

# Game Design Document (GDD)

- 1) Game name: **SpaceX Patrol**
  - a) Developed by: Group 10 at Game Dev School (GDS)
  - b) GDD author: Marcin Jagielak
- 2) Overview of the game:
  - a) Game concept:
    - i) SpaceX Patrol is a classic 2D arcade game, remake of "Moon Patrol" released in 1982
  - b) Genre: Scrolling shooter
- 3) Elements of the world:
  - a) Grid
  - b) Indestructible world elements
  - c) Destructible world elements
  - d) Enemies
- 4) Mechanics:
  - a) Movement:
    - i) When player takes control, the vehicle never stops.
    - ii) Player can speed up or slow down the car.
    - iii) Player can jump.
    - iv) Wheels of the vehicle always stick to uneven ground but the body of the car stays in the straight line.
  - b) Camera:
    - i) Camera is following the vehicle all the time.
    - ii) Vehicle can only reach middle of the screen when at full speed.
    - iii) Camera speed adjust to vehicle speed.
  - c) Combat:
    - i) Vehicle Combat:
      - (1) Vehicle has two cannons. One is shooting up, and second is shooting straight.
      - (2) Player shoots both cannons at the same time with one press of a button.
      - (3) Cannon that is shooting up can fire multiple times. But cannon that shoots straight can only fire one shot until projectile hits target or gets out of range.
      - (4) Every enemy and obstacle can be destroyed with one shot of each cannon.
      - (5) Players vehicle projectiles can destroy enemy rockets and projectiles.
      - (6) Player can jump over obstacles and enemies.
      - (7) Every enemy and obstacle can be destroyed by one projectile from players vehicle.
      - (8) Players projectiles follow the speed of a vehicle.
    - ii) Enemies and obstacles:
      - (1) Flying enemies:
        - (a) UFO: Flies above players vehicle, drops down rockets, ship and rockets can be destroyed, if player won't destroy ship in time, it will fly into player vehicle.
        - (b) UFO with double rockets: Flies above players vehicle, drops down rockets, ship and rockets can be destroyed, if player won't destroy ship in time, it will fly into player vehicle.

- (c) UFO Triangle: Flies above players vehicle, drops down projectiles which create hole in the ground, projectile and rockets can be destroyed, if player won't destroy ship in time, it will fly out of the map.
- (2) Ground enemies:
  - (a) Tank: Static object, shoots projectiles, projectiles can be destroyed.
- (3) Obstacles:
  - (a) Hole in the ground: Static object, some enemies can create in random position, player dies when he drops down into the hole.
  - (b) Rocks: Static object, player dies when he comes to contact with the rock, can be destroyed, there are three sizes of the rocks: Small, Medium, Large.
  - (c) Mines: Static object, player dies when he comes to contact with the mine, cannot be destroyed.
  - (d) Rolling rocks: Moving object, player dies when he comes into contact with rolling rock, can be destroyed, there are two sizes of rolling rocks: Small and Large.
- (4) Death:
  - (a) When player dies, he respawns in the nearest checkpoint.
  - (b) When player dies and respawns, the timer continues to count.
  - (c) Player at the beginning starts the game with two lives.
  - (d) When player dies he loses one on his lives but keeps the Score.
  - (e) When player dies and doesn't have any lives left, then he respawns in the nearest checkpoint and loses his Score.
- d) Score:
  - i) The game keeps track of the players actions and rewards it with points:
    - (1) Jumping over a Hole: +50 points.
    - (2) Destroying Large and Medium rock: +100 points.
    - (3) Jumping over a Large and Medium Rock: +80 points.
    - (4) Jumping over a Small Rock: +50 points.
    - (5) Destroying every type of UFO: +100 points. Rockets dropped by the ship don't reward player with points.
    - (6) Jumping over a Mines: +50 points.
    - (7) Destroying Small and Large Rolling Rock: +50 points.
    - (8) Destroying Tank: +100 points.
  - ii) When player reaches summarize checkpoint, he is granted with +1000 points.
  - iii) Every summarize checkpoint has a specified time in which player must complete the level in order to gain additional points. Every second, when player reaches the checkpoint faster, then set time is granted with +100 points.
  - iv) Times set in the checkpoints:
    - (1) Point E: 80 seconds.
    - (2) Point J: 80 seconds.
    - (3) Point O: 100 seconds.
    - (4) Point T: 100 seconds.
    - (5) Point Z: 100 seconds.
- 5) Levels:
  - a) Game contains one out of four levels of the original game.
  - b) Each level contains of checkpoints which are numbered alphabetically A-Z.
  - c) On checkpoints E,J,O,T,Z game summarizes your progress.

- 6) Interface:
  - a) Main menu:
    - i) Start the game
    - ii) Credits
    - iii) Exit
  - b) In game UI:
    - i) Highest reached Score
    - ii) Score counter
    - iii) Players current checkpoint
    - iv) Time counter
    - v) Line with checkpoints
    - vi) Lives counter