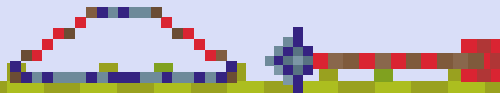
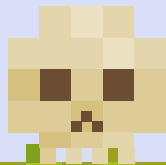




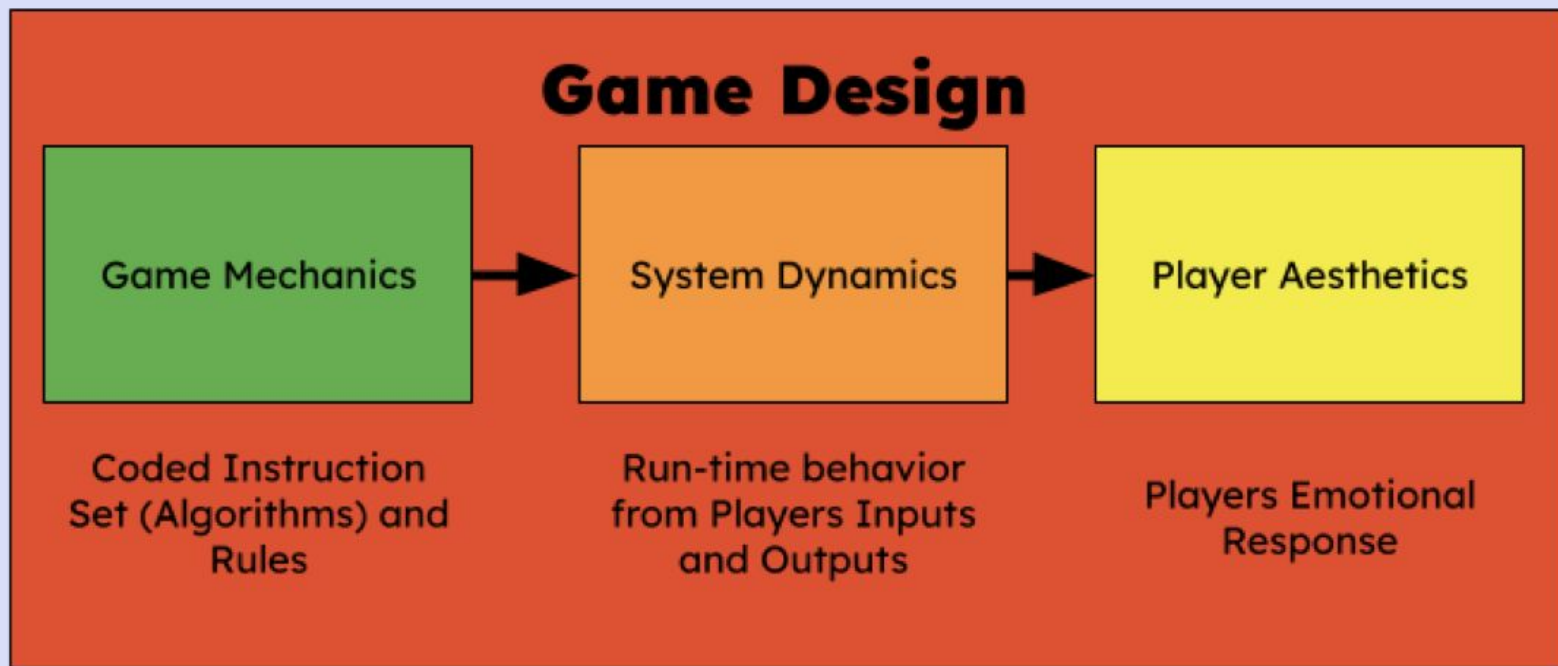
Intro to Game Design Principles

Design process and stages, Design principles, game mechanics, rules, balance, player experience,



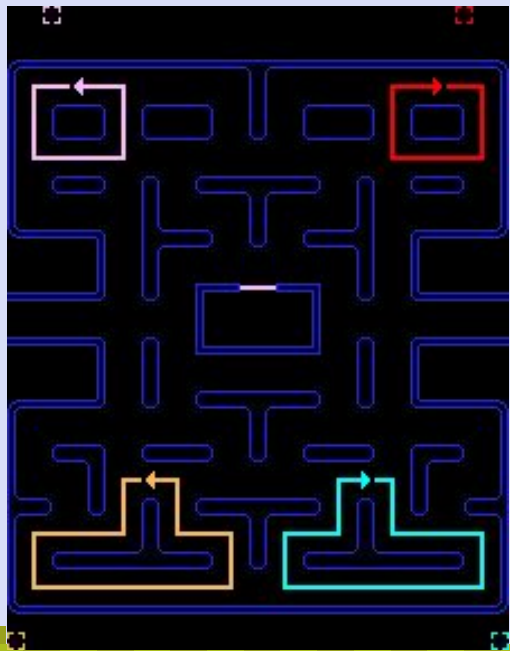


Game Design

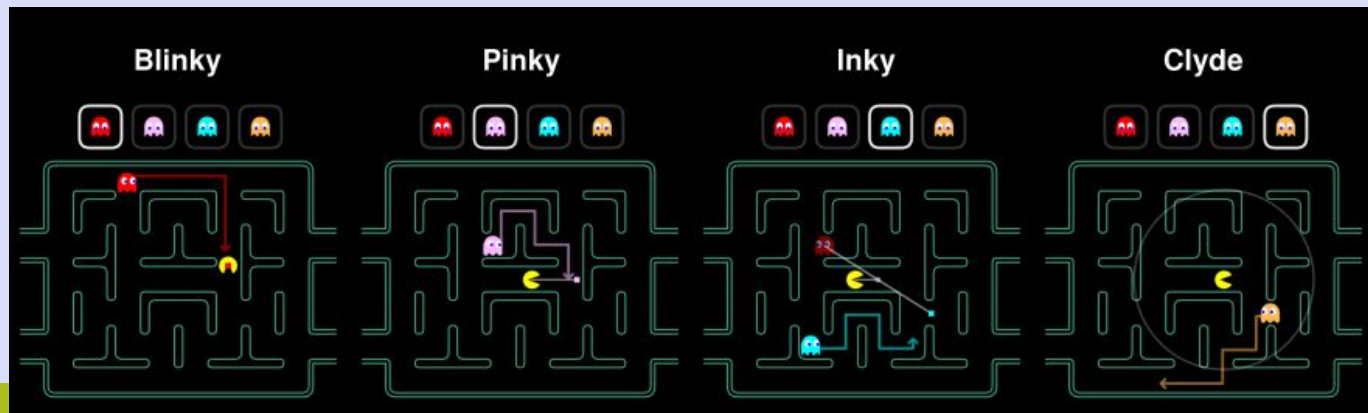




Frightened, Scatter and Chase Mode



Mode	Level 1	Levels 2–4	Levels 5+
Scatter	7	7	5
Chase	20	20	20
Scatter	7	7	5
Chase	20	20	20
Scatter	5	5	5
Chase	20	1033	1037
Scatter	5	1/60	1/60
Chase	indefinite	indefinite	indefinite





Case Study: Pac-Man

Game Mechanics

Objective: The objective of Pac-Man is to eat all the dots in a level while avoiding ghosts

Movement: Pac-Man moves through a maze by pressing the arrow keys

System Dynamics

Iterative gameplay loop: Pacman follows an iterative gameplay loop where the player moves the character through a maze to eat dots

Feedback Loops: Pac-Man has multiple feedback loops that influence the game state.

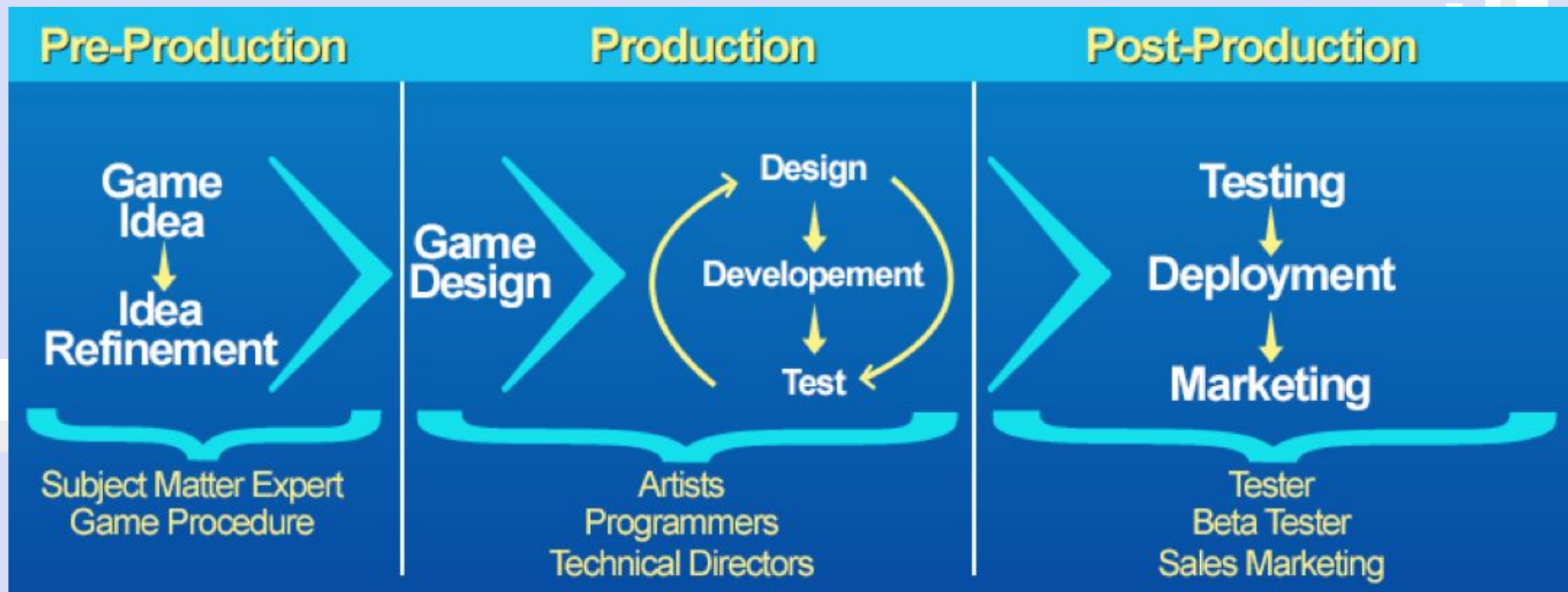
Player Aesthetics

Frustration: Pac-Man can be frustrating for players who are new struggling to clear a particular level. The difficulty curve is non-linear, and the ghost become faster and more aggressive as the player progresses, leading to frequent deaths and game overs

Euphoria: Players clear a level or eat a large number of dots or ghost experience a rush of euphoria and accomplishment

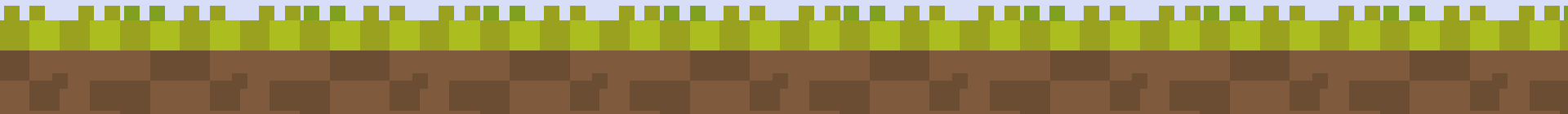
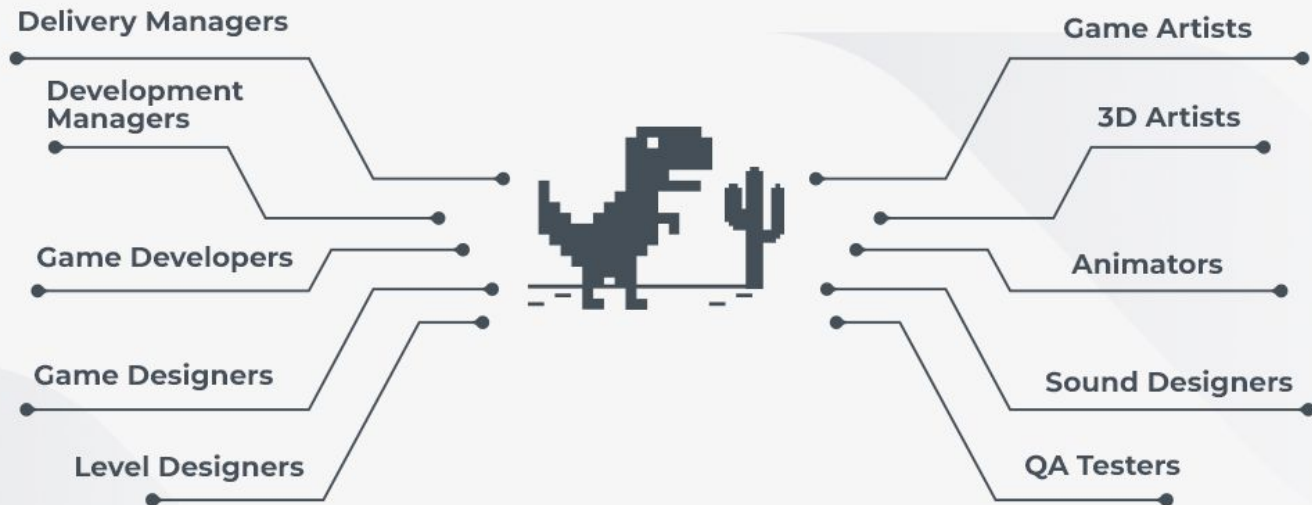


Game Design Process



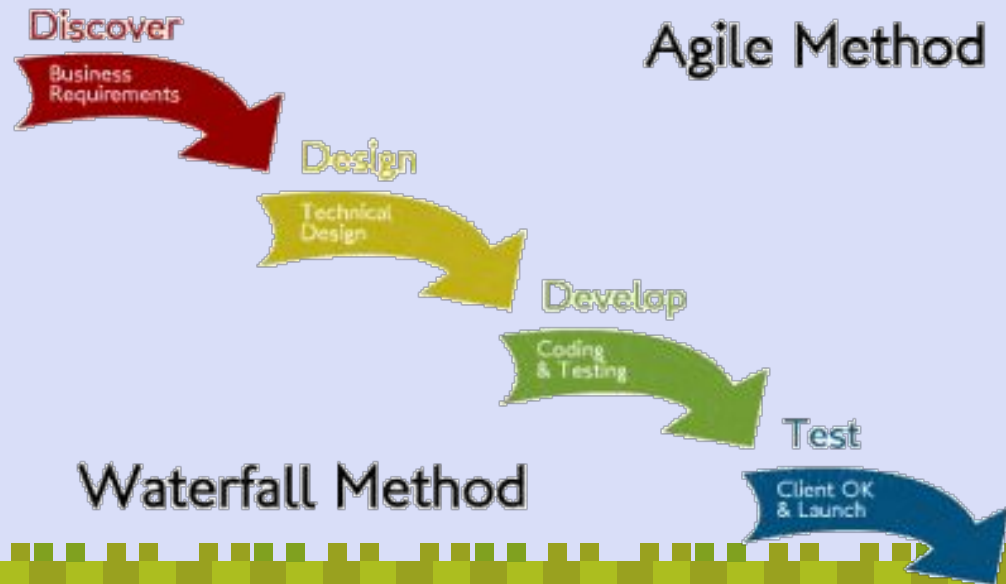


Key Roles in the Game Development

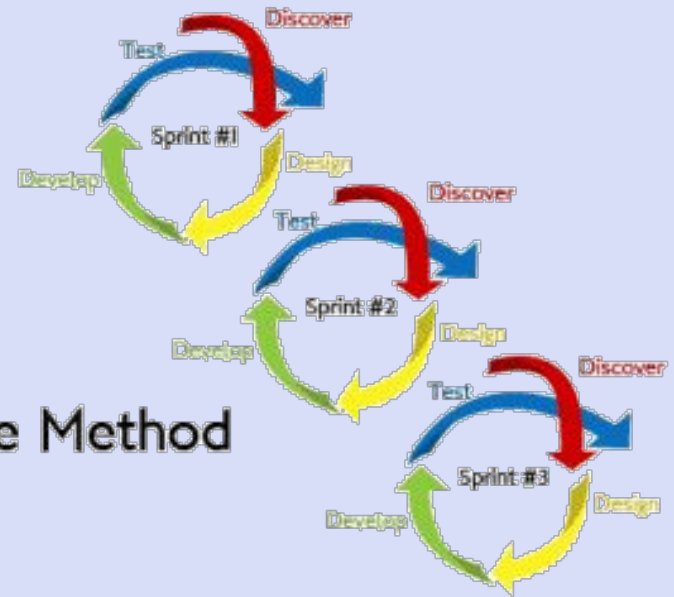




Development Methodologies



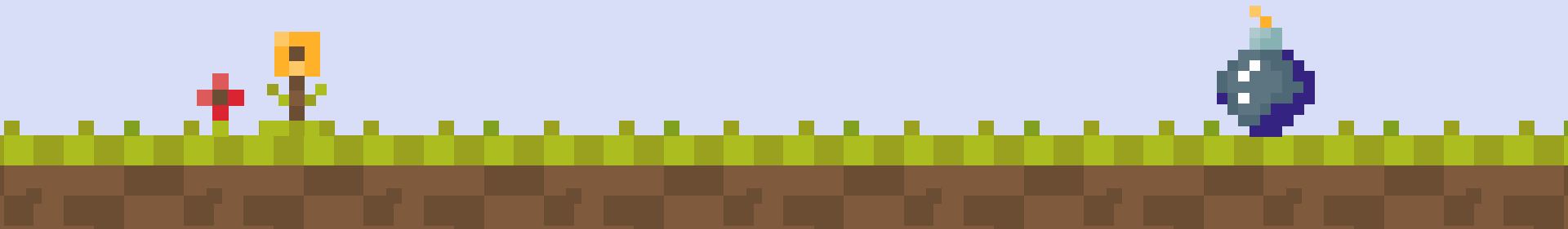
Agile Method





Game balance, player progression, and user interface design are three crucial aspects of creating successful 2D games. Each of these elements is essential in creating an engaging and fun game for players.

– ChatGPT



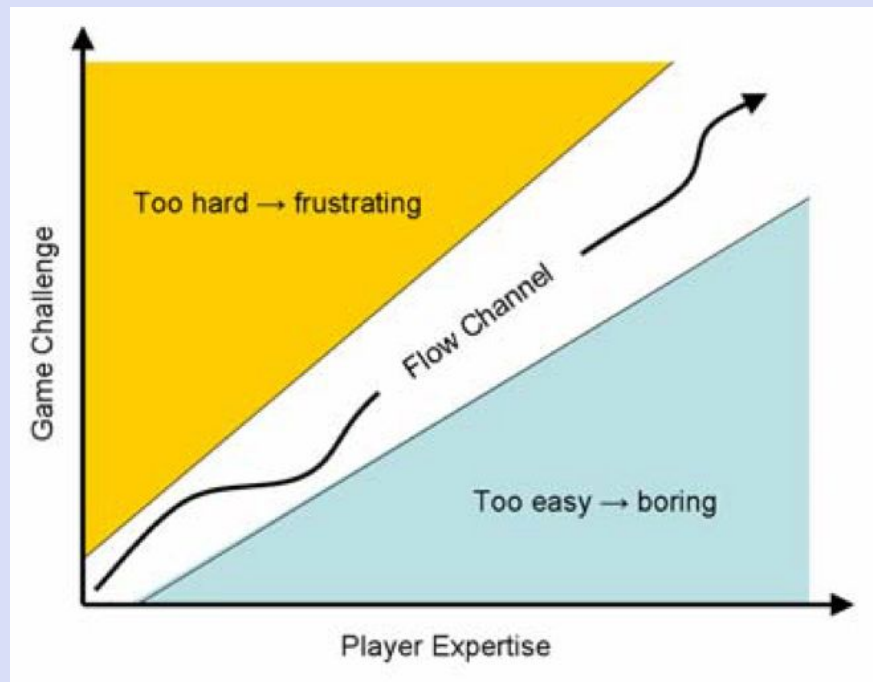


Game Balance



Game Balance

Fairness and Equality of different aspects of the game, an Imbalanced game can cause frustration for players and lead to a poor user experience

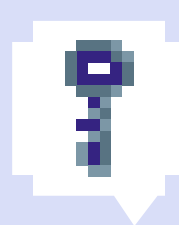




Progression Systems

Level	Bonus Symbol	Bonus Points	Pac-Man Speed	Pac-Man Dots Speed	Ghost Speed	Ghost Tunnel Speed	Elroy 1 Dots Left	Elroy 1 Speed	Elroy 2 Dots Left	Elroy 2 Speed	Fright. Pac-Man Speed	Fright Pac-Man Dots Speed	Fright Ghost Speed	Fright. Time (in sec.)	# of Flashes
1	Cherries	100	80%	~71%	75%	40%	20	80%	10	85%	90%	~79%	50%	6	5
2	Strawberry	300	90%	~79%	85%	45%	30	90%	15	95%	95%	~83%	55%	5	5
3	Peach	500	90%	~79%	85%	45%	40	90%	20	95%	95%	~83%	55%	4	5
4	Peach	500	90%	~79%	85%	45%	40	90%	20	95%	95%	~83%	55%	3	5
5	Apple	700	100%	~87%	95%	50%	40	100%	20	105%	100%	~87%	60%	2	5
6	Apple	700	100%	~87%	95%	50%	50	100%	25	105%	100%	~87%	60%	5	5
7	Grapes	1000	100%	~87%	95%	50%	50	100%	25	105%	100%	~87%	60%	2	5
8	Grapes	1000	100%	~87%	95%	50%	50	100%	25	105%	100%	~87%	60%	2	5
9	Galaxian	2000	100%	~87%	95%	50%	60	100%	30	105%	100%	~87%	60%	1	3
10	Galaxian	2000	100%	~87%	95%	50%	60	100%	30	105%	100%	~87%	60%	5	5
11	Bell	3000	100%	~87%	95%	50%	60	100%	30	105%	100%	~87%	60%	2	5
12	Bell	3000	100%	~87%	95%	50%	80	100%	40	105%	100%	~87%	60%	1	3
13	Key	5000	100%	~87%	95%	50%	80	100%	40	105%	100%	~87%	60%	1	3
14	Key	5000	100%	~87%	95%	50%	80	100%	40	105%	100%	~87%	60%	3	5
15	Key	5000	100%	~87%	95%	50%	100	100%	50	105%	100%	~87%	60%	1	3
16	Key	5000	100%	~87%	95%	50%	100	100%	50	105%	100%	~87%	60%	1	3
17	Key	5000	100%	~87%	95%	50%	100	100%	50	105%	—	—	—	—	—
18	Key	5000	100%	~87%	95%	50%	100	100%	50	105%	100%	~87%	60%	1	3
19	Key	5000	100%	~87%	95%	50%	120	100%	60	105%	—	—	—	—	—
20	Key	5000	100%	~87%	95%	50%	120	100%	60	105%	—	—	—	—	—
21+	Key	5000	90%	~79%	95%	50%	120	100%	60	105%	—	—	—	—	—

PacMan Gameplay Progression System



Progression Systems

Define how a player advances through the game, either by increasing their character's abilities or unlocking new features or content.



The **player experience** should be at the forefront of the game design process, with the game's mechanics, story, aesthetics and overall design all working together to create a cohesive and enjoyable experience for the player

– ChatGPT



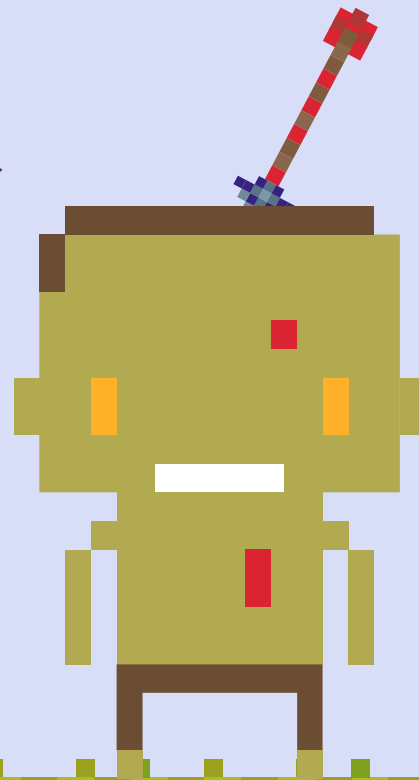


Game Mechanics

Case Study: Super Mario Bros

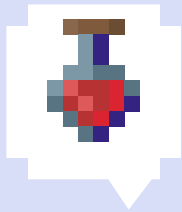
- Movement: Simple and intuitive, allowing the player to move left and right, jump, and run. Easy to learn but difficult to master, creating a sense of challenge and reward for the player.
- Power-ups: Variety of power-ups, such as mushrooms, fire flowers, and invincibility stars. These power-ups provide the player with unique abilities that enhance their movement and combat abilities, making the game more dynamic and engaging.
- Enemies: Wide range of enemies with their own unique behaviors and patterns. They create obstacles adding to the game's challenge and creating a sense of danger.
- Level design: Designed to provide the player with a sense of progression and challenge. They become progressively more difficult, requiring the player to master their movement and combat abilities.
- Sound effects and music: Enhance the player's experience and create an immersive world. They provide feedback to the player.

Classic game with effective game mechanics for engaging and memorable player experience.



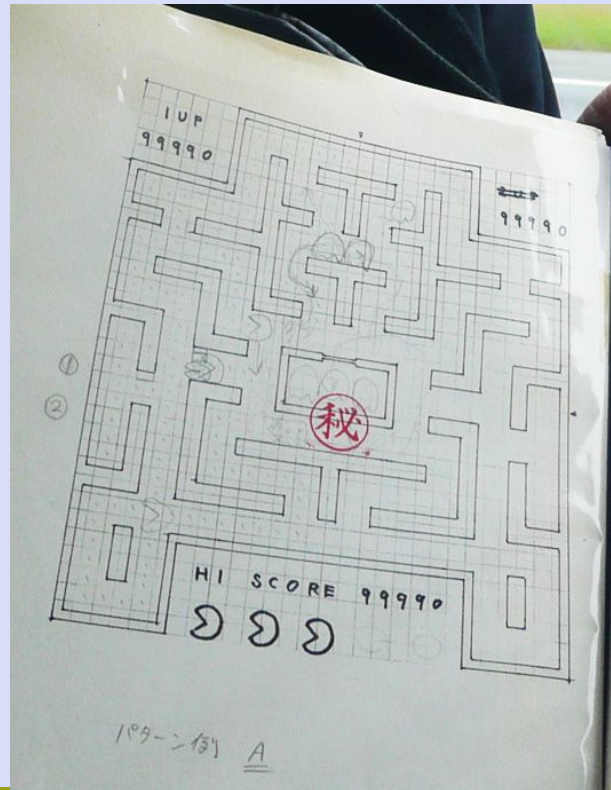


Game Design Tools



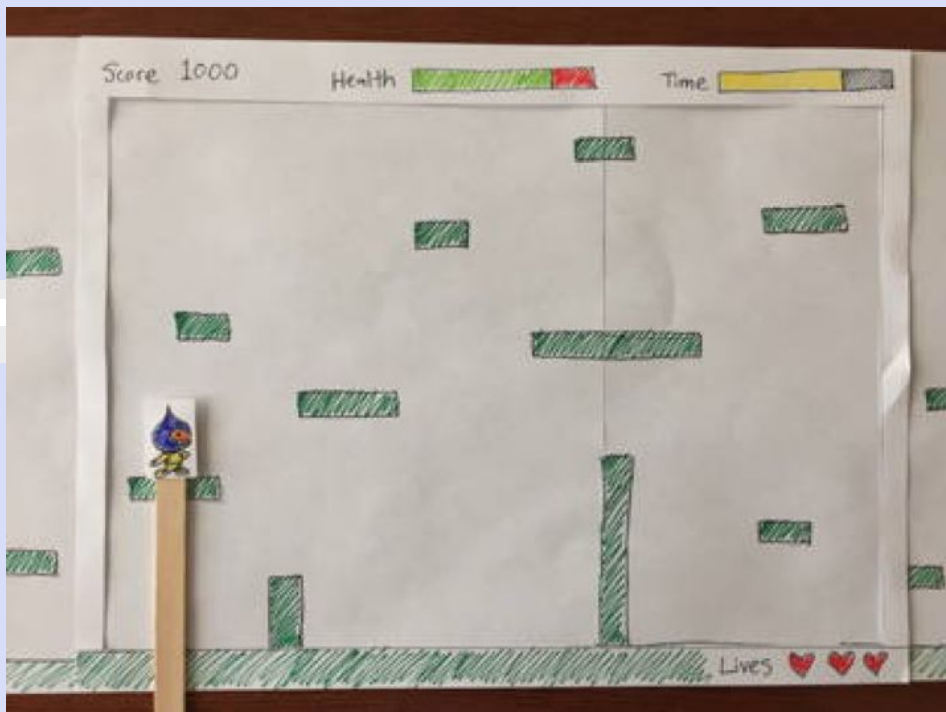
Wireframe

User-friendly interface and allow designers to quickly create a basic layout of the game's UI. these tools help designers determine the flow of the game, including how the user will navigate through menus and screens.





Game Design Tools



Prototype

Allow designers to create functional models of the game that can be tested by players. These tools often include features such as drag-and-drop interfaces, which allow designers mechanics and gameplay scenarios to see what works best



Game Design Document



Iron Sand: Heart of Darkness

Infiltrate the jungle where the Masters of World Conflict hide

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