User Experience

LEVELS 7-8

Design the user experience of a digital system, generating, evaluating and communicating alternative designs (ACTDIP028)
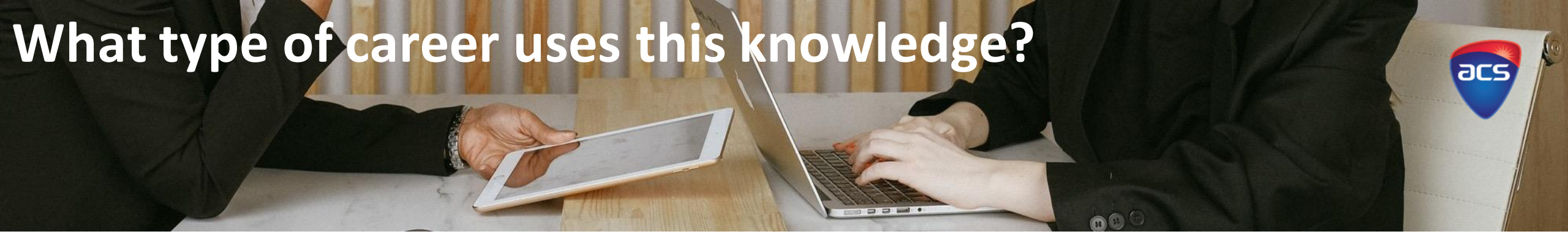
What type of career uses this knowledge?

User Interface/Experience Design (UI/UX) involves how people use the website or a mobile application.

- UX Designers create wireframes that focus on making the website easy to use and providing users with the best experience.
- UI Designers style and visually enhance the wireframes that UX Designers created.

Skills: User Research, Wireframe Creation, Usability Tests, Programming

Content & Design
(Application)

Use IT to create consumer content and business applications

Industry

Games Artist
Mobility Speciality
Animator / Illustrator
User Design / Testing
Web Designer / Webmaster
Quantum Computing Researcher
Quality Assurance Consultant
Gov't & Community Consultant
Digital Media Manager
Software Designer
Desktop Publisher
Creative Director
Graphics Designer
e-Commerce Speciality
Applications Developer
Sustainability Engineer
Robotics Engineer

TAFE

University

What type of career uses this knowledge?

Source: https://youtu.be/RtPnVtXw6HU

Source: https://youtu.be/ORZlHuD22UQ

What type of career uses this knowledge?

WEB & MOBILE DESIGN

e-Commerce

TAFE/PRIVATE COLLEGE
» Diploma of Website Development
» Diploma of Digital and Interactive Games

UNDERGRADUATE (BACHELOR DEGREES)
» Internet Design
» Creative Industries
» Multimedia Design
» Digital Media

POSTGRADUATE STUDIES
» Graduate Diploma in Digital Design

CAREERS
» Web Designer/Webmaster
» e-Commerce Speciality
» Applications Developer
» Mobility Speciality

MULTIMEDIA/DIGITAL CONTENT

Entertainment

TAFE/PRIVATE COLLEGE
» Diploma of Graphic Design
» Diploma of Digital Media Technologies

UNDERGRADUATE (BACHELOR DEGREES)
» Communication
» Digital Media
» Creative Industries
» Interactive Digital Design

POSTGRADUATE STUDIES
» Graduate Certificate of Creative Industries
» Graduate Diploma in Digital Design

CAREERS
» Digital Media Manager
» Games Artist
» Graphics Designer
» Quality Assurance Consultant
» Desktop Publisher
» Animator / Illustrator
» Creative Director
» User Design / Testing
» Software Designer
» And More ...

The Jobs of the Future
ICT Career Wheel *for students*

Content & Design (Application)
Use IT to create consumer content and business applications

University · Industry · TAFE

- Games Artist
- Mobility Speciality
- Animator / Illustrator
- User Design / Testing
- UI & UX Design
- Entrepreneur
- Quality Assurance Consultant
- Gov't & Accessibility Specialist
- Digital Media Manager
- Software Designer
- Editor / Publisher
- Creative Director
- Graphics Designer
- e-Commerce Expert
- Applications Developer
- SEO Specialist
- Social Researcher

Technology Services
Provide specialist IT advice & services to clients

University · TAFE · Industry · High School

- IT Support
- Networking Specialist
- NBN (Fiber) Specialist
- IT Project Manager
- Programmer
- Telecommunications Mngr
- Digital Forensics Investigator
- Security Auditor
- Incident Manager
- Systems Analyst
- Computer Scientist
- IT Consultant
- FinTech Advisor
- Cloud and Data Specialist
- Simulation Engineer
- Release Manager
- Games Designer

Product Development
Design & develop hardware products & software applications

University · post and undergraduate

- Technical Officer
- Product Representative
- Electrical Engineer
- Hardware Developer
- Systems Integrator
- IT Project Consultant
- DevOps Engineer
- Automation Engineer
- Mechatronics Engineer
- Project Manager
- Robotics Engineer
- Aerospace Engineer
- Entrepreneur
- Software Architect
- Software Developer
- Games Developer
- Programmer

Business Services
Analyse, design & apply technological solutions to solve business problems

Industry · TAFE · University

- Researcher
- Data Analyst
- Business Analyst
- Process Manager
- Change Manager
- Social Technology Officer
- Database Administration
- Statistician
- Business Manager
- Project Manager
- Business Systems Analyst
- Social Media Manager
- IT Consultant
- Account Manager
- Cloud Specialist
- Big Data Specialist
- Entrepreneur
- Sales Person

Center:
- Chief Technology Officer
- Chief Information Officer
- Development Manager
- IT Delivery Manager
- Enterprise Architect
- IT and Business Manager

High School +

Tafe/Uni + Work Experience =

Dream Job

The **secret ingredient** for landing your dream job is 'work experience'. When study is combined and integrated with an industry placement (such as an internship), more possibilities open up.

Definitions

Colour combinations	Designers use colour combinations to evoke feelings from the viewer
Command-line Interface	A form of user interface, mostly used by coders. Each line is a written command
Consistency	Making sure pages and designs look similar in structure so that users know where common elements are located
Design tools	Professional tools used to plan designs
Graphical user interface (GUI)	A user interface type, where the user interacts through graphical icons
Menu driven Interface	A user interface type where the user interacts with menus within the software
Mockups	Prototype or models of designs
Principles of design	The rules that dictate successful designs
Storyboard	A form of planning where cards with designs are placed in sequence of navigation or gameplay
User Experience (UX)	The experience a user has when interacting with the technology
User Interface (UI)	The actual interface where a user makes decisions like navigation, play, move, jump, etc.
Wire-frames	Shapes of devices that allow designers to plan the interface, experience and designs for each page or new interface

User Experience

User Experience (UX) ensures the user has a positive interaction with the system. User experience emphasises the overall look and feel of the digital solution. It takes into consideration the user, their needs and how the solution will cater for the user.

It is focused on identifying the target user and adapting the design and resources to meet their needs. This includes ease of navigation, placement size and colour of images, buttons and text.
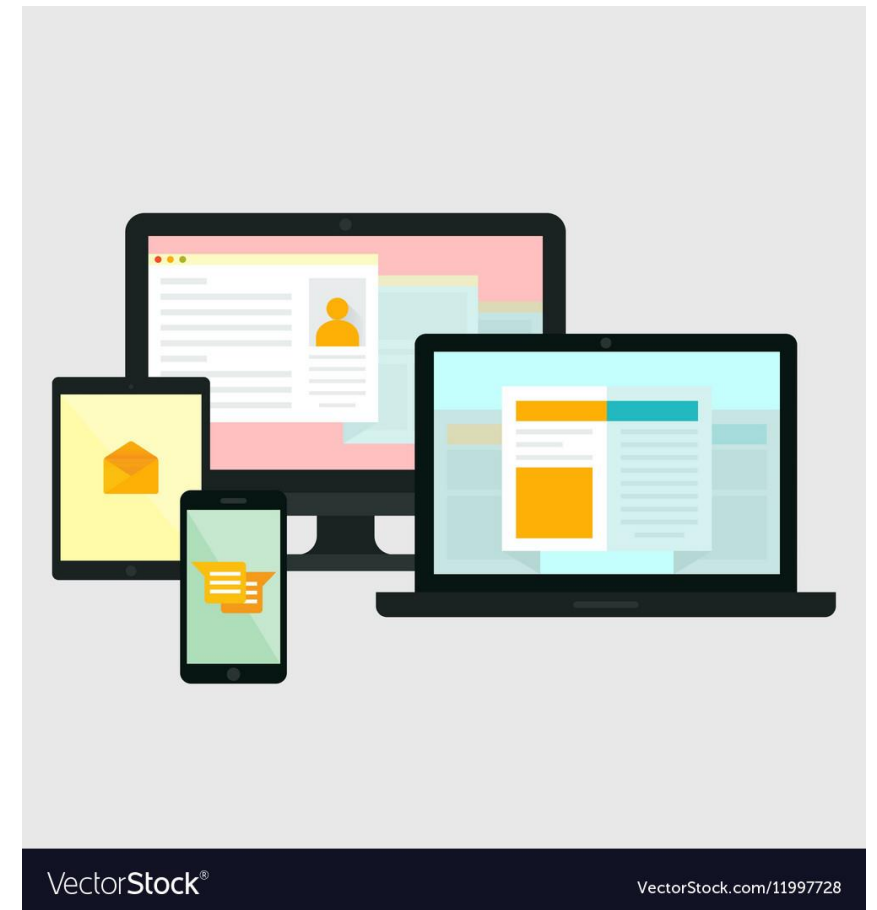
User Experience (UX) Fundamentals

Watch these videos for an overview of how to create an effective User Experience (UX)

Source: https://youtu.be/RFv53AxxQAo
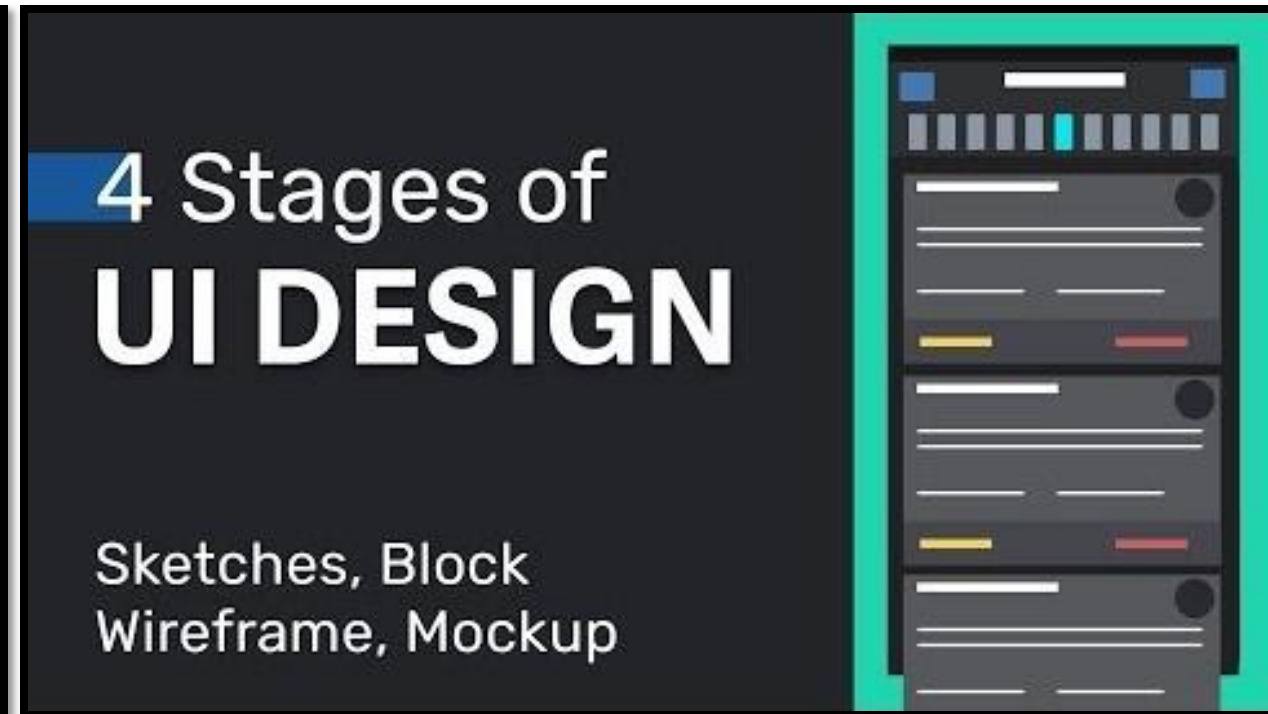
Source: https://youtu.be/_7LZ14xtfOc

Design Tools

The design stage is an integral part of building a digital system. You need to plan out the design to ensure you have a clear understanding of the journey the user will take. It helps you create a 'game plan' so you also are aware of the stages and steps you need to create to guide the users and set a workflow within the system.

When you create a design, your focus turns to the design as a whole. If you miss this crucial step, you'll focus on the smaller detail. This could lead to longer time taken to create the solution and creates the potential to have more errors.

Design tools like storyboards and wireframes are types of templates you can use.
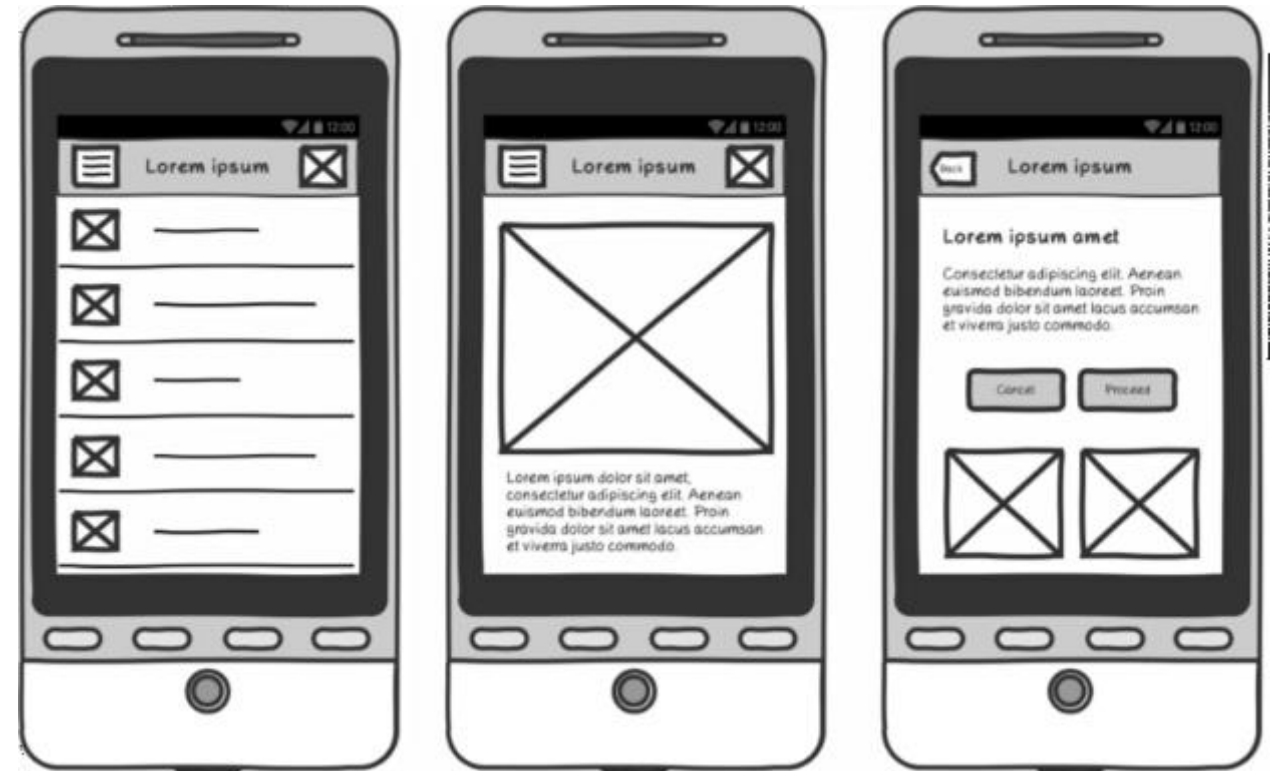
Design Tools

Storyboards and wireframes are drawings or mock-ups of what your design might look like. It's also important to include the flow of the technology too. If you are creating a website or app, the flow can be as simple a adding an arrow to the screen it should take the user to.

These designs can also help you avoid errors.

The wireframe is one picture then you put those pictures together to create the bigger storyboard. You cannot have a storyboard without wireframes.

The purpose of a storyboard and wireframes should be about the journey the user takes. Too much detail and focus on the detail early on will delay the project.

Free software like Adobe XD allows you to create app prototypes.
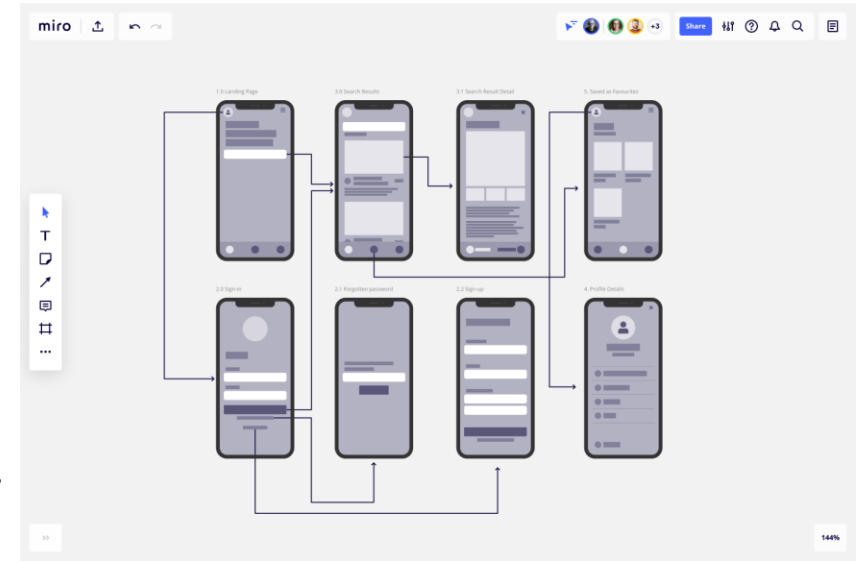
Storyboard for Digital Games

A game is a lot like a story. Good game designers need to plan what will happen in the game so that it will make sense and the stages of the game will flow. A storyboard is like an algorithm for the game; it gives the designer an overview of what is happening in the game.

Game makers use a storyboard to:

- Describe characters, the environment and interactive elements
- Outline gameplay and where events occur in chronological order
- Provide basic models for elements and test colours
- Makes notes about what happens at each stage and combine the notes with a visual representation
- Share the ideas and vision of the game with other members of the game making team
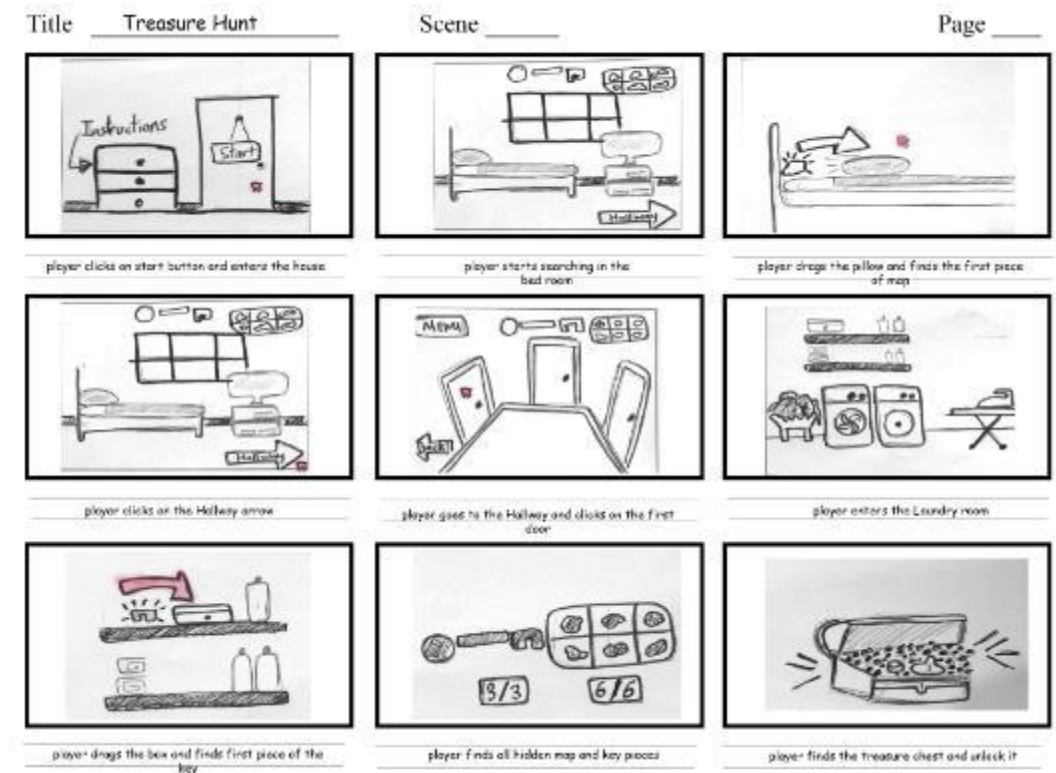
Game Design Features

Controls - must be easy to use and understand. The controls must be intuitive (make sense) to avoid frustration

Interesting Theme – the graphics are what the player is seeing, so the game must be interesting and easy to look at, as well as suit the story and gameplay

Sound - sound effects make the characters and the world come alive. Music can be used to convey how a player should be feeling at that time

Environment - games are interactive so the worlds can be explored. Environments change as the player reaches each new stage to keep the game interesting.

Gameplay - the most important aspect of a game. The start of the game is easy so that the player can learn how to play. It gets progressively harder as they get more experience, and new elements are added to keep it interesting. At the end, games will test players so that they have to use all their skills and experience to finish the game.
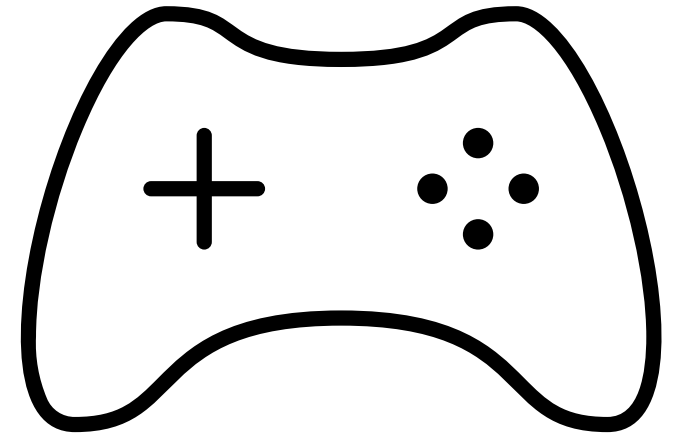
Game Design Features

Level Design - well-planned levels will help push the story forward while keeping players engaged as they face new challenges. Players should be encouraged to explore and continue without becoming frustrated or bored.

Memorable Characters - you need characters who are not boring and forgettable. Design characters who are visually interesting, well-written and relatable.

Challenge and Reward – humans get bored if something is too easy or too hard. Your game should increase in difficulty as it progresses and offer rewards to players to recognise success. Rewards often include points, currency, extra health and new tools to use.

Entertaining Storyline - humans love a good story with characters they can like and interesting problems that needs to be overcome. Try to create intriguing stories with memorable characters, themes and plot twists

A Point of Difference – how your game differs from the millions of others. Following a formula from another game makes life easy, but it's the game that introduces something unique that stands out.

Design Tools

When you are planning through your design always make sure that every detail matches the target audience and purpose. Different audiences will require different functions.

If you are creating a website to inform – don't just include pages of text. Scrolling through pages of text deters users to keep reading. Use images and video and sound. Remember the old saying 'a picture tells a thousands words.'

If you are creating a game to entertain include the features like – increase in difficulty as the levels increase, a consistent story line

If you are including functions for purchases – shopping cart, photos and descriptions of the items, costs, the ability to add items to your baskets etc.

Comparing Designs – iOS and Android

Our mobile device Operating Systems (OS) have different designs – Android or iOS. If you compare the two, there are many similarities and differences. Watch these videos and identify five similarities and five differences of the two most popular operating systems.

Source: https://youtu.be/fBFEOeNznBU
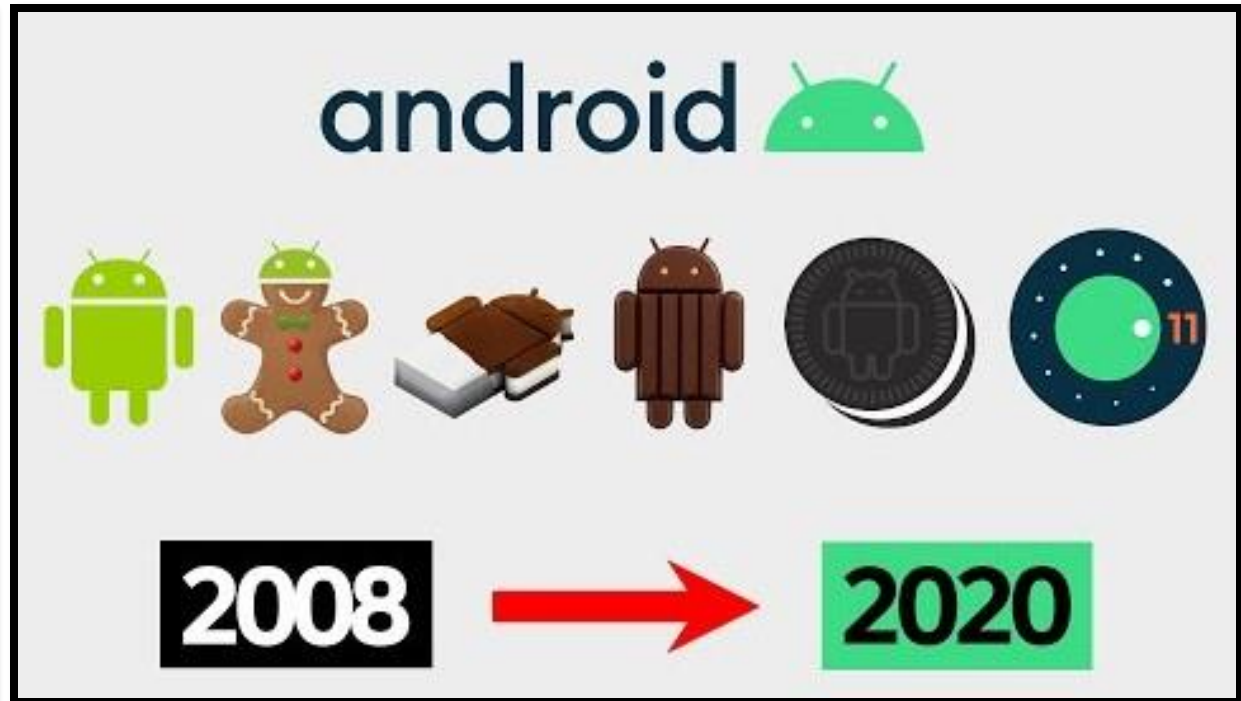
Source: https://youtu.be/IeCGI9fIgbE

Website Design

As you start to look at a range of different designs, you'll notice that they have lot of similar features, even though the websites were created by different people. This is where consistency is important. Remember that this is about the experience we want to give the user.

Think about how these common features are represented:
- Company logo home page link (top left of page)
- Shopping cart icon
- Menu bar
- Notifications and how it tells you have a new one.

These features are often similar because as a user, we want similar features and layout for familiarity. It makes it easy to navigate.

The heatmap on the right shows the 'F' shape made when a user first looks at a webpage. This behaviour has influenced how websites are designed.
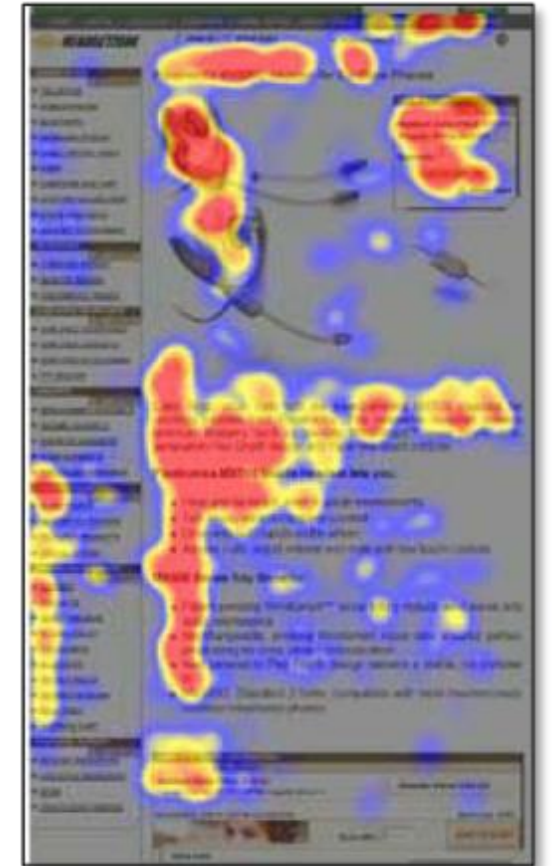
User Interface (UI)

A User Interfaces (UI) refers to how a digital system accepts input. The UI determines how the user moves around the system and works with the software to complete the desired tasks.

Different examples can include clicking a button, typing a command, selecting drop-downs and tapping on the app thumbnail on a smart phone.

Three common types of user interfaces are: command line, menu based and graphical.

Knowing the types of user interfaces is important to consider when it comes to user experience. It's about choosing the right interface to ensure the users have the best experience when they interact with the technology. Consider which is the most appraise to use and why.

command line

menu based
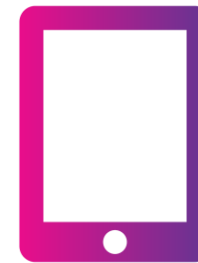
graphical

Different types of User Interfaces

Command-line Interface
This is when the user will type in the command. The command is displayed in the form of text. The digital device will respond to the commands. This type of interface is common with programming.

Menu Driven Interface
Menu Driven Interfaces can be found on websites. When the user presses a button on the home screen, a selection of options will drop down and the user will click the most appropriate. Another example is when the user right clicks and uses spell check to correct spelling errors. A menu pops up and the user is provided with multiple options.

Graphical User Interface (GUI)
A GUI allows users to add input to touch screen devices through graphical icons instead of text-based user interfaces, typed command labels or text navigation. GUIs eliminate the need for a keyboard and have been developed to cater for the tablets and smart phones.

Source: https://youtu.be/qLl0vIchsIs

Compare these three common types of interfaces. Use a Venn Diagram to display similarities and differences.

Technical Advisors

Mitkumar Patel and *Meet Gorasia* from TechBiz Innovators Pty Ltd are avid IT professionals and Masters graduates.

Mitkumar works as a Software Engineer and his key strengths are web development and software design. His expertise lies in user interface designing and adeptly implementing those designs into the actual solutions.

Meet works as a Systems Analyst and his key strengths are web designing and project management. As an analyst, he is responsible for planning the workflow and creating mock-ups for the user experience of websites and applications.

TechBiz, a young IT company based in Brisbane that provides innovative and cost-effective solutions to web, software and IT infrastructure needs of small and medium scale businesses, sees these two individuals as an integral part of their organization due to their passion and dedication towards their field.

Mitkumar Patel
mit@techbizinnovators.com.au

Meet Gorasia
meet@techbizinnovators.com.au

Acknowledgements

About ACS

ACS is the professional association for Australia's technology sector. More than 48,000 ACS members work in business, education, government and the community. ACS exists to create the environment and provide the opportunities for members and partners to succeed.

ACS strives for technology professionals to be recognised as drivers of innovation in our society, relevant across all sectors, and to promote the formulation of effective policies on technology and related matters. Visit www.acs.org.au for more information.

About the ICT GISP

The Information and Communications Technology Gateway to Industry Schools program encourages partnerships between industry, government, schools and their communities to build Queensland's future information technology workforce. The program provides an important opportunity to address the significant shortfall of young, emerging ICT talent in Queensland. Access more information and ICT teaching resources below:

ICT GISP Website - https://qldictgisp.acs.org.au/home.html

ICT Educators Community of Practice - https://www.acs.org.au/ict-educators.html

The Big Day In ICT Careers - https://www.thebigdayin.com.au/

ICT Careers Wheel - https://qldictgisp.acs.org.au/career-pathways.html

Acknowledgements