

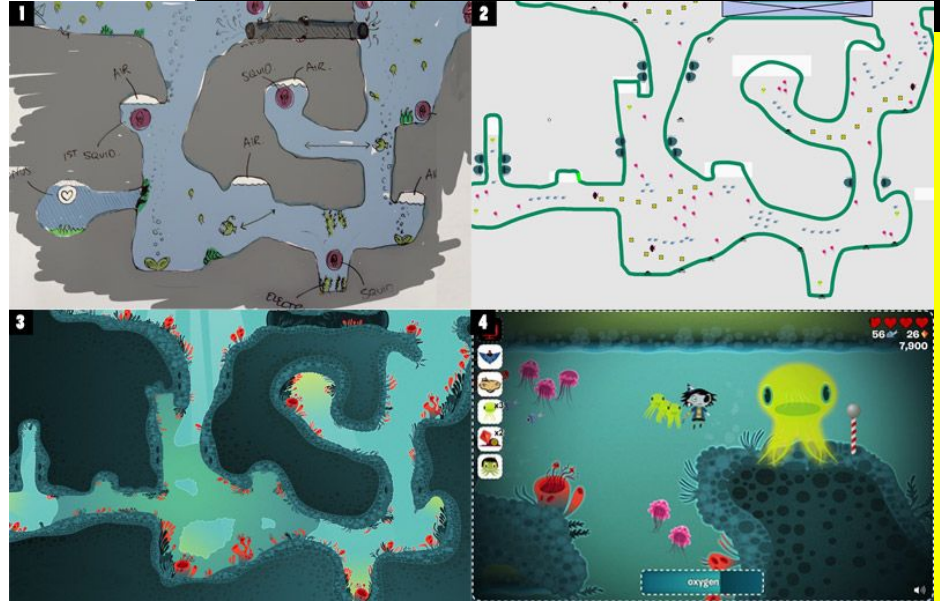
# Level Design

## Defining the stage



# Level Design

*"Level Design is defined as the creation of environments, scenarios or missions in an electronic game."*



# Level 1-1 - How Super Mario Mastered Level Design

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# How to start the design of a level?

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The first step is usually outlining its design "on paper".

- What is the player's primary goal?
- How long should the level take to complete?
- What emotions in the level are we attempting to invoke in the player?
- What is the setting of the level?
- What additional art sets will be required?
- What resources will be available to the player?
- Who will the player encounter?
- What side quests will lead the player through the level?

*By Kevin Saunders*

# Structure (1/2)

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Levels structure a game in effective subdivisions, organize progression and enhance gameplay.

## Goal

- Each level should have a set of objectives that the player understands.
  - e.g. Briefing in the form of a cut-scene or interactive tutorial.
  - Some may not be clear at first


## Flow

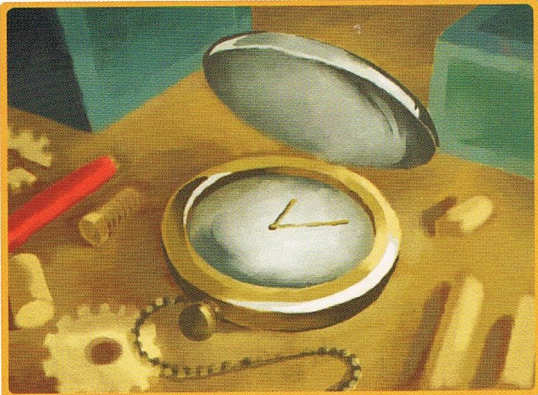
- Level layout should control the flow of the player's progress.
  - Directing the player to follow the plot of the story.

## Duration


- A player should be able to complete at least a level in each session. (15m children / 2h adults ; usually 45m console)
- Otherwise, milestones should be provided.

# The Lens of Time

**39**  **The Lens of Time**



*Illustration by Sam Yip*

 It is said that "timing is everything". Our goal as designers is to create experiences, and experiences are easily spoiled when they are too short or too long. Ask yourself these questions to make yours just the right length:

## Lens #39

**What is it that determines the length of my gameplay activities?**

**Are my players frustrated because the game ends too early, or bored because the game is too long?**

**Setting a time limit can make gameplay more exciting. Is it a good idea for my game?**

**Would a hierarchy of time structures help my game?**

# Structure (2/2)

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## Availability

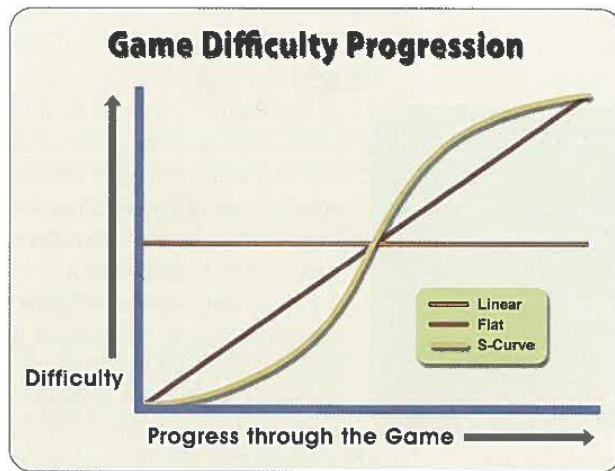
- How many levels should be included in a game?
- How many levels should be available at the same time?

## Relationship

- What are the relationships between levels?
  - Story and gameplay are intertwined.
  - Consider each level as a scene or an episode within the story.
  - Sometimes, levels are self-contained with their own internal plot line and conclusion.

## Progression

- Game difficulty progression.



# Time

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**"Game time" can move slower, faster or real time.**

## **Authentic**

- Time as part of the gameplay. (e.g. sim's)

## **Limited**

- Limited amount of time to accomplish something.

## **Variable**

- When time periods are not important time should go faster.  
(e.g. night periods)

## **Player-Adjusted**

- Time can be adjusted according to the player's wishes.  
(e.g. sports games)

## **Altered**

- Time can be altered so that the player executes tasks better.  
(e.g. slow-motion)



# Space

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**Incorporates the physical environment of the game.**

## **Scale**

- **Scale of objects can be preserved** (ex. sim's).
- **Scale exaggeration can be used in important items.**
- **Buildings can be relatively smaller in comparison to the characters** (e.g. so that roofs can be seen).

## **Boundaries**

- **Worlds can be limited / unlimited** (wrap / “infinite worlds”)

## **Realism**

- **Important in some genres** (simulation).

## **Style**

- **The style of the game should influence everything.**

## **Lighting**

- **Provides mood and visual cues** (reflections, climate, etc).

# Perspective & Camera

## POV - How the player views the game environment.

- Side-Scrolling (Flat/Side view)
- Parallax scrolling
- Aerial (Top-Down)
- Isometric
- Omnipresent (“God view”)



# The Lens of Indirect Control

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The Lens of Indirect Control



*Illustration by Cheryl Ceol*



Every designer has a vision of what they would like the players to do to have an ideal play experience. To help ensure the players do these things of their own free will, ask yourself these questions:

## Lens #72

Ideally, what would I like the players to do?

Can I set constraints to get the players to do it?

Can I set the goals to get the players to do it?

Can I design my interface to get the players to do it?

Can I use visual design to get the players to do it?

Can I use in-game characters to get the players to do it?

Can I use music or sound to get the players to do it?

Is there some other method I can use to coerce players towards ideal behavior without impinging on their feeling of freedom?

# 3D Modelling

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Creating the World in 3D.

Requires specific tools and expert technicians.

- Expensive and time-consuming.

## Procedural Modelling

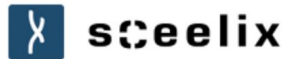
- Automatic modelling of 3D objects / environments.
  - Terrain
  - Vegetation
  - Urban environments (use GIS data for real places)
    - Buildings (exterior / interior)
    - Roads
    - Urban furniture
    - Pavements
  - Characters (+ animation)
  - ...



# Procedural Modelling



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## THE 3D SCENES PROCEDURAL ENGINE

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# Level Design Checklist

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The first step in level creation is usually outlining its design “on paper”.

Levels structure a game in effective subdivisions.

- Goal, flow, duration, availability, relationship and progression should be considered.

“Game time” can move slower, faster or real time.

- Time can be authentic, limited, variable, player-adjusted or altered.

Space incorporates the physical environment of the game.

3D modelling is a complex, expensive and time-consuming task.

- Procedural modelling can help generate 3D content.

Perspective and camera defines how the player views the game environment and influences the modelling process.

# Level Design

## Defining the stage

