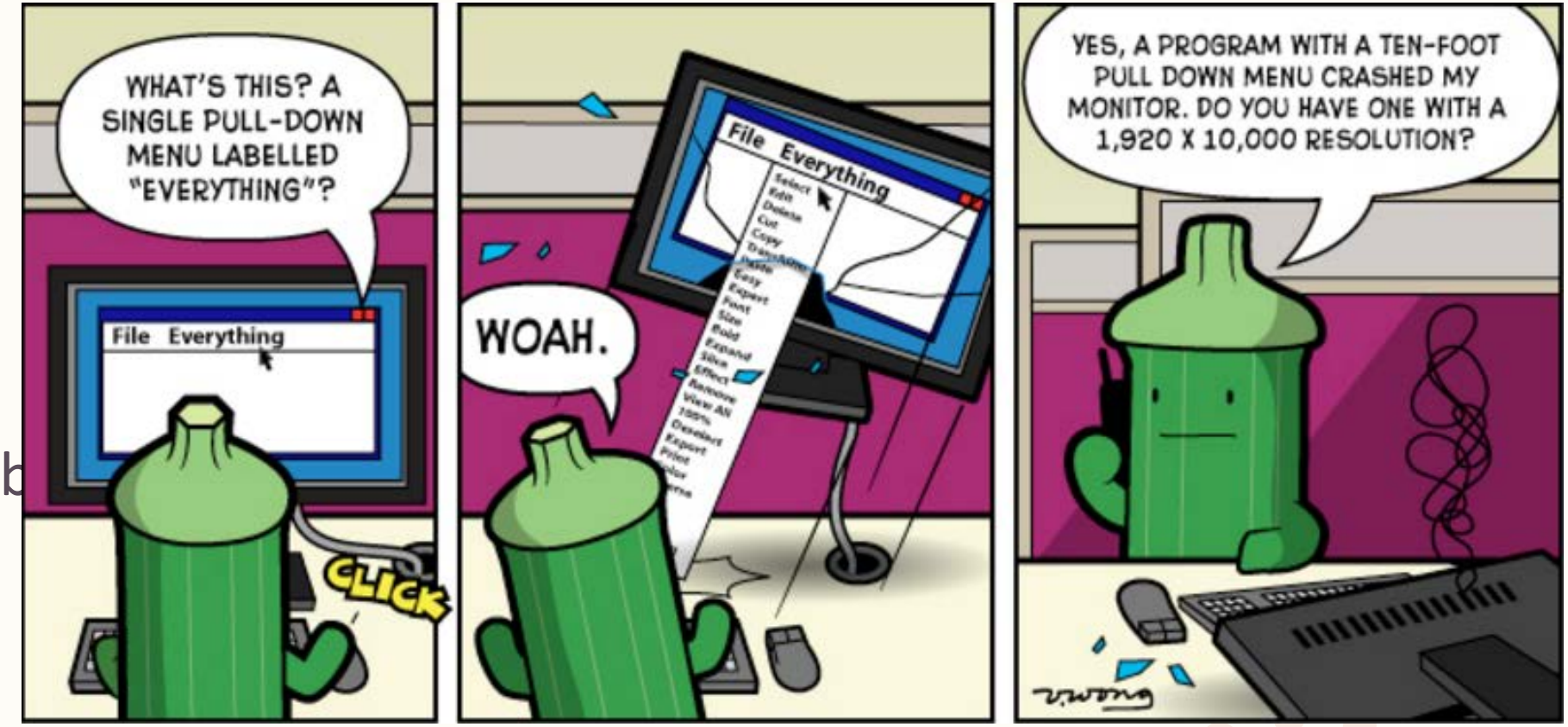
We should try to prevent errors. For example providing users with a confirmation option before they commit to the action.

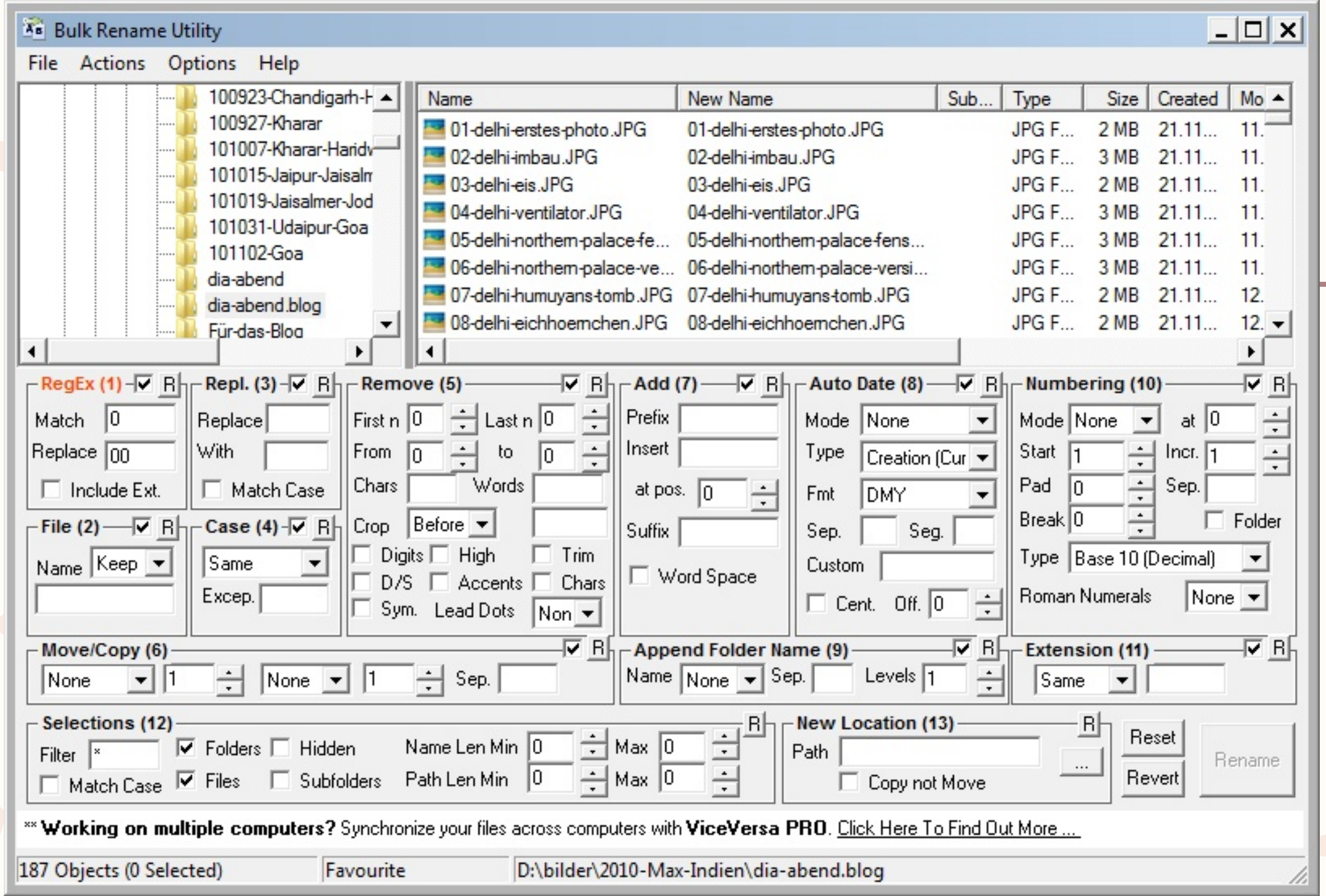




Structure and layout

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




Bulk Rename Utility
File Actions Options Help
100923-Chandigarh-
100927-Kharar
101007-Kharar-Haridv
101015-Jaipur-Jaisalm
101019-Jaisalmer-Jod
101031-Udaipur-Goa
101102-Goa
dia-abend
dia-abend.blog
Für-das-Blog
Name
New Name
Sub...
Type
Size
Created
Mo
01-delhi-erstes-photo.JPG
02-delhi-imbau.JPG
03-delhi-eis.JPG
04-delhi-ventilator.JPG
05-delhi-northern-palace-fe...
06-delhi-northern-palace-ve...
07-delhi-humuyans-tomb.JPG
08-delhi-eichhoernchen.JPG
JPG F...
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11.
12.
RegEx (1)
Match
Replace
Include Ext.
Repl. (3)
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Digits
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Word Space
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Mode
None
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Start
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Pad
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Break
Folder
Type
Base 10 (Decimal)
Roman Numerals
None
File (2)
Name
Keep
Case (4)
Same
Excep.
Move/Copy (6)
None
Sep.
Append Folder Name (9)
Name
None
Sep.
Levels
Extension (11)
Same
Selections (12)
Filter
Match Case
Folders
Files
Hidden
Subfolders
Name Len Min
Path Len Min
Max
New Location (13)
Path
Copy not Move
Reset
Revert
Rename
** Working on multiple computers? Synchronize your files across computers with ViceVersa PRO. Click Here To Find Out More ...
187 Objects (0 Selected)
Favourite
D:\bilder\2010-Max-Indien\dia-abend.blog

Visibility

The interface elements should be seen able by users easily.

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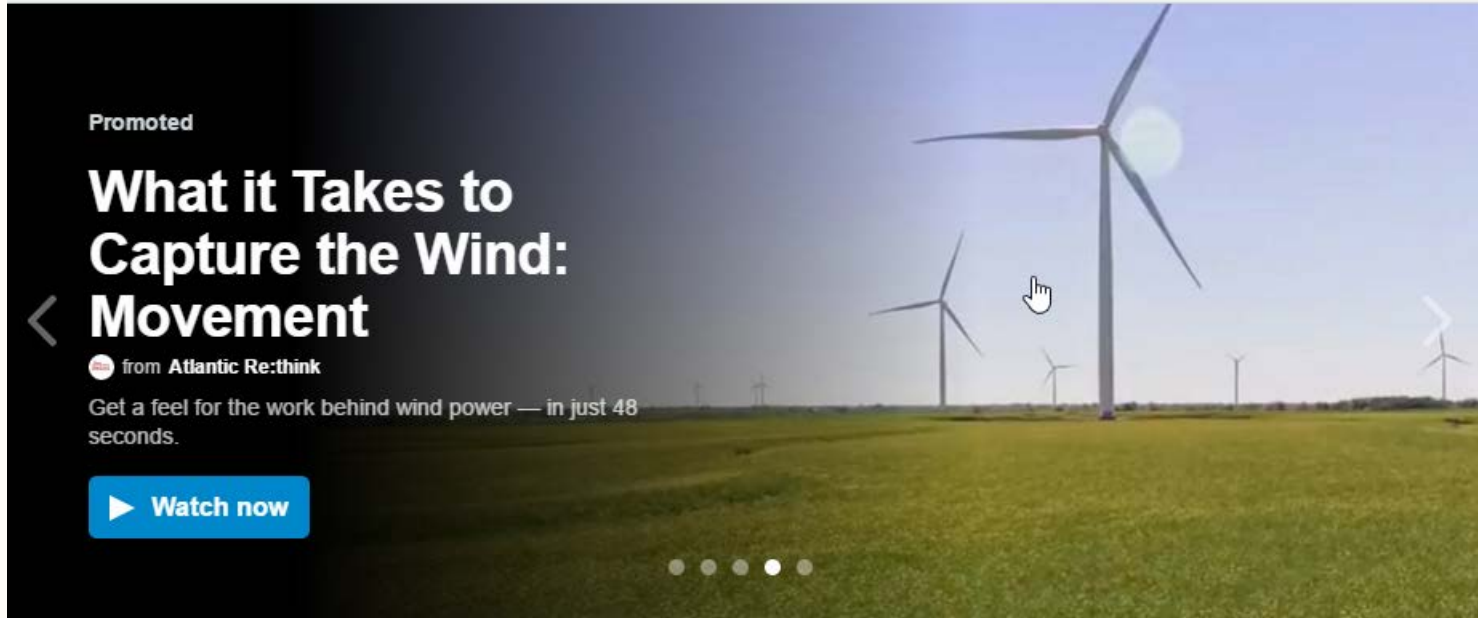
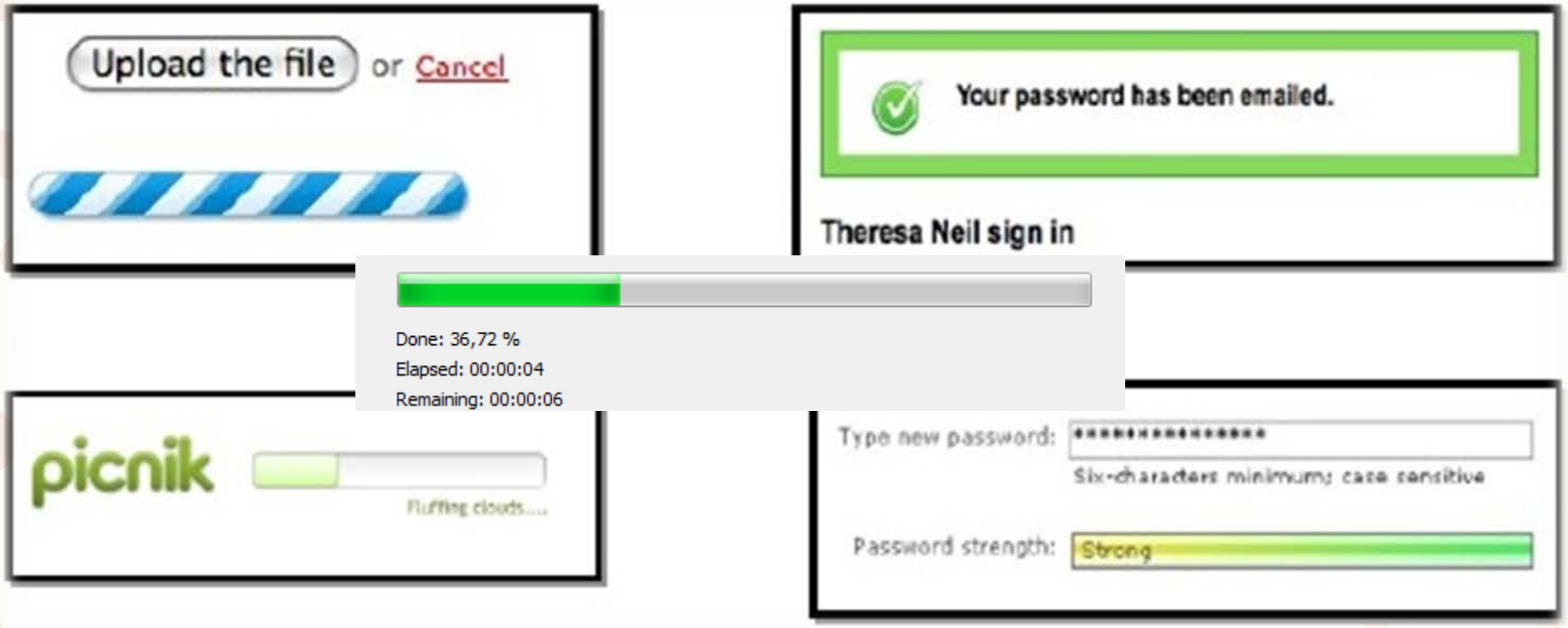


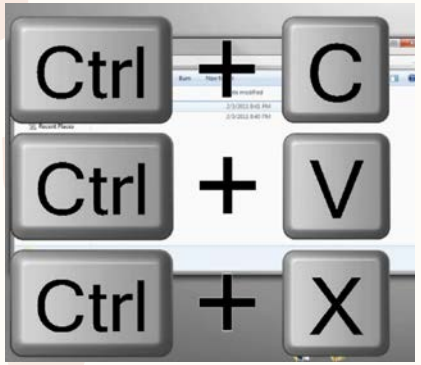
Visibility of system status

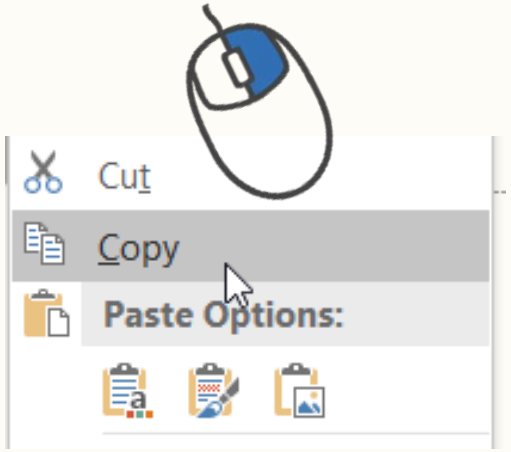
The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.

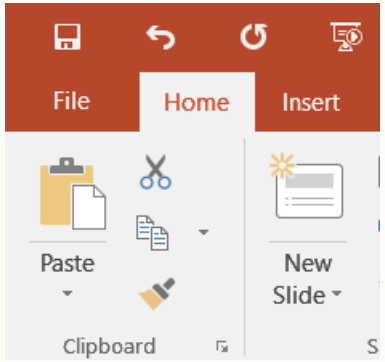


Flexibility

It is about having different ways for doing a same task.







Minimalist design

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

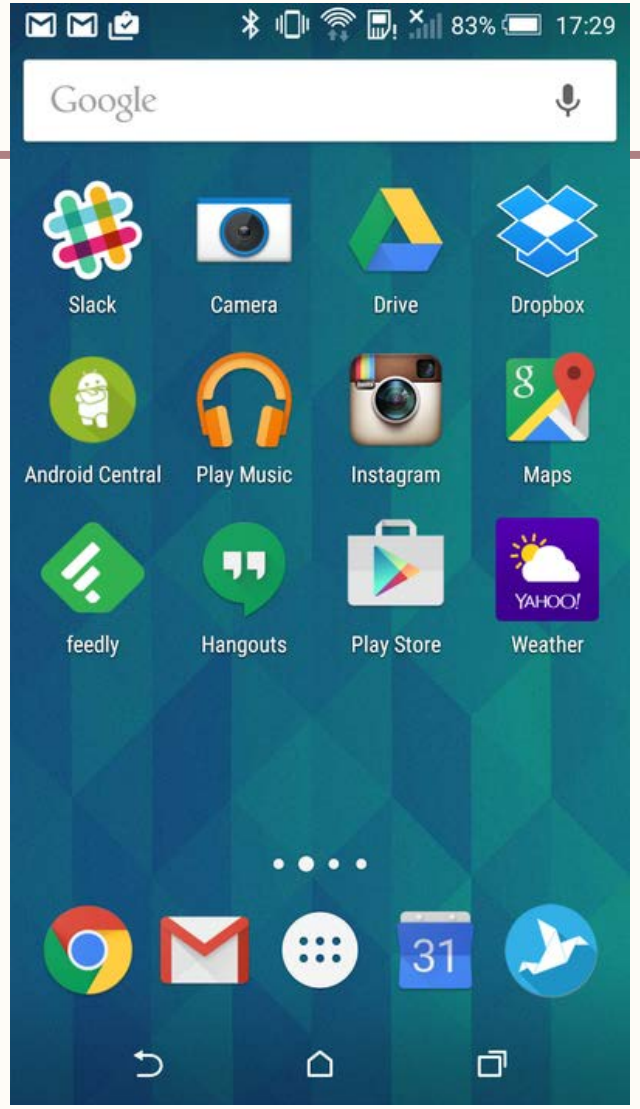
Minimalist design

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.

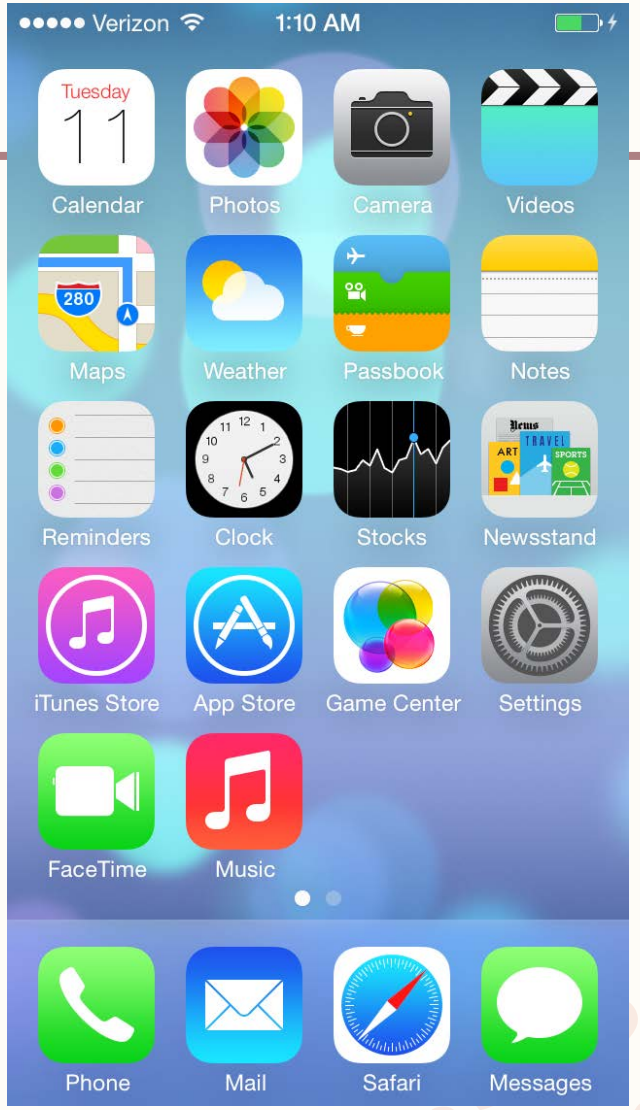
Which one has the most minimalist design?

Windows phone

Android

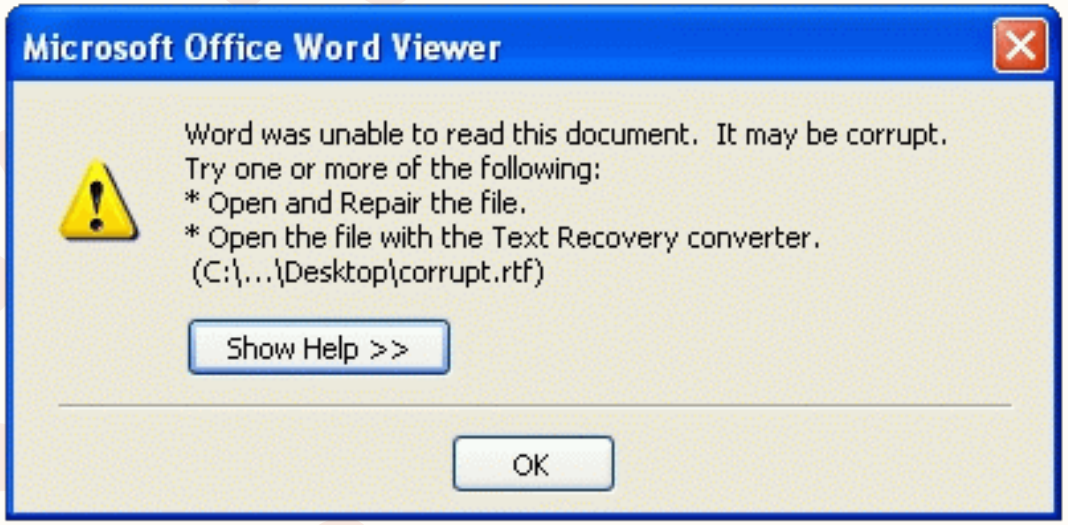


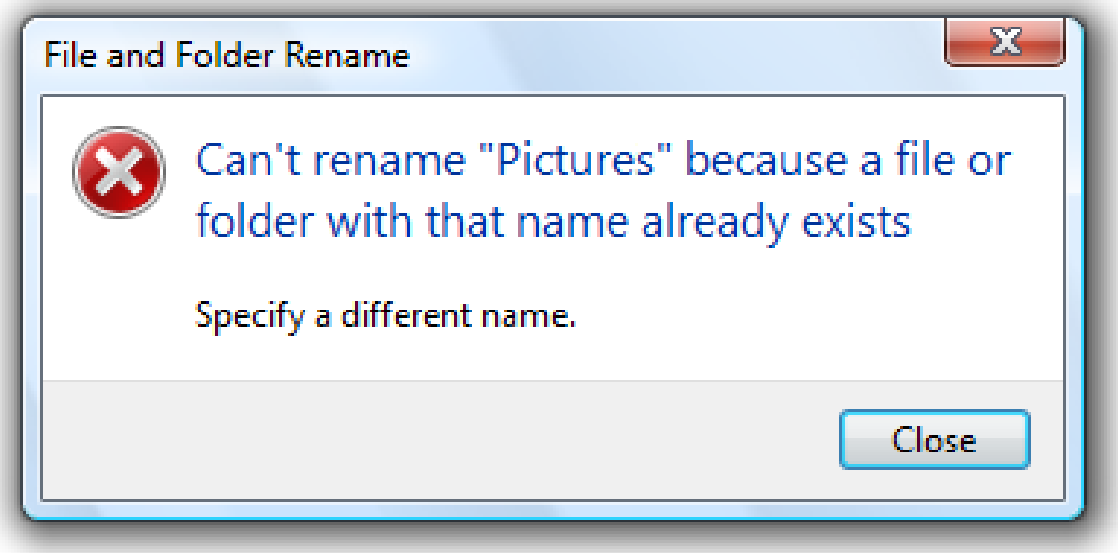
iOS

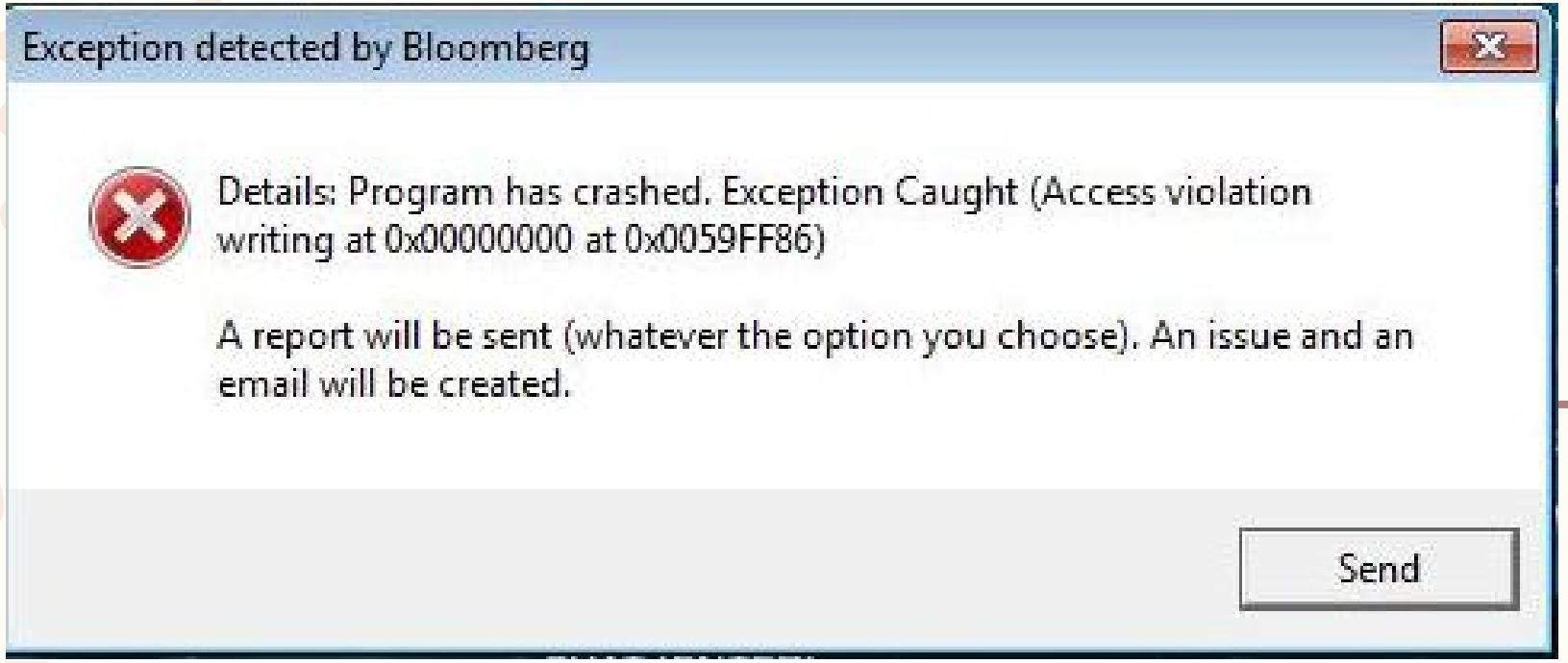


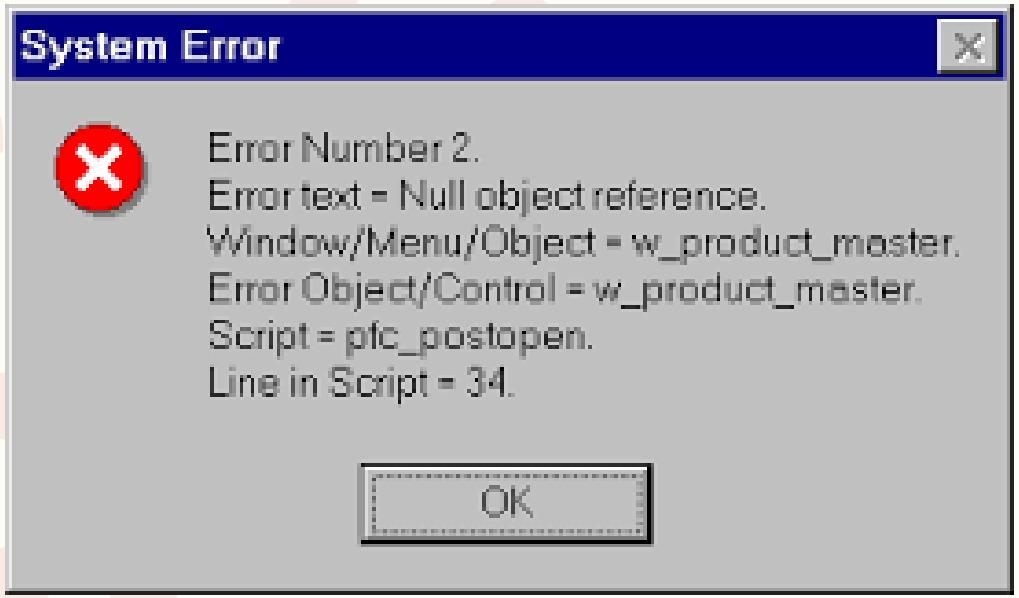
Help users recognize, diagnose, and recover from errors

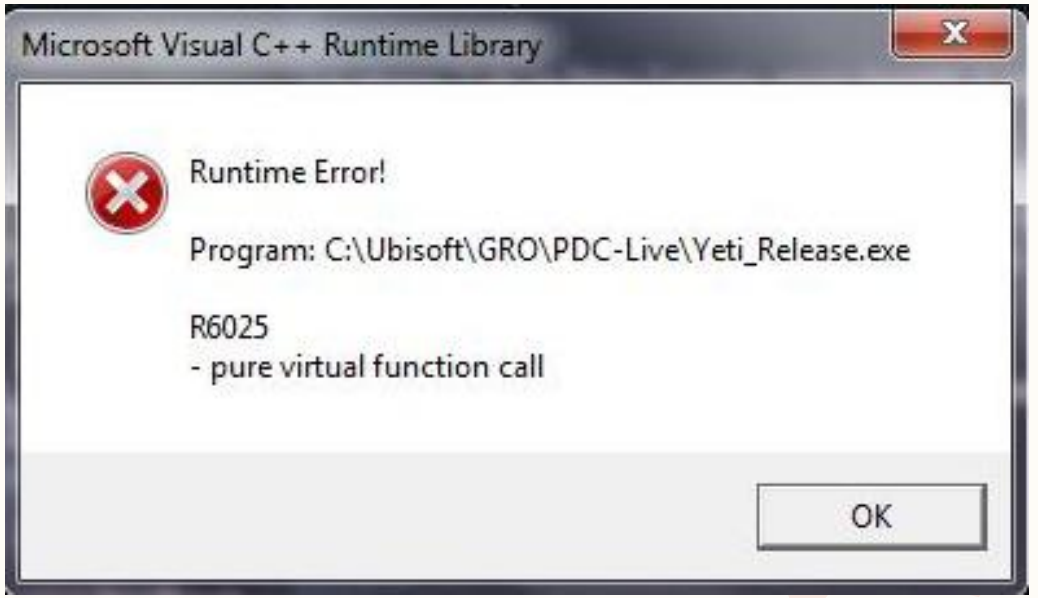
Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.






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.
Send


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.
OK


Microsoft Visual C++ Runtime Library
Runtime Error!
Program: C:\Ubisoft\GRO\PDC-Live\Yeti_Release.exe
R6025
- pure virtual function call
OK

Help and documentation

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.

Microsoft

Search Office help

Office | Products | Templates | **Support**

Apps | Install | Office 365 | Training | Admin

Excel help

Create your first workbook using Excel 2016

See more tutorials

- 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

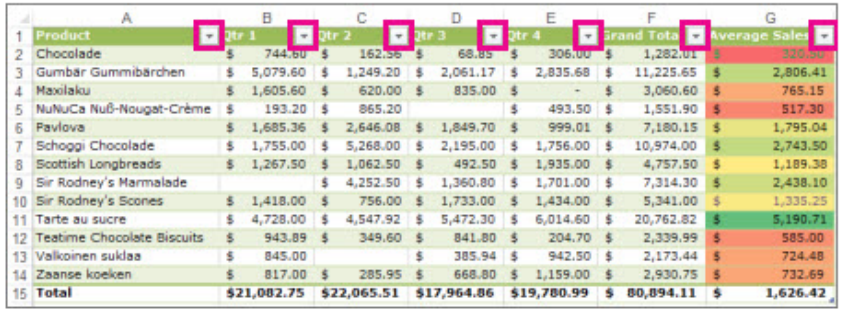
Topics by category

- 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

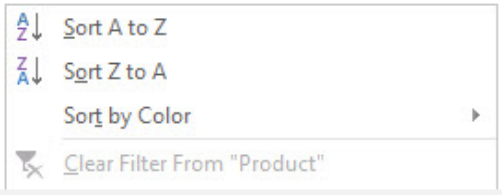
When you put your data in a table, filtering controls are added to the table headers automatically.



	A	B	C	D	E	F	G
1	Product	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Grand Total	Average Sales
2	Chocolade	$ 744.60	$ 162.56	$ 68.85	$ 306.00	$ 1,282.01	$ 320.50
3	Gumbär Gummibärchen	$ 5,079.60	$ 1,249.20	$ 2,061.17	$ 2,835.68	$ 11,225.65	$ 2,806.41
4	Maxilaku	$ 1,605.60	$ 620.00	$ 835.00	$ -	$ 3,060.60	$ 765.15
5	NuNuCa Nuß-Nougat-Crème	$ 193.20	$ 865.20		$ 493.50	$ 1,551.90	$ 517.30
6	Pavlova	$ 1,685.36	$ 2,646.08	$ 1,849.70	$ 999.01	$ 7,180.15	$ 1,795.04
7	Schoggi Chocolade	$ 1,755.00	$ 5,268.00	$ 2,195.00	$ 1,756.00	$ 10,974.00	$ 2,743.50
8	Scottish Longbreads	$ 1,267.50	$ 1,062.50	$ 492.50	$ 1,935.00	$ 4,757.50	$ 1,189.38
9	Sir Rodney's Marmalade		$ 4,252.50	$ 1,360.80	$ 1,701.00	$ 7,314.30	$ 2,438.10
10	Sir Rodney's Scones	$ 1,418.00	$ 756.00	$ 1,733.00	$ 1,434.00	$ 5,341.00	$ 1,335.25
11	Tarte au sucre	$ 4,728.00	$ 4,547.92	$ 5,472.30	$ 6,014.60	$ 20,762.82	$ 5,190.71
12	Teatime Chocolate Biscuits	$ 943.89	$ 349.60	$ 841.80	$ 204.70	$ 2,339.99	$ 585.00
13	Valkoinen suklaa	$ 845.00		$ 385.94	$ 942.50	$ 2,173.44	$ 724.48
14	Zaanse koeken	$ 817.00	$ 285.95	$ 668.80	$ 1,159.00	$ 2,930.75	$ 732.69
15	Total	$21,082.75	$22,065.51	$17,964.86	$19,780.99	$ 80,894.11	$ 1,626.42

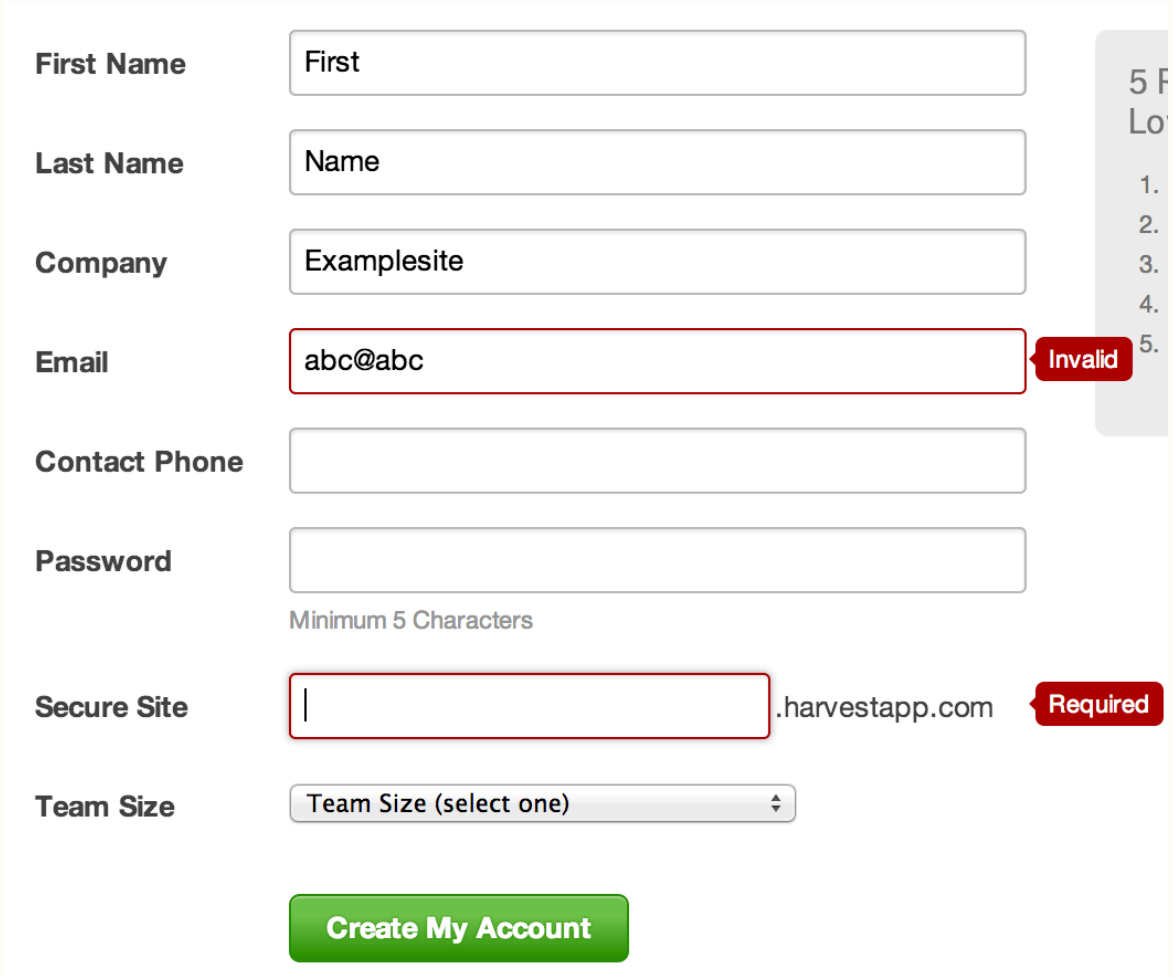
For quick filtering, do this:

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

Constraints are some limitations to help users. The things like deactivating buttons and validation in online forms.



Email

Email address :

forced_error

* Invalid email address

IP Address

IP:

192.168.3.

* Invalid IP address

Date

ISO 8601 dates only YYYY-mm-dd

Date:

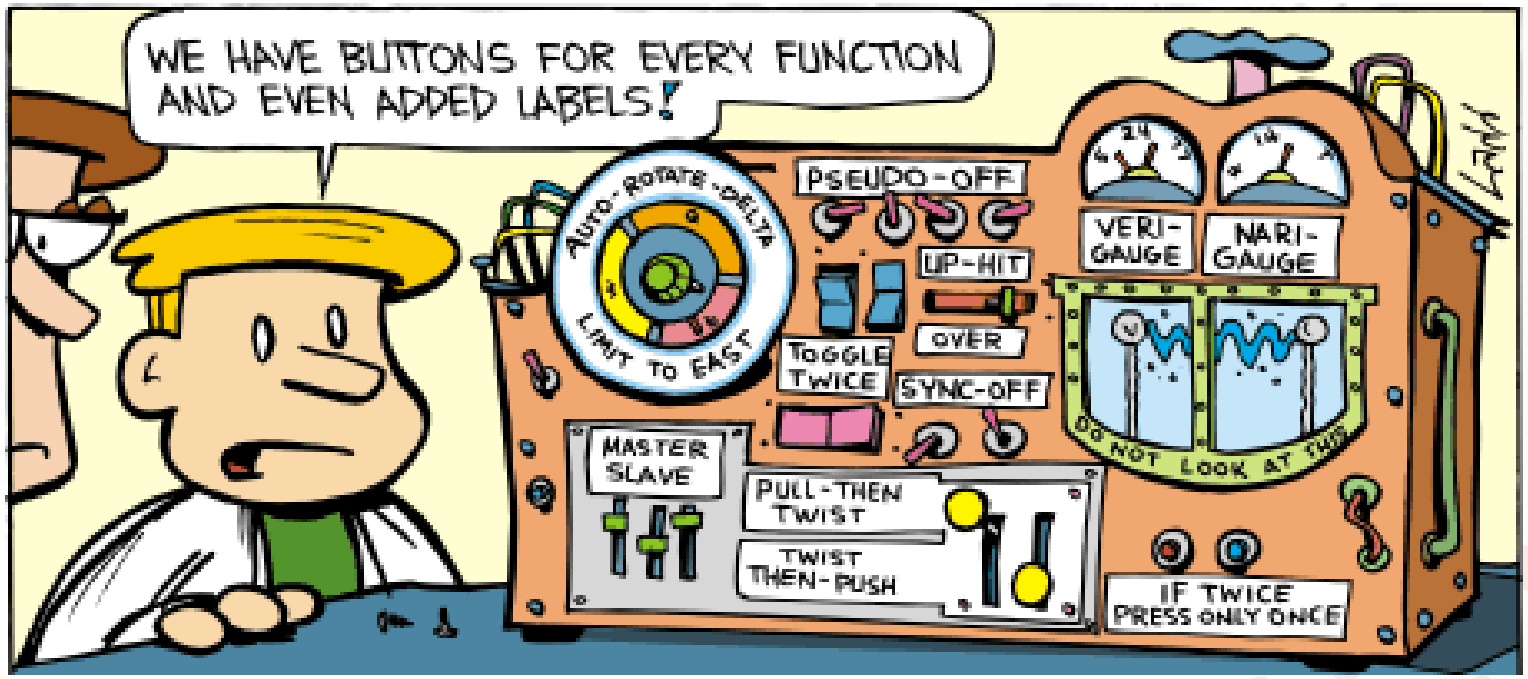
201-12-01

* Invalid date, must be in YYYY-MM-DD format

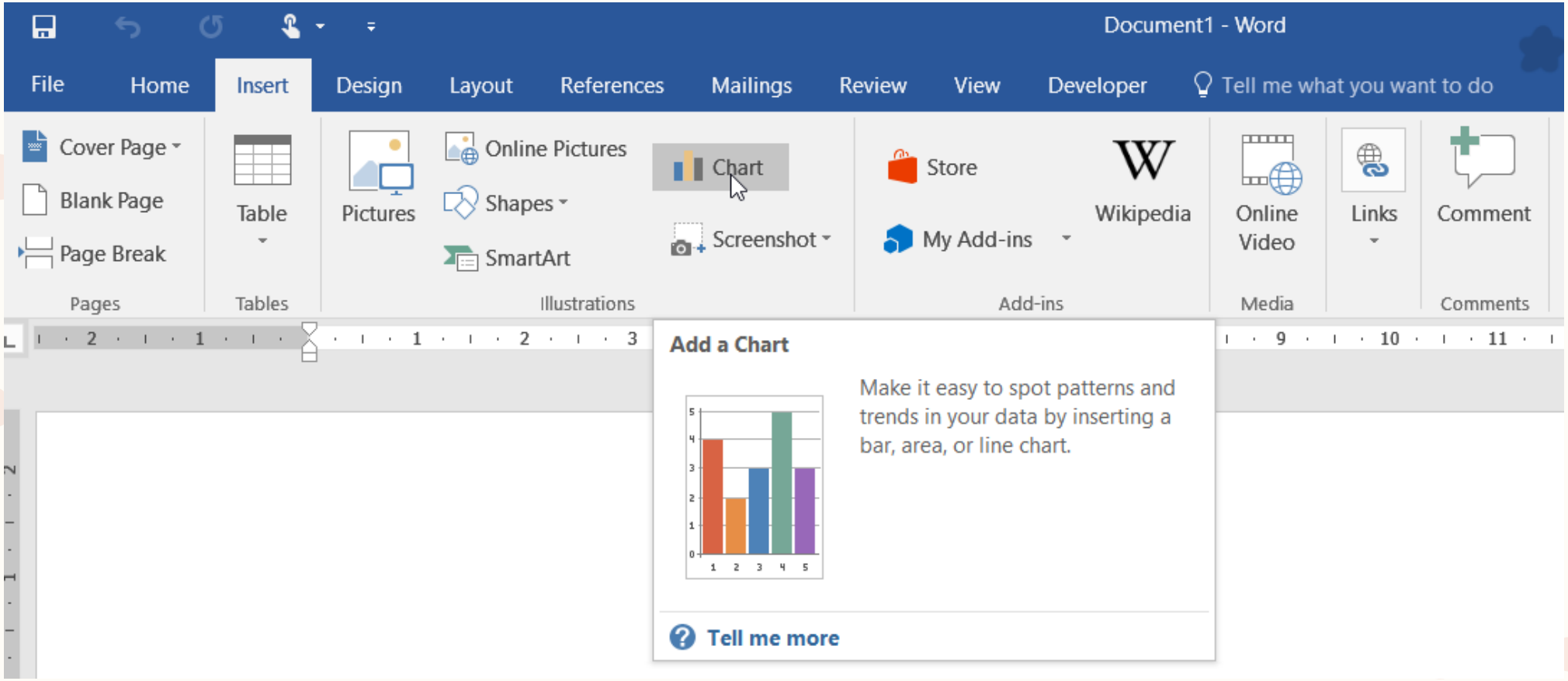
Submit

Affordances

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.



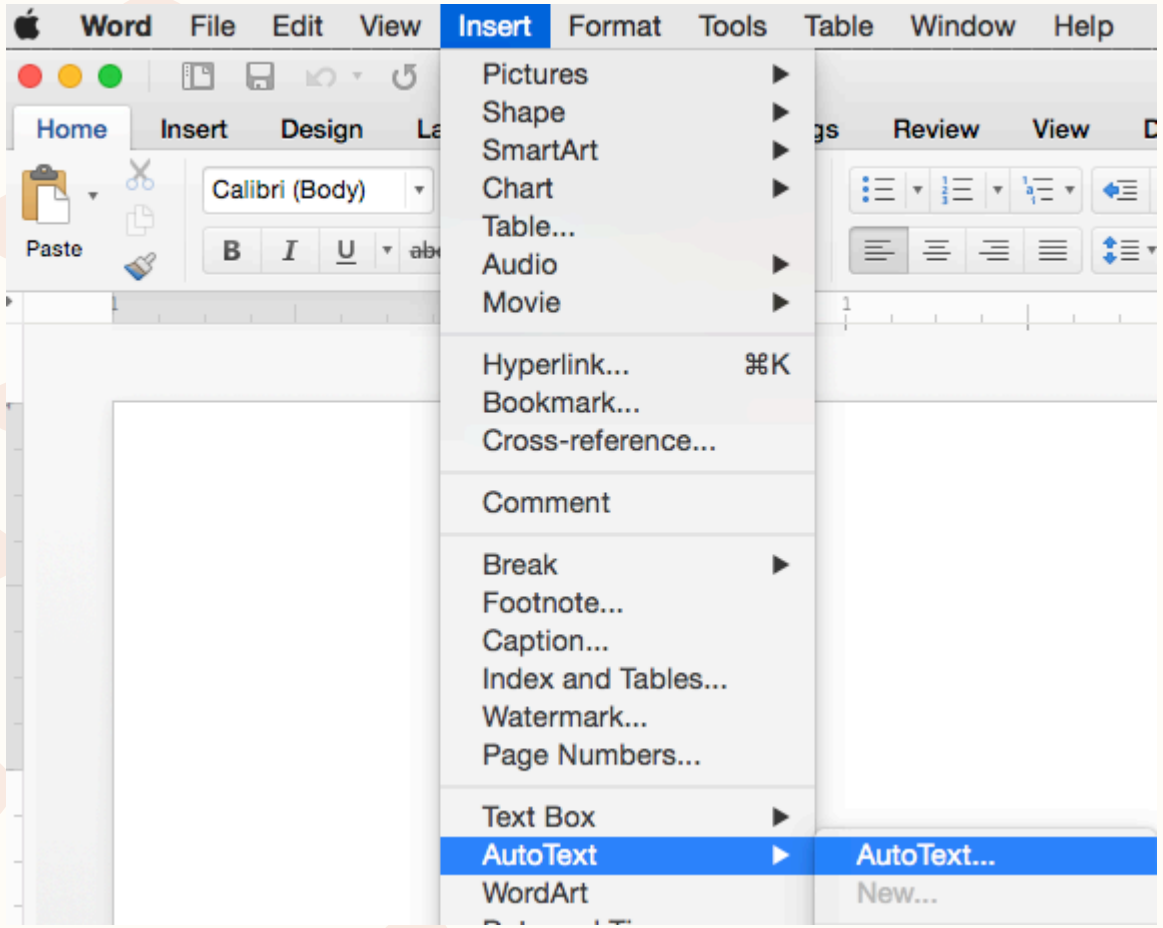
Affordances

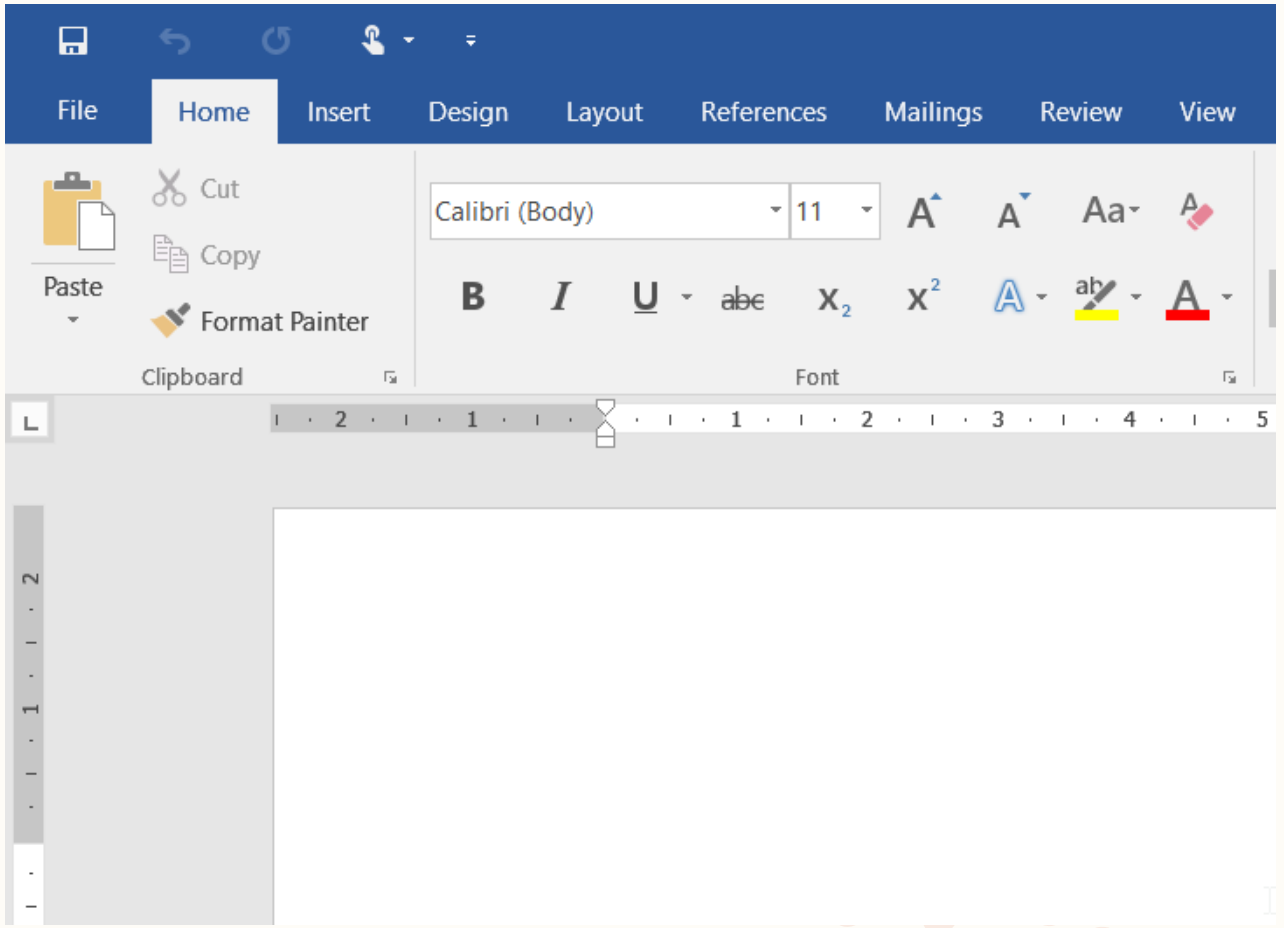


The reuse principle

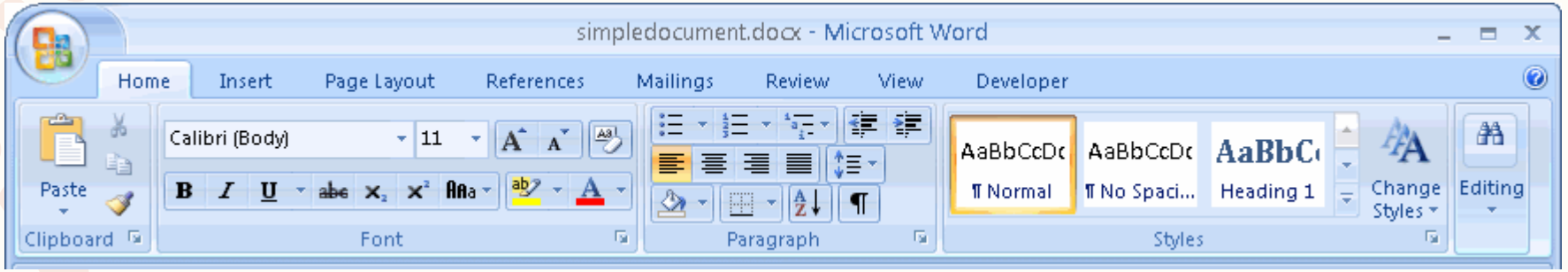
The design should reuse internal and external components and behaviors. This can reduce the need for users to rethink and remember.

The reuse principle

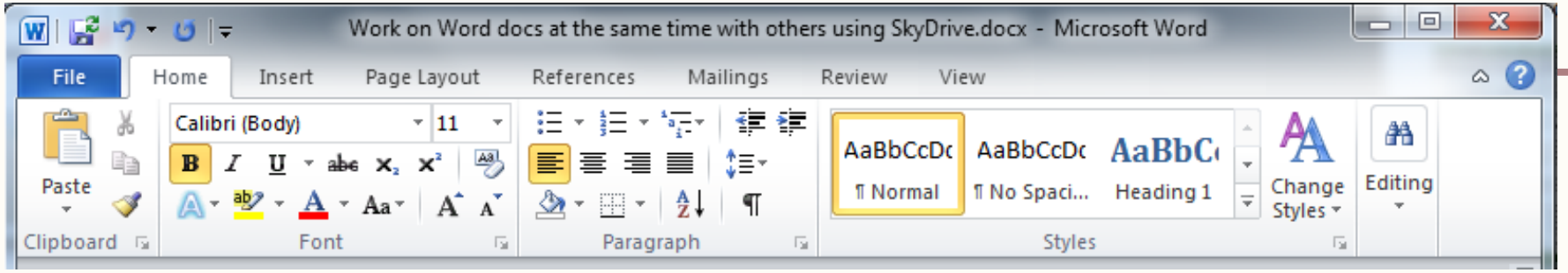




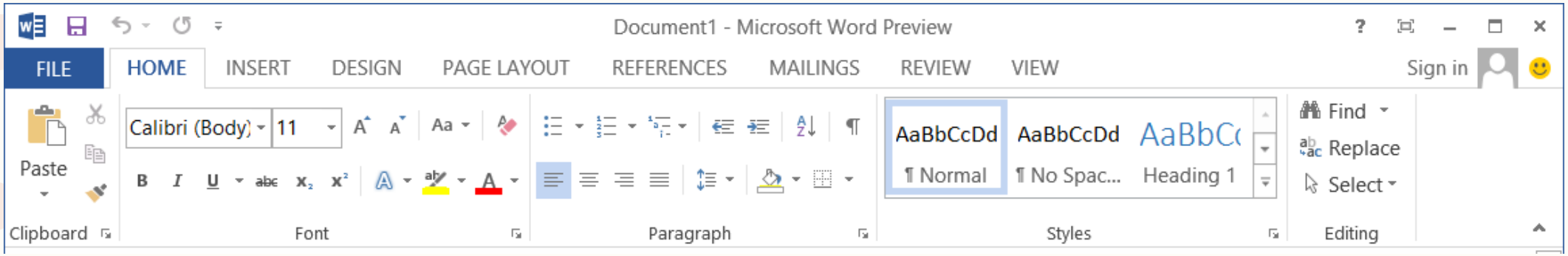
Word 2007



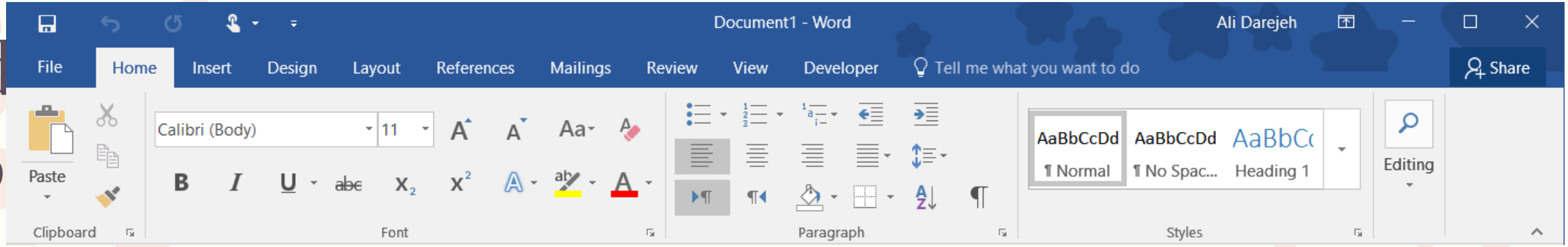
Word 2010



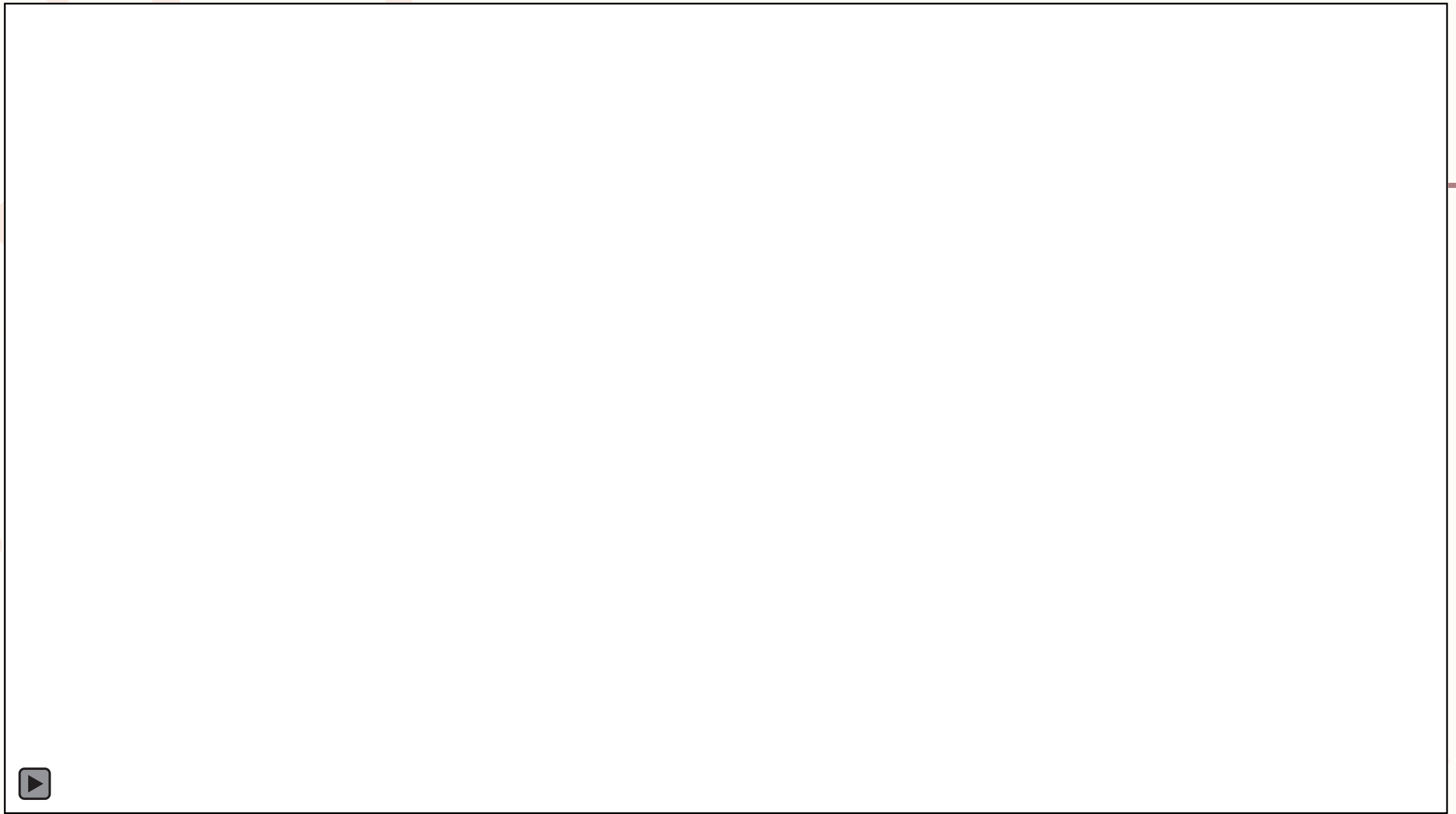
Word 2013



Word 2016

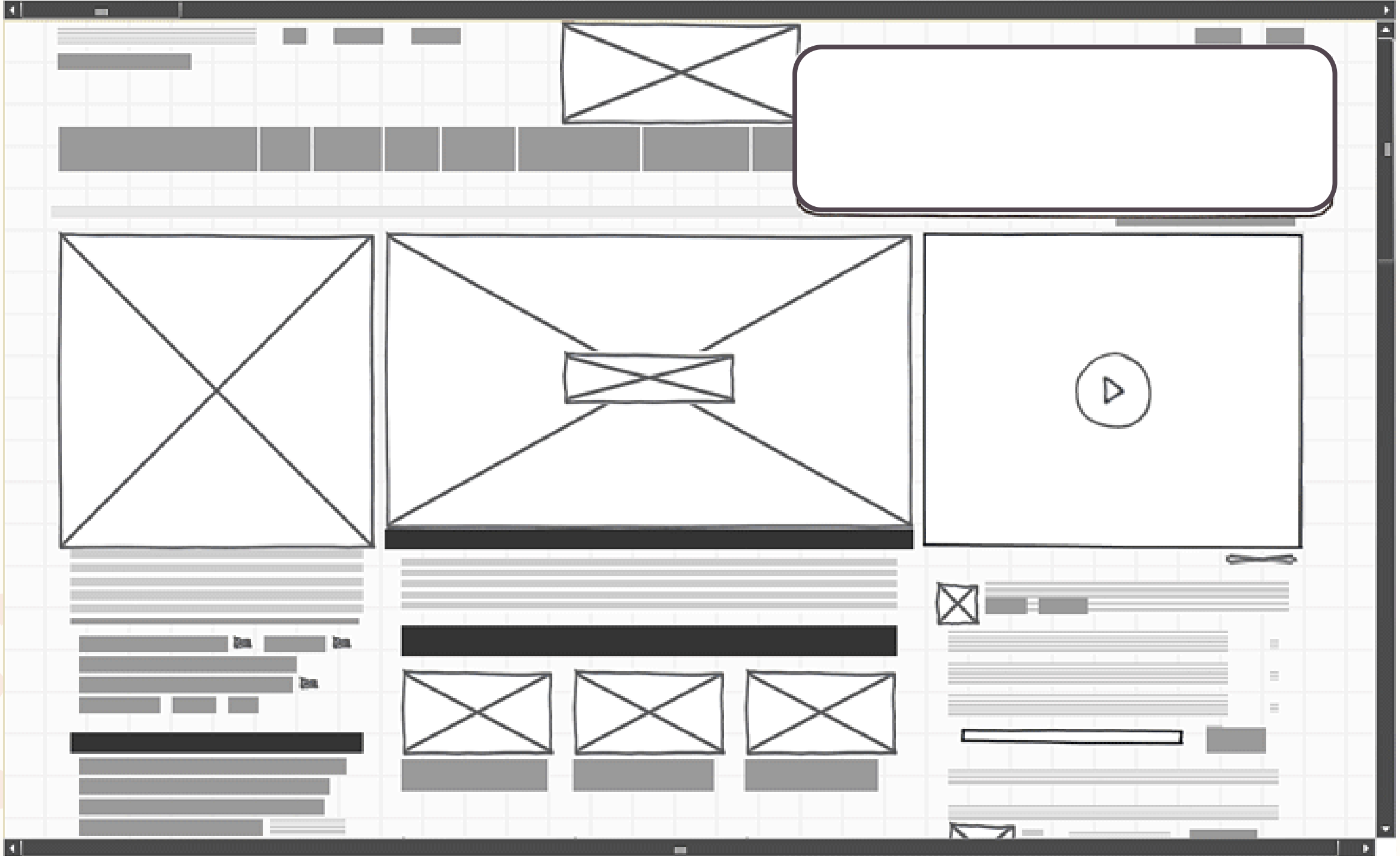


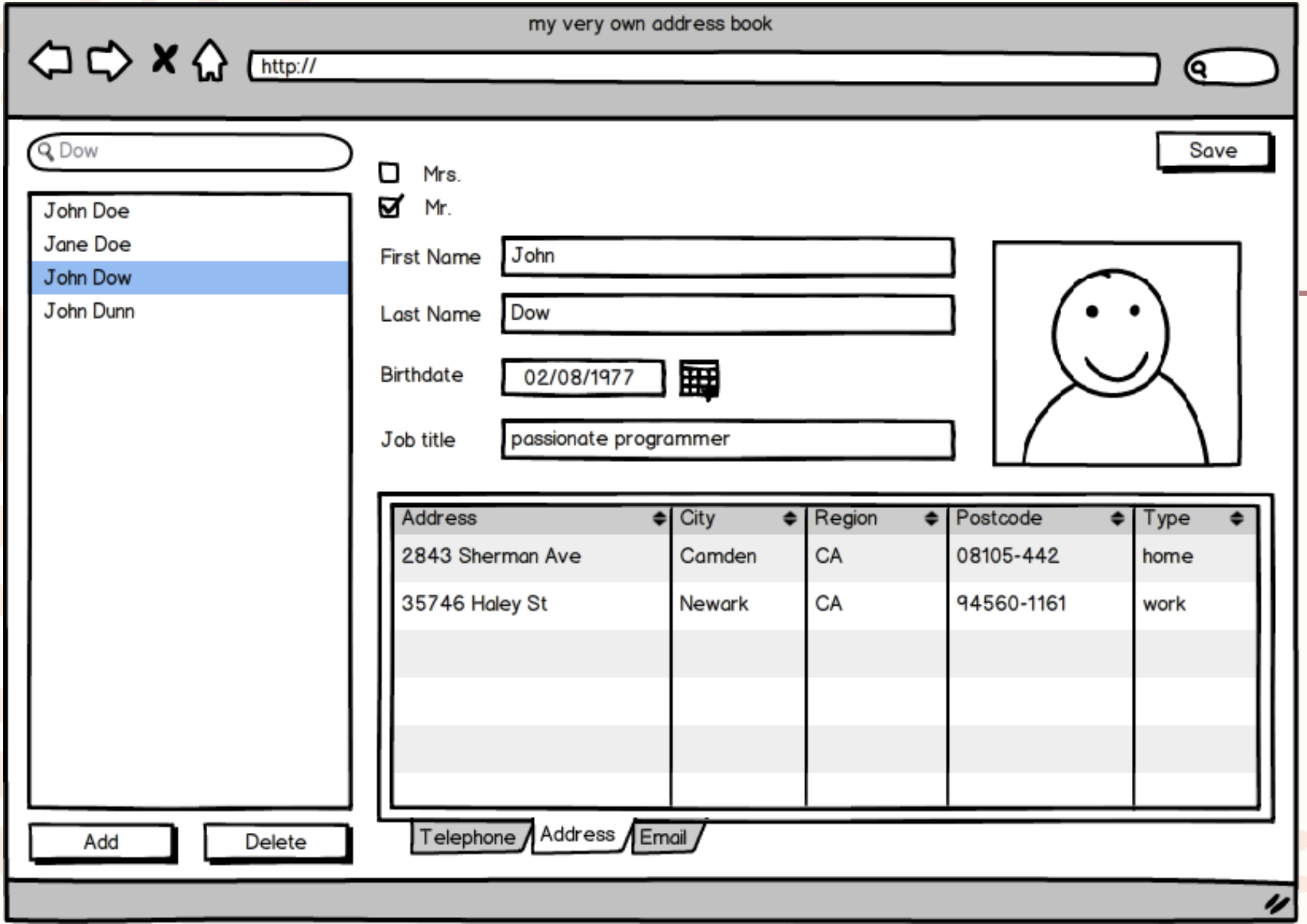
How many interface design principles can you see in this video?



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.

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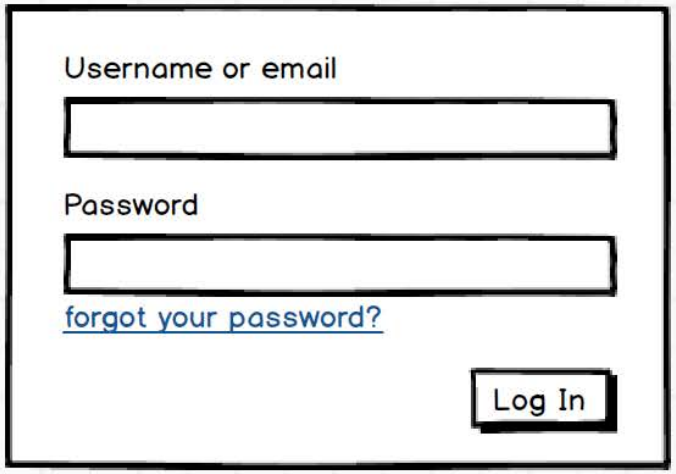
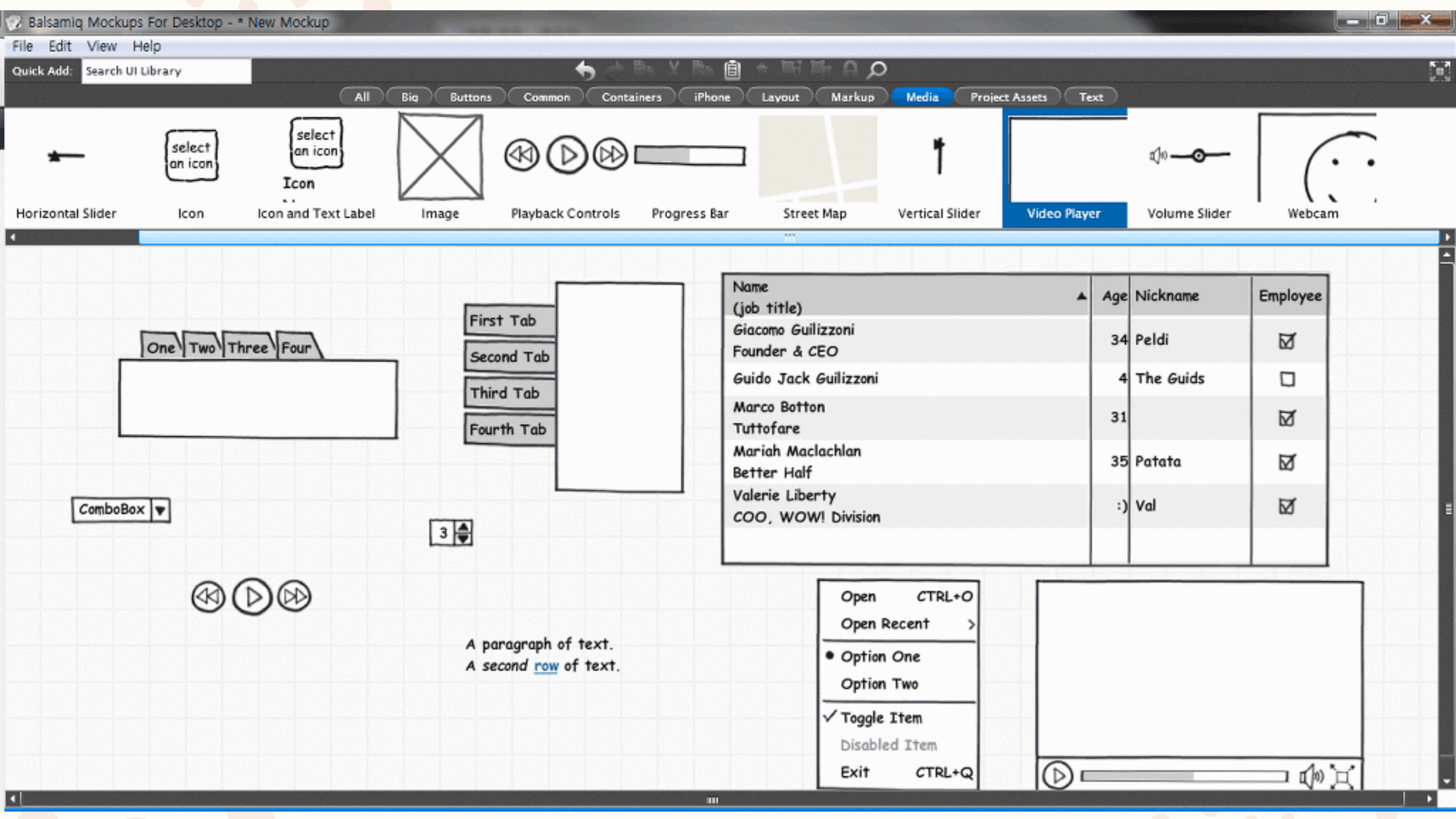
Balsamiq Mockups Software




Balsamiq Mockups For Desktop - * New Mockup
File Edit View Help
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Street Map
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Video Player
Volume Slider
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Giacomo Guilizzoni Founder & CEO
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Peldi
Guido Jack Guilizzoni
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The Guids
Marco Botton Tuttofare
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Mariah Maclachlan Better Half
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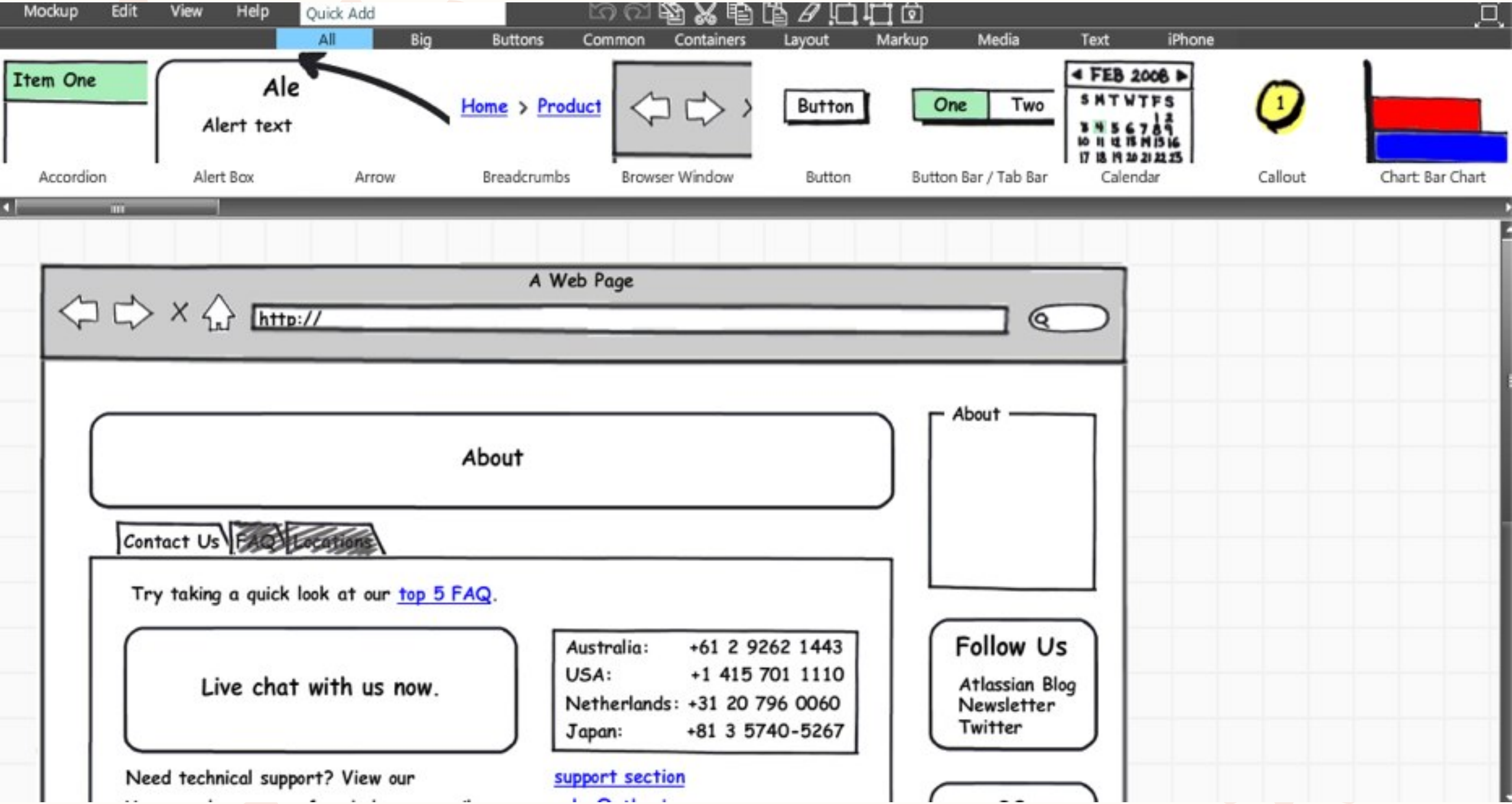
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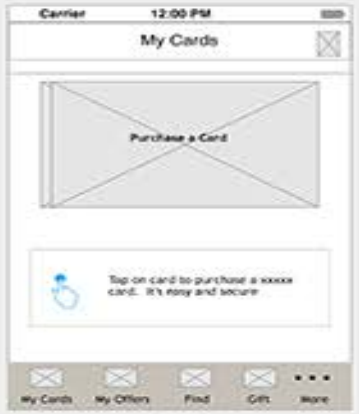

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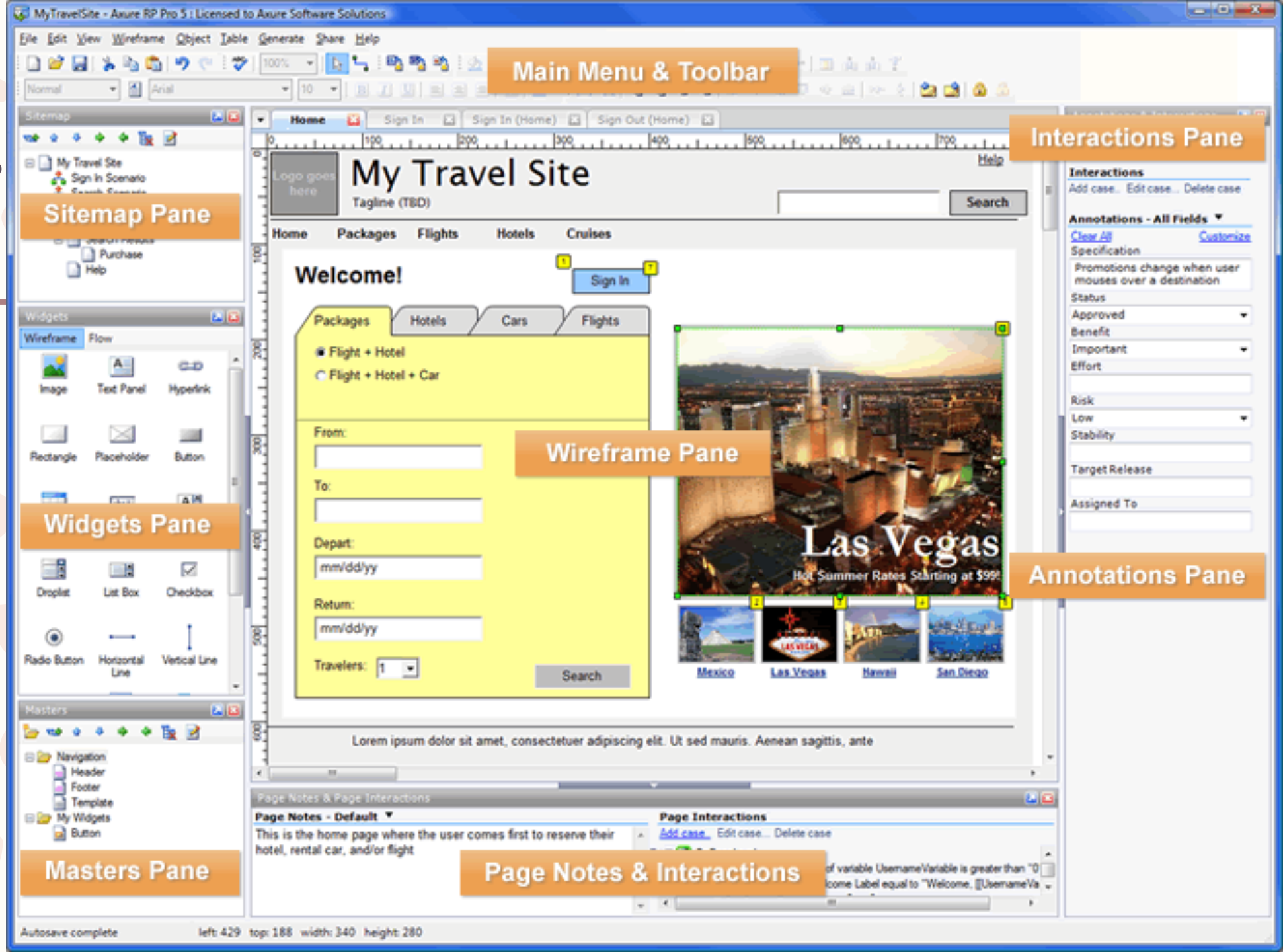
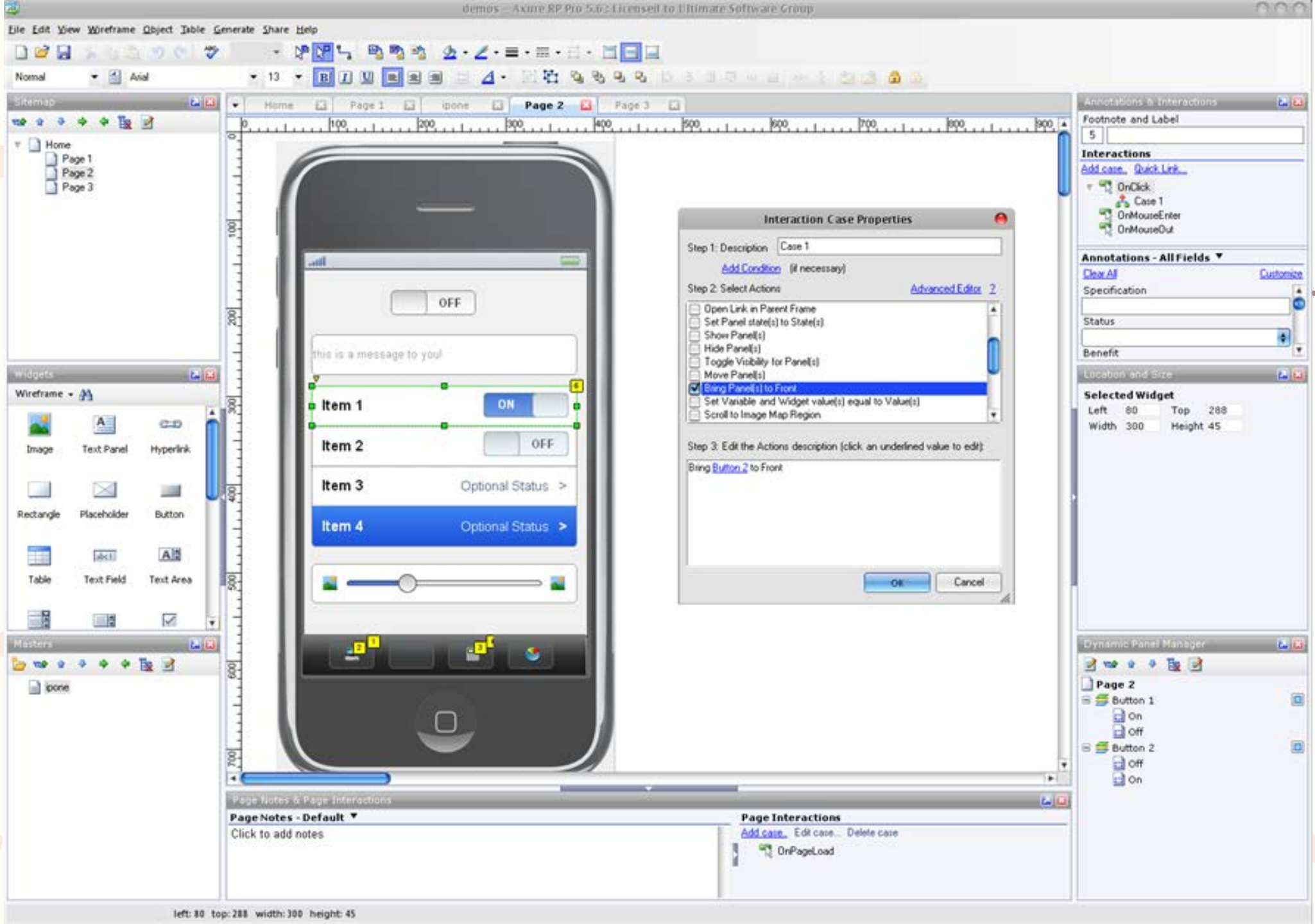
Prototype

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




demos – Axure RP Pro 5.6 : Licensed to Ultimate Software Group
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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.

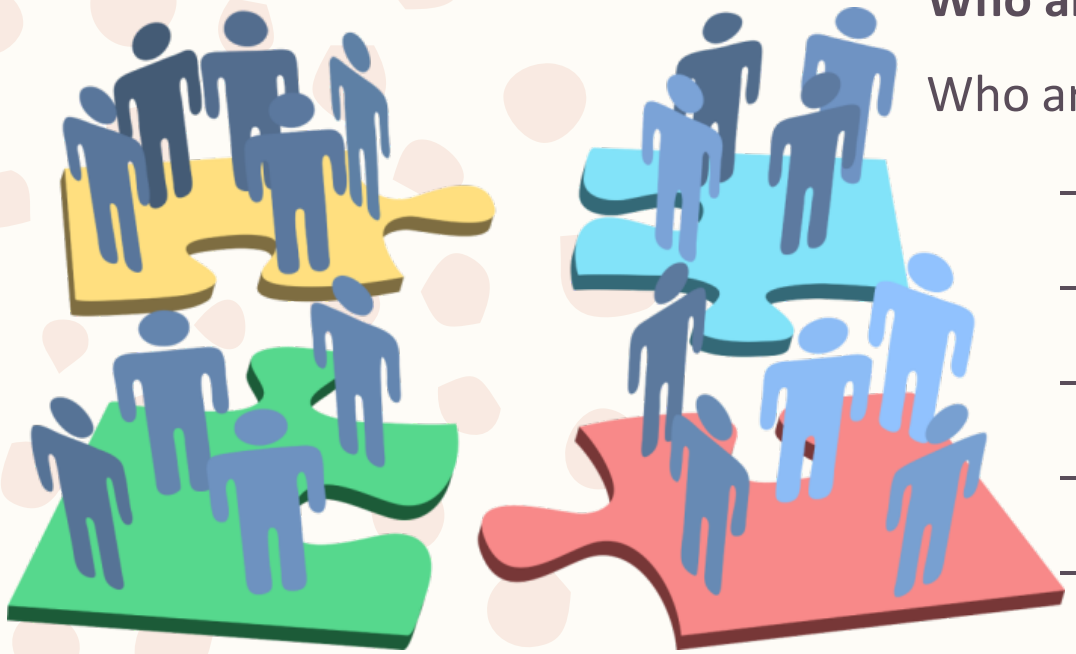
- Heuristic evaluation: in this method evaluators examining the interface and judging its compliance with recognized usability principles.
- Pluralistic walkthrough: The method centers on using a group of users, developers and usability professionals to step through a task scenario, discussing usability issues associated with dialog elements involved in the scenario steps.

User Experience

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

Positive aspects of UX	Negative aspects of UX
A good user interface should be: • **Satisfying** • **Enjoyable** • **Fun** • **Entertaining** • **Motivating** • **Pleasing** • **Rewarding**	**The interface won't be:** • **Boring** • **Frustrating** • **Unpleasant**

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 the make the software game like.

Game based designs

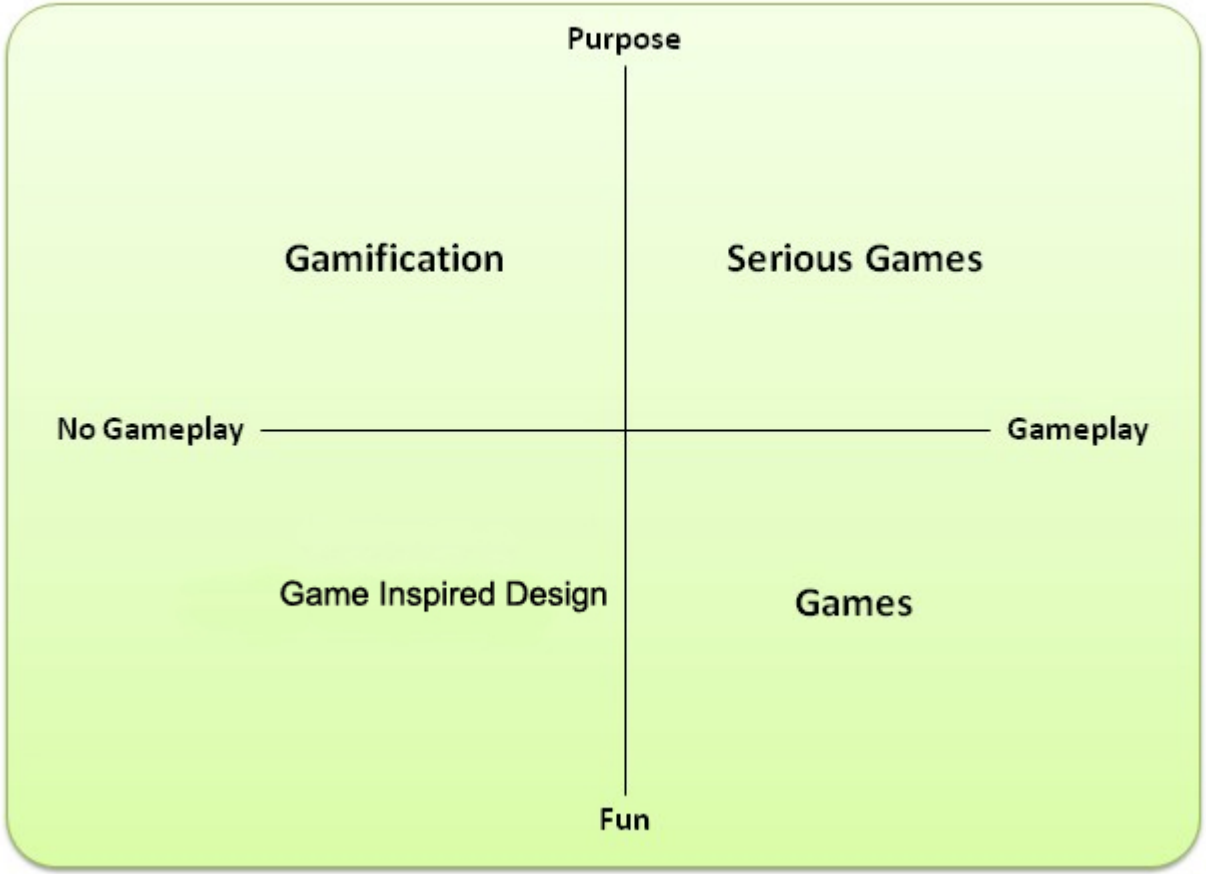
- **Game inspired design:** is a user interface that mimic from games' artwork.
- Serious game: is similar to normal games but they are developed with the purpose of training a concept to a specific group of users.
- Gamification: is about use of video game mechanics in non-game contexts to encourage and engage users in the context by making sense of playfulness and fun.

Difference between these techniques

Game Thinking, Broken down by design goal.

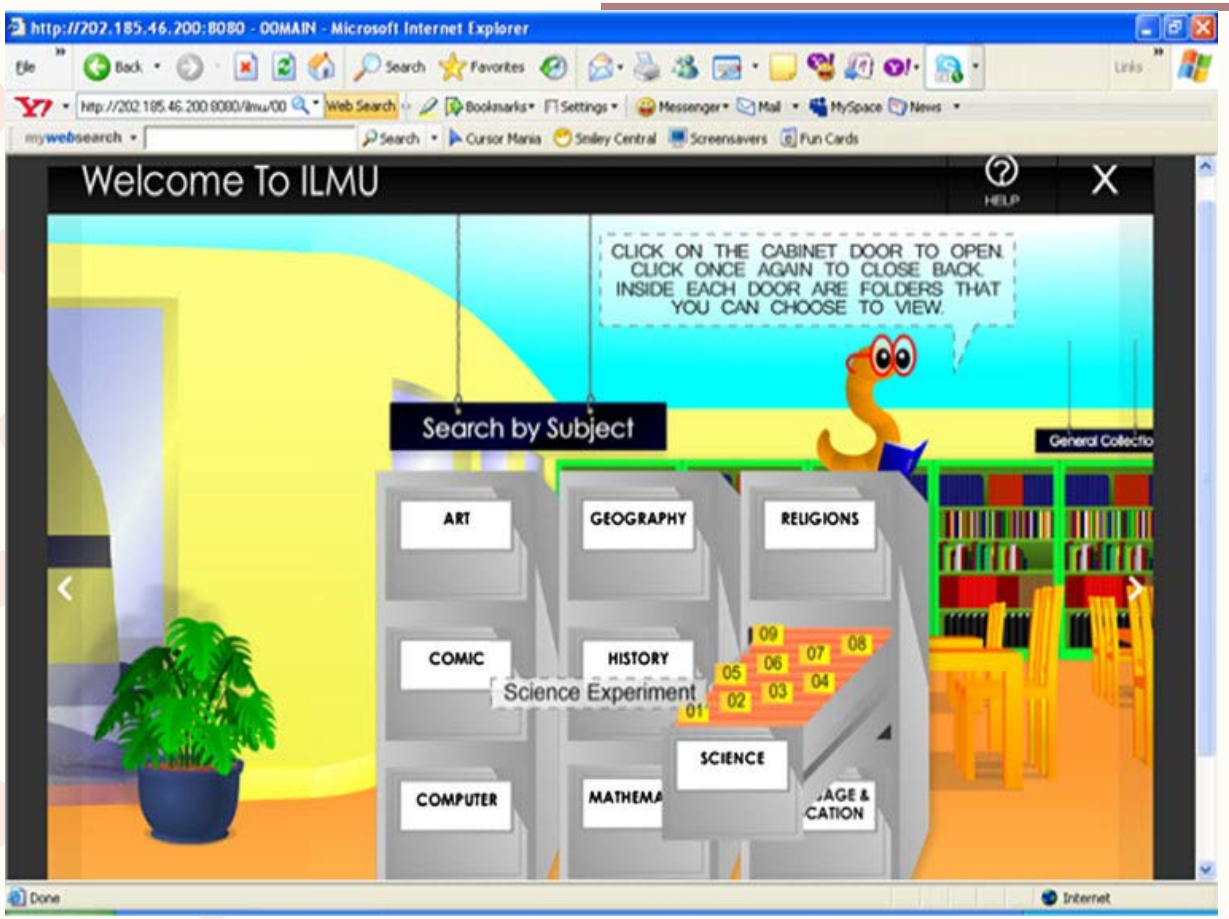
	Game Thinking	Game Elements	Game Play	Just for Fun
Game Inspired Design	●			
Gamification	●	●		
Serious Game / Simulation	●	●	●	
Game	●	●	●	●

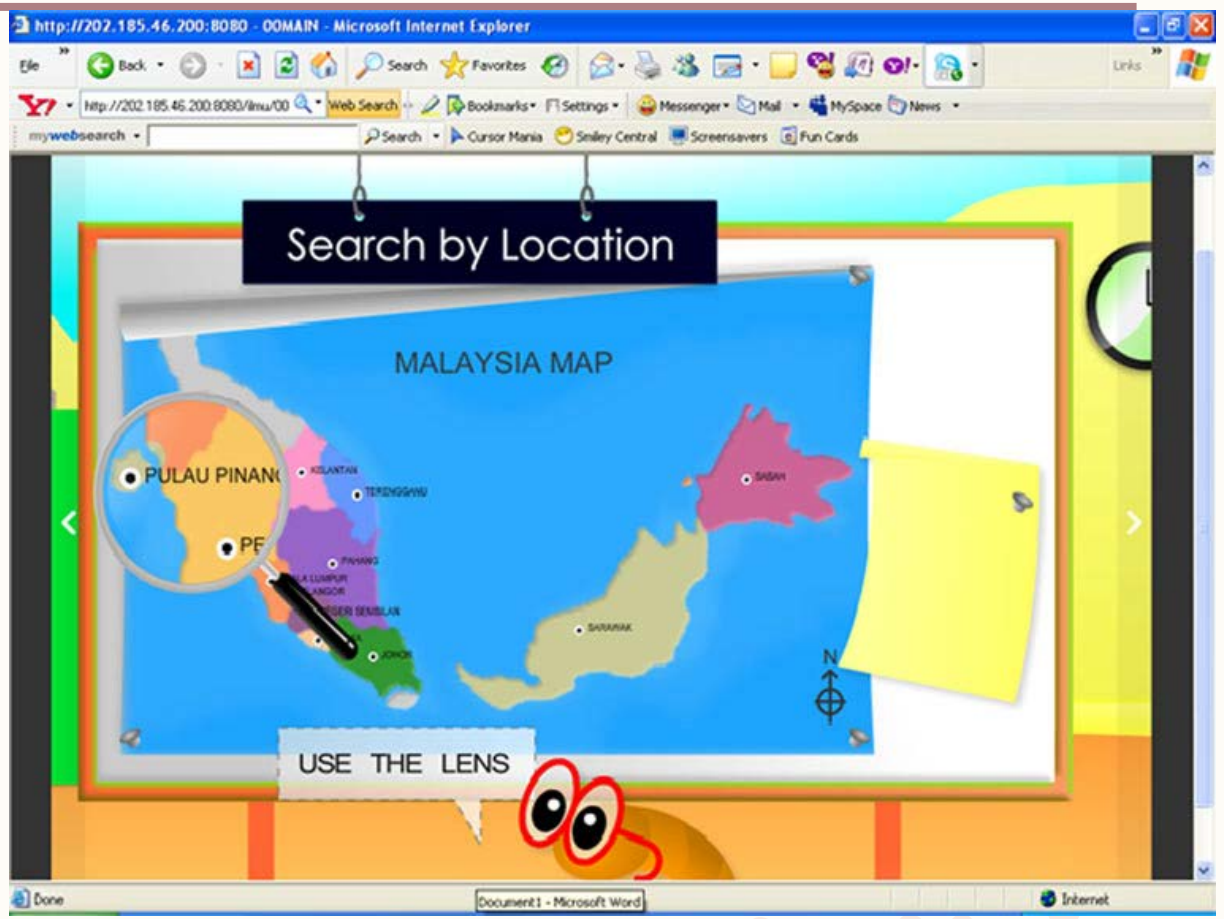
Types of Game Thinking and Primary Design Goal



Marczewski, 2013

A sample of Game inspired design





A sample of serious game in learning

Gamification process

Different areas of using serious games

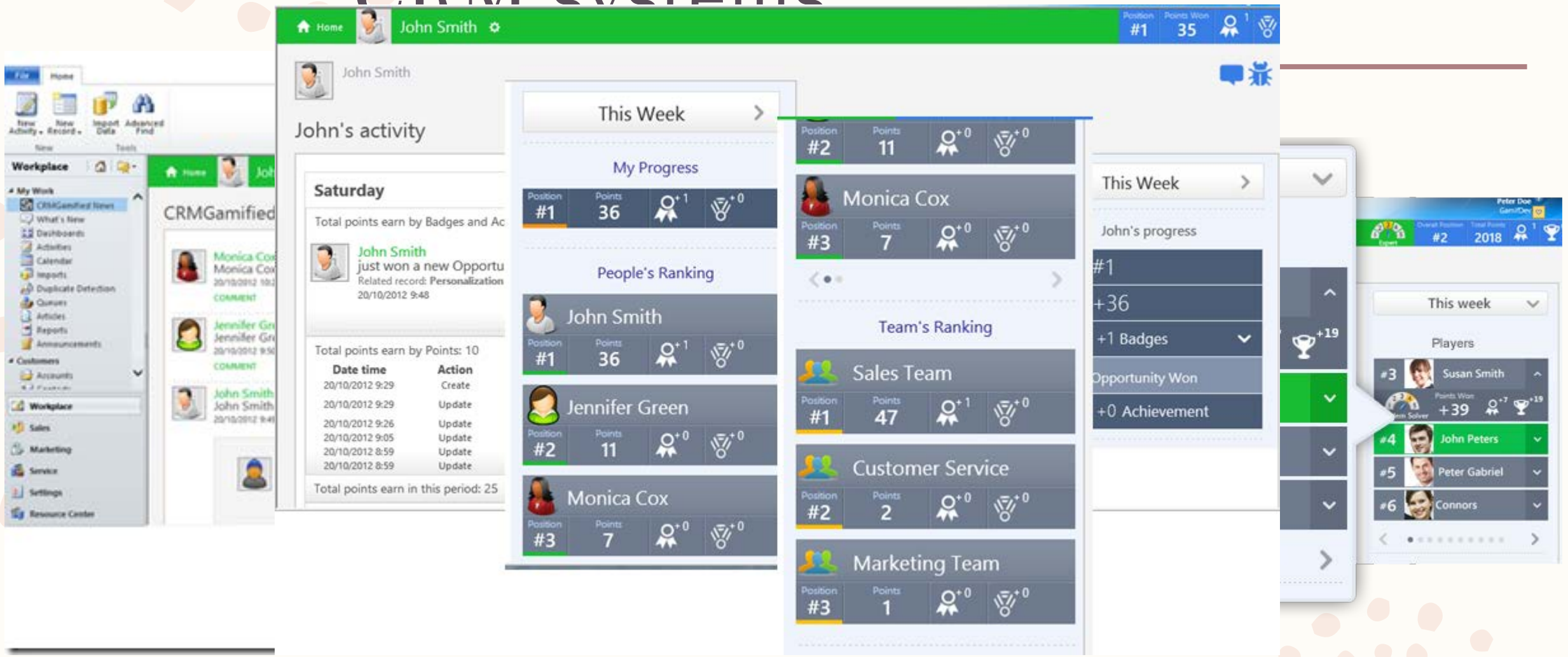
- Teaching Games: Teaches you something using real gameplay.
- Simulators: A virtual version of something from the real world that allows safe practice and testing.
- Meaningful Games: Uses gameplay to promote a meaningful message to the player and if possible promote change with that message.
- Purposeful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

Different areas of using gamification

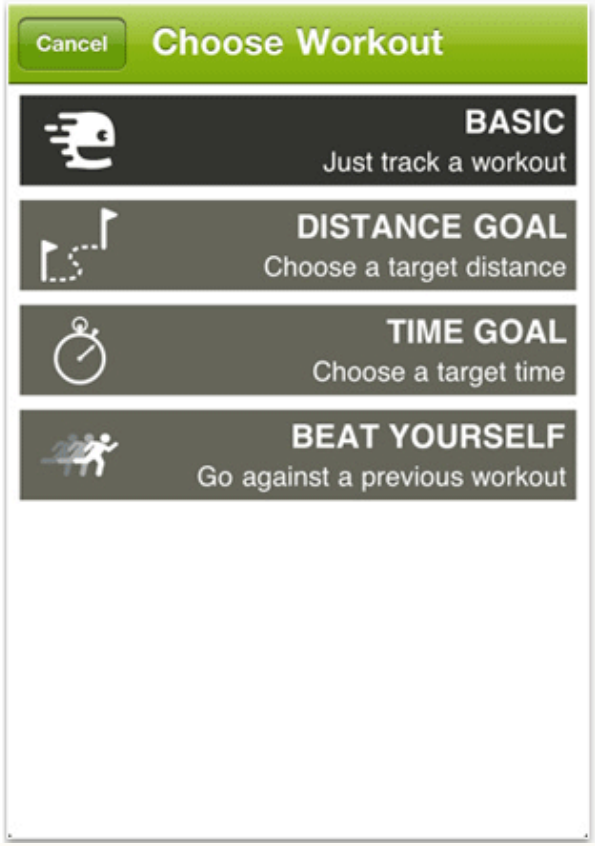
- Human resource: increase personnel motivation, engagement and working performance.
- Health care and sport: increase physical activities, promote to live healthy and motivate patients to continue their healing process.
- e-Learning: motivate students to spend more time in e-learning system, motivate 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

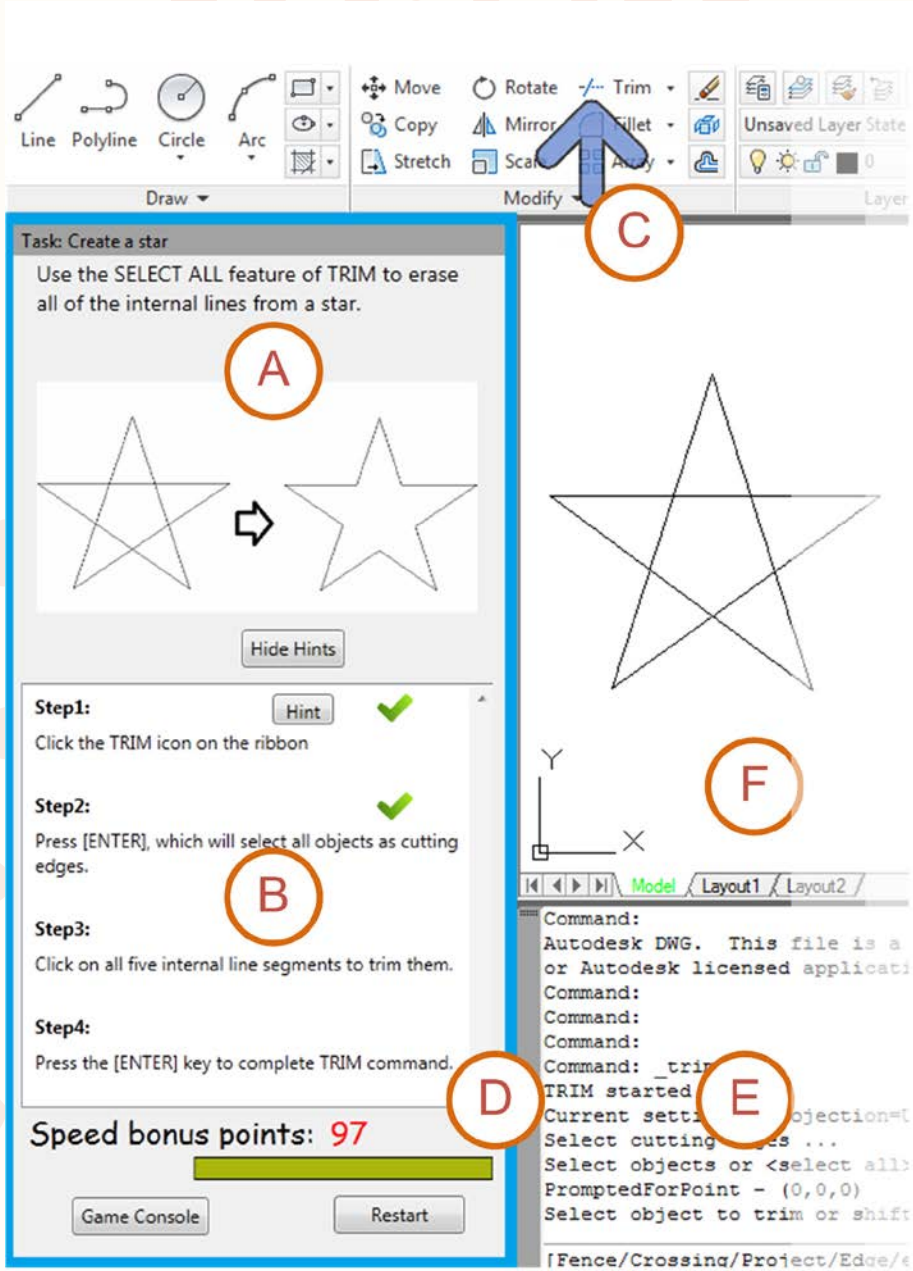
A sample of Gamification in a CRM systems

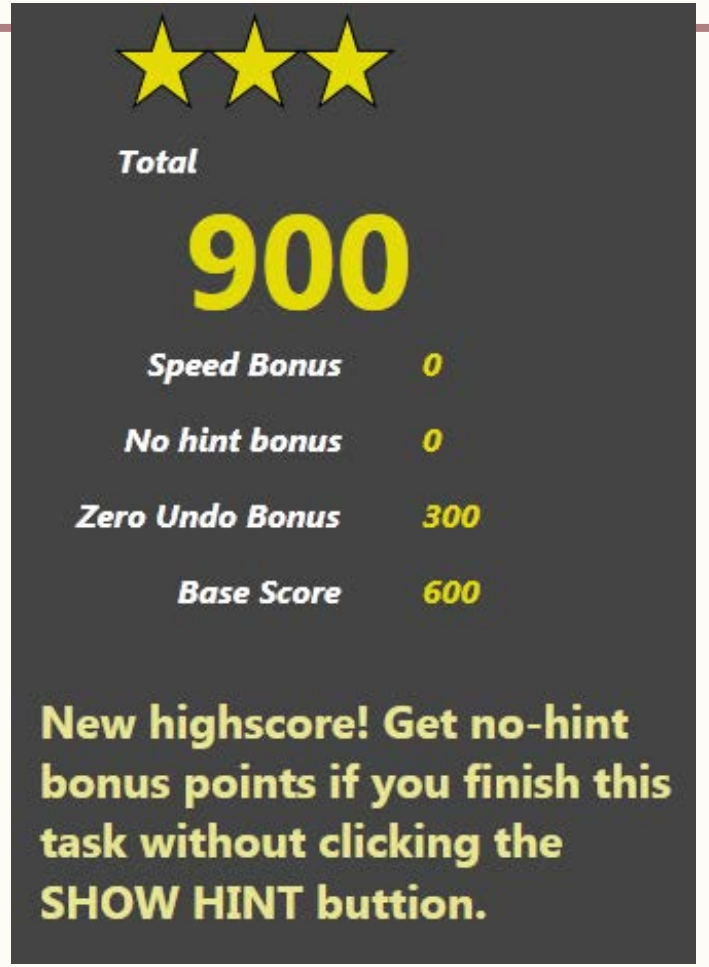


A sample of Gamification in sport



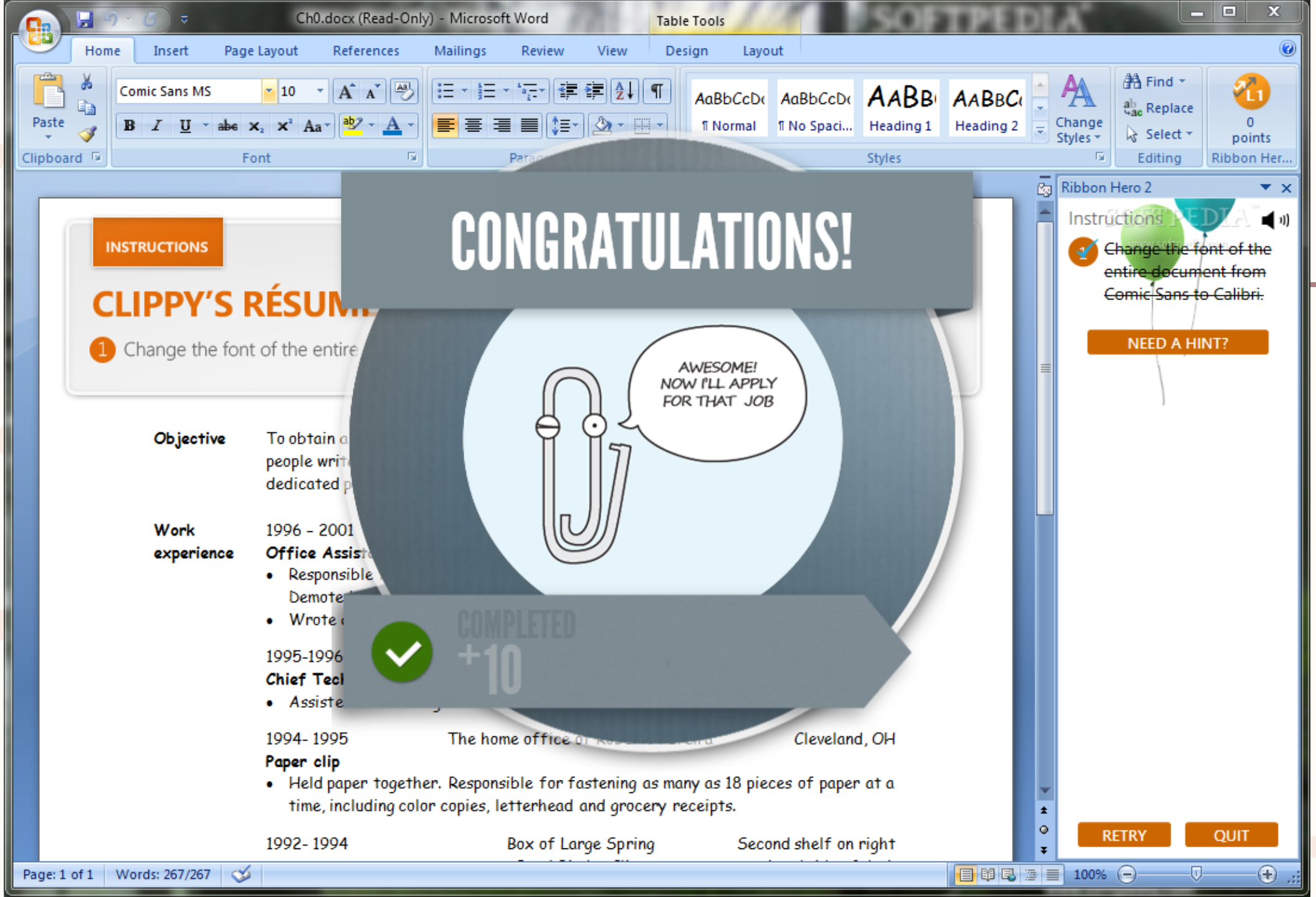
Gamification in AutoCAD





Encourage novice users to improve their AutoCAD working knowledge

Microsoft Ribbon hero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1992- 1994
Box of Large Spring
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AWESOME! NOW I'LL APPLY FOR THAT JOB
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Ribbon Hero 2
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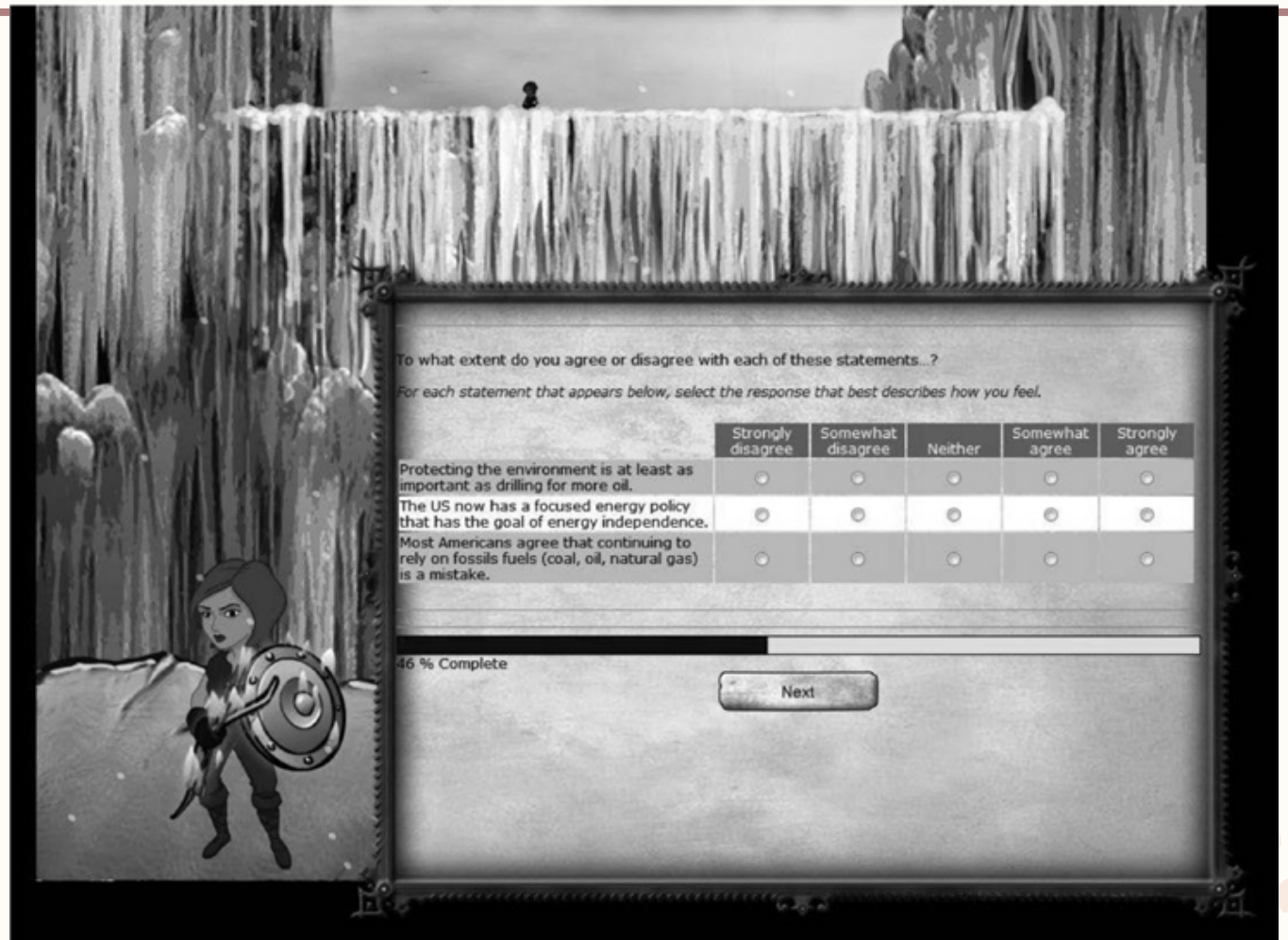
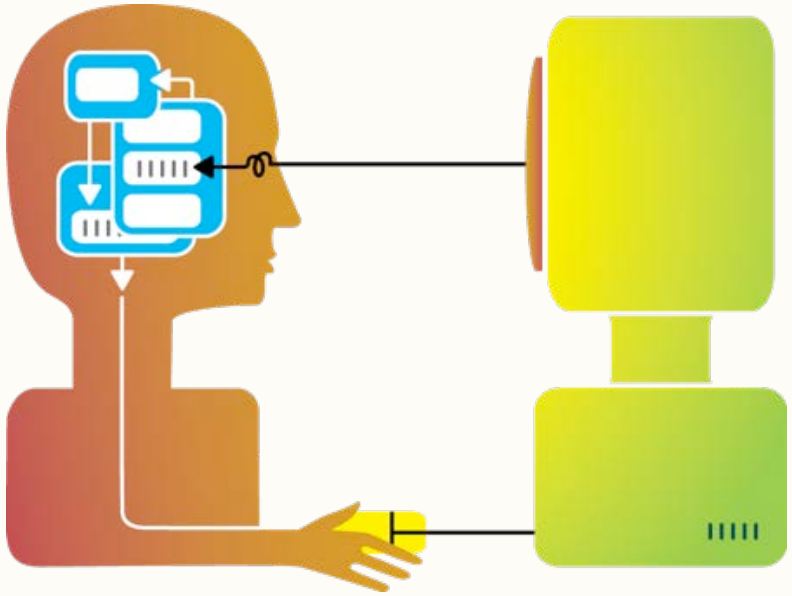
A sample of gamification in survey system



Like to learn more about interface design …

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



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