COMPUTER GAME DESIGN

- Game design document.

contents
- text
- Images.
- Diagram
- Concept art.

Structure of GDD.
- Story overview ie. provide background
- Characters. ie describe the main characters
- Game mechanics ie rules, objects & challenges.
- Level
- Gameplay ie concrete actions eg: button, UI
- Art
- Sounding music ie sound effect, music and voice acting.

Game design document

Computer game level design.

Is the process that deals with creating stages — for.

3-stages of game design.
- Pre production, things done
  - Research
  - Brainstorming
  - Game Concept
  - Art and map development
  - GDD preparation
  - prototype design.
- Production stage.
  - Stage of development where the actual game is created.
  - design
  - level grouping blocking
  - Texturing
  - Audio
  - Animematics
  - HUD
- Post production
  - testing
  - refactoring
  - release
  - Support and maintainance.

Factor to consider during preproduction stage
- defining the game target audience.
- developing the gameplay prototype.
- Creating details art and design document.
- Writing a detail story and script.
- Creating a production schedule and budget.

Phase of Production Stage.
- Mechanics and gameplay Refinement.
- Content creation.
- Programming.
- Quality assurance.

Testing Methods

→ Play testing, involve people play the game and provide feedback.

→ Automated testing, involve using S/w tools to test the game functionality and performance.

→ User experience testing, evaluating the overall user experience.

Game Production Team (GPT)

involve

- Video game Producer, to develop manage the development team.
- Video game Publisher, Company that publish video game which developed internally or externally.
- development team,
  - designer
  - Artist
  - Programmer
  - Level designer
  - Sampling engineer
  - Testers.

Q What are the element of game design.

- Conflict like obstacle
- Strategic and chance.
- ~~Aesthetics~~ Aesthetics (Immersive VR game).
- Theme and Story.
- Rewards

Principles of Computer game level design

- flow
- balance
- Variety
- Cohesion (Kushikanana)
- Replayability
- Accessibility

Analog game (table talk)

- are not non electronic games plays with people face to face.
  - Card game
  - dice game.
  - board game

Virtual Reality (VR).

with use of computer modeling and simulation that enable a person to interact with artificial 3D visual or other sensory environment.

types.

- Non inversive VR.

technology that provide computer generated environment but allow to stay aware and keep control the visible environment

- Semi inversive VR.

partially virtual environment to provide realism through 3D graphics.

- Fully immersive VR.
- give user the most realistic simulation experience with fite and sound completely.

Reliavable model for games

- Are the elements which help to create a sense of immersion and realism for players. eg characters and objects and these model are created.

Factor to consider when creating RMG
- Realism.
- Consistence
- Animation
- Behaviour
- Personality

Techniques for computer game
- Programming techniques.
  - OOP, Game loops, datastructure and algo, multithreading.
- Multimedia techniques.
  - Graphics, sound, animation, UI design and video
- Audio

Audio
- Music
- Sound effect
- Audio engine
- Audio implementation
-

Assignment
with example ~~exp~~ explain the principles of computer game level design.

Condition
- If else
- Switch
- Loops

Process using programing Language
- Preprocessing
- Indexing
- Querying processing
- Ranking
- Graphical user interface.

loop structure
- are the loops which allow gameplay to be repeatitive and consistent

Structure of loops
- Action / combat loops.
- exploration loops
- Progression loops
- Narrative loops
- game play loops.

function in computer games

type of function
- player assistance function
- Dialog option function
- Quest giver
-

GUI containers
- These are used to create user interfaces that can display important game information and allow players to interact with game.

- windows
- Pannels
- dialog boxes
- Menus

Components of GUI
- Buttons
- ~~Health~~ Health bars
- Maps
- score boards
- notifications and tutorials.

what are events
- are actions of occurrence that happen in the program e.g mouse click button press or data changes

* Action listeners
- are interfaces that allow to handle events.

Asset - refer to any graphical/audio or any other visual elements used in a game

Algorithms - set of rules or equations programmed into the game to govern interactions between virtual objects, events or characters.

Controls - are the input devices and commands players used to interact in the game.

How can a game developer import and collect asset on a game environment.

seven steps
- defining the game environment and asset
- Create a list of required asset
- Choose asset creation tools
- collect free assets
- Purchase premium assets
- Import asset to the game
- Organize asset for easy access and use.

level setup
- design the basic layout
- planning & game mechanics
- Creating assets
- Implementing the game mechanics
- testing and tweaking
- finalizing the level.

Example of
- Locked gate
- Laser beams
- electric fields
- fire pits

Game over
- functionality which refer to the end of game.

Spawning player character
- process of generating player character at certain point in the game.

Polishing in Computer game
- refer to the refining and improving the game after the core