

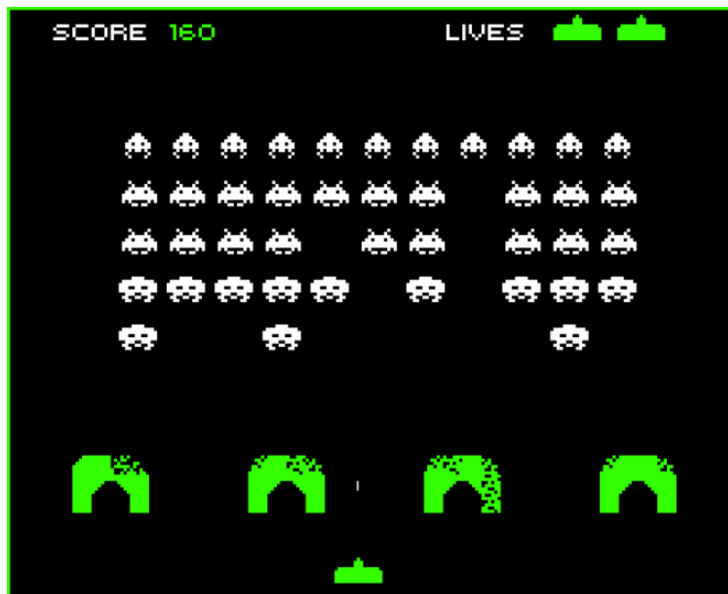
Project Update Design Document

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Date: 10/25/2022

Game: Space Invaders

Released in 1978 for platforms like Atari 2600, arcade machines, and others.



SCORE ADVANCE TABLE	
	=? MYSTERY
	=30 POINTS
	=20 POINTS
	=10 POINTS

Elements:

The most prominent elements of the game are mechanics and technology.

Mechanics because it was innovative for its time, featuring interaction with aliens, shield and bullet behavior, and the challenge of completing levels with increasing difficulty, which made the game enjoyable.

Technology because it was easy for users to play, and as one of the first games ever made, it was considered technological innovation at the time.

Types of Fun:

- **Challenge:** Because it has difficulty and complexity.
- **Flow:** Because it requires concentration.
- **Achievement:** Because you can reach far and play for the highest score.

Space:

- Continuous: Even though the ship only moves horizontally, it can move across all the pixels in that direction.
- 2D Dimension

Time:

Time is determined by the invading ships that descend; if they reach the ground, the game ends, which makes it more interesting.

Objects:

- Aliens: They descend throughout the level and die if shot.
- The ship has a weapon, shooting one bullet at a time, and dies if shot.
- The map has shields that gradually degrade when hit by enemy fire.
- Extra alien ship: Occasionally, a ship appears above the screen; if shot, it gives extra points.

Secrets:

There are no secrets in the game.

Actions:

- The ship can move left or right.
- It can shoot in one direction, one bullet at a time.
- It can take cover behind shields.
- Strategic actions: take cover, shoot, take cover, and don't miss.

Rules:

- 1 or 2 players can play in a single game mode.
- Levels increase in difficulty progressively.
- All aliens must be shot.
- Avoid enemy bullets.
- Don't let the enemies reach the ground.
- Score as many points as possible.

Skills:

The game requires mental skills, strong concentration, hand-eye coordination, patience, observation, and attention.

Probabilities:

Extra alien ship: Occasionally, a ship appears above the screen; if shot, it gives extra points, but the amount is a mystery.

Shooting the extra ship may pose a risk to the player.

Space Invaders 2023

Improvements:

- Improve the graphics of the ship and aliens.
- Enhance shooting and movement animations.
- Add a new type of fun.
- Add a new object: machine gun, different shooting methods (with penalties).
- New rules.
- Ability to play online multiplayer.
- Ability to play cooperatively.
- Ability to play speedrun mode (speed).
- Ability to play tryhard mode (survival).
- Ability to share the high score.
- Improve compatibility with consoles and platforms.
- Maintain the essence of the game.

Elements:

The most prominent elements of the game would be mechanics, aesthetics, and story.

- **Mechanics:** For all the gameplay options implemented and ease of control.
- **Aesthetics:** For the improvement in graphics and animations.
- **Story:** For the nostalgia.

Types of Fun:

The essence of the game is maintained, with one more added:

- **Challenge:** Because it has difficulty and complexity.
- **Flow:** Because it requires concentration.
- **Achievement:** Because you can reach far and play for the highest score.
- **Risk:** Because some game modes cause adrenaline.

Space:

No changes, in any game mode.

- **Continuous:** Even though the ship only moves horizontally, it can move across all the pixels in that direction.

Time:

The essence of the game is preserved; time ends when the invading ships touch the ground.

In other game modes, time may vary.

- **In speedrun mode:** A timer is added, ending when all ships are eliminated.
- **In tryhard mode:** A timer is added, ending when the player dies or when an alien ship reaches the ground.

Objects:

- A new object is added: machine gun, which is another shooting option, allowing up to 3 bullets to be fired simultaneously.
- When using the machine gun, there is a penalty, and the aliens move and descend faster.
- Bomb: Part of the secrets.

Secrets:

There is an atomic bomb that would be automatically triggered, eliminating all aliens on the screen at that level if the player manages to kill 15 aliens without missing a shot.

There is no way to cheat in the game.

Actions:

- The ship can move left or right.
- It can shoot in one direction.
- It can shoot one bullet at a time or use a machine gun.
- It can take cover behind shields.
- Use the machine gun at the start of the game or in emergencies.
- Strategic actions: take cover, shoot, take cover.
- Strategic actions: don't miss a shot.
- Strategic actions: Depending on the game mode, strategies can include coordinating with your partner, being fast, or being cautious.

Rules:

Normal / Online:

- 1 player can play.
- Levels increase in difficulty progressively.
- All aliens must be shot.
- Avoid enemy bullets.
- Don't let the enemies reach the ground.
- Score as many points as possible for the high score.

Offline Multiplayer:

- 2 players can play.
- Local game.
- Same rules apply.

Online Multiplayer:

- 2 players can play.
- Can play with friends online.
- Same rules apply.

Cooperative:

- 2 players play together.
- Both fight against the aliens as a team.
- If one dies, they revive at the next level.
- Same rules apply.

SpeedRun:

- 1 or 2 players can play, normal or split-screen.
- Can play with friends online.
- The goal is to kill the aliens as quickly as possible.
- Same rules apply.

TryHard:

- 1 player plays.
- The goal is to survive as long as possible; it's a single level where infinite and highly difficult aliens appear.
- Same rules apply.

Skills:

The game requires mental skills, strong concentration, hand-eye coordination, patience, observation, and attention. Additionally, depending on the game mode, it may require speed and quick reflexes.

Probabilities:

Occasionally, an alien ship appears above the screen; if shot, it gives extra points, but the amount is a mystery. However, if the shot misses, a penalty of reduced points is applied.

This adds risk for the player and makes the player's decision-making opportunities more interesting.