Tanx Design Proposal

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Game Overview:

1. Describe the game

Tanx is a hotseat multiplayer game in which players take turns controlling one of their tanks, moving it across the battlefield and making an attack. There are multiple weapons and abilities at the players' disposal. Whomever is the last player with living tanks is the winner.

2. What's the genre? What's the camera position?

Tanx is a strategy game. The game takes place on a 2D plane with the active player being able to manually take control of the camera, allowing them to view the battlefield at their leisure. When the camera is not under manual control, it automatically tracks the active tank or projectile.

3. How will the game be played? What is the player's objective?

The players take turns controlling one of their own tanks. Each turn they control a different tank and it changes sequentially. The current player can control the pitch of the cannon and shoot it. There will be a one shot per turn restriction. Players can cycle through different attacks using the keyboard. There will be power ups throughout the Battlefield that are gained by colliding with them.

4. Visual Entities

- Tanks
  - Cannon/Active Weapon
- Battlefield
  - Tiles that make up the battlefield
- Projectiles
  - Cannonball - Explode on impact
  - Bouncing grenade - Bounces off terrain until it expires and explodes
  - Flamethrower - Long range fire stream that is affected by gravity and leaves temporary fires on the terrain and entities.
  - Ice Bomb - Explodes leaving ice on terrain
- Environmental hazards
  - Fire
  - Birds
  - Ice
- Power-Ups

5. What types of interactions are possible?

- Tanks
  - Tanks produce projectiles.
  - Tanks have a jet-pack.
- Battlefield
  - The Battlefield determines how the tanks must navigate.
- Projectiles
  - Projectiles dealt damage to tanks.
  - Some projectiles destroy terrain.
  - Projectiles may add environmental hazards.

6. What makes this idea interesting, or why do you think this will be fun?

There is a lot of room to add more weapons, abilities, and features once the base set of game features is created. A project with lots of room to grow interests us as developers. We think that our players will have fun experimenting with all of the different weapons and abilities provided to them.

Development Strategy:

Starting Point:

We plan to start with a scaffold based on the "Mummy Madness." We also have some code related to projectiles that we will reference as we implement similar projectiles.

We plan to have a demo featuring a player controlled tank capable of moving and firing completed by the lab session on November 20.

Milestones:

- Milestone 1 - November 20
  - Physics Objects - 2 People
    - Tank
      - Moving
      - Firing
    - Basic Projectile
  - Flat Terrain - 1 Person
    - Indestructible at this stage
  - Camera - 1 Person
  - Basic Sprites - Whomever has time

- Milestone 2 - November 27
  - Tank v2 - 1 Person
    - Jumping
    - Moving up Slopes
  - Dynamic Terrain - 1 Person
    - Destructible
    - Stage Design
  - Gameplay Loop - 1 Person
    - Timed Turns
    - 2-Player Gameplay
  - Weapon Selection - 1 Person
  - Powerup System - Whomever has time
    - Powerup Spawning

- Milestone 3 - December 4
  - Powerup Design - 3-4 People
    - Weapons
    - Movement Abilities
    - Terrain Types
  - Physics Objects???
  - Options Menu - 1 Person

- Final Product - December 9
  - Bug Fixing
  - Balancing
  - Art Polishing
  - Overflow

High Bar:

- Complex Art
  - Polished sprites that change based on the state of entities.
- Birds
  - Entities that fly fixed paths that will be an obstacle for projectiles.
- Comprehensive Weapon-Selection UI
  - A snazzy looking menu that shows all of the player's current weapons at their disposal
- Diverse Game Options Menu
  - The ability to remove certain power ups or abilities prior to a match

Low Bar Checklist:

- Player Controlled Tanks
  - Players will be able to move their tanks during their turns. This will be most likely achieved with the wasd keys
- World Scrolling
  - The camera will automatically track the active entity, but the player will have the option to take manual control.
- Turn System
  - Players will have a time limit for their turn and their turn will end when they either run out of time or fire a shot. After the shot is resolved, the turn will switch over to the other player.
- Gravity for objects
  - Tanks and projectiles will be affected by gravity.
- Destructible Terrain
  - Certain projectiles or items can affect and interact with the environment, creating "pockets" or removing chunks of material from the playspace.
- Terrain Types
  - There will be multiple types of terrain that have different effects on movement and status of the tanks.
- Powerups
  - Weapons
    - There will be multiple weapons that the player can pick up and use, each with unique effects.
  - Movement Abilities
    - There will be multiple tools that the player can pick up and use to enhance their movement options.
- Art
  - Visual entities will be represented by sprites.

Draft Complexity Rubric:

- Multiplayer(10 points)
    - Hot seat turn based multiplayer
- Scrolling World (20 points)
    - Player controlled world scrolling and camera following the shot
- Gravity (30 points)
    - Projectiles and players will be influenced by gravity
- Realtime Elements (15 points)
    - World will remain in full motion during the player's turn. Objects under the effects of gravity and being interacted with will respond accordingly.
- Complex Power Ups (20 points)
    - A variety of weapons and abilities that the players can pick up to add to their arsenal.
- Rich Behavior (20 points)
    - Destructible terrain and environmental hazards create a rich gameplay experience.
    - Grid of terrain. Just destroy them.
- Moderate Art and Animations (10 points)
    - Sprites for tanks, the battlefield, projectiles, and environmental hazards.

Total Points Projection: 125