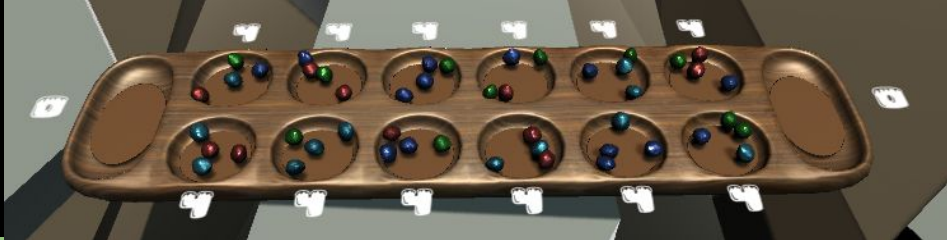# AI-Valanche

It's Snow Joke

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Gameplay

- Genre: Strategy game (RTS), Player vs AI
  - Player moves seeds from their pits to get seeds in their store
    - Seeds move counter-clockwise around the board
    - Avalanche Version: If last seed lands in non-empty pit, picks up those seeds and continues until last seed ends in empty pit
    - AI functions the same as the player (moves seeds)
  - Goal: have the most seeds in your store
  - There are 6 pits on each side of the board
    - Pits each start with 4 seeds in them
  - Game ends when there are no more seeds in the pits
  - UI
    - Numbers next to each pit to indicate the amount of seeds in there
    - Score: Number next to store
  - Sound - christmas/winter
    - FX: seed drops, winning, losing, extra turn

AI

- Opponent AI
  - Minimax with Alpha-Beta Pruning
  - Heuristic:
    - Difference in score
      - Max - Min
      - Will take into account repeat turns

Source for different heuristics: https://github.com/tmhdgsn/mancmancala#

Resources

Assets:
- Mancala Board: https://assetstore.unity.com/packages/templates/mancala-lite-23923
- Stones: https://ejgarner118.itch.io/mancala-asset-pack
- Skybox: https://assetstore.unity.com/packages/2d/textures-materials/sky/customizable-skybox-174576
- Winter Village: https://assetstore.unity.com/packages/3d/environments/landscapes/flatpoly-winter-village-51544
- Penguin Arm: https://assetstore.unity.com/packages/3d/props/food/free-casual-food-pack-mobile-vr-85884
- Penguins: https://assetstore.unity.com/packages/templates/tutorials/dyp-the-penguin-174519
- Font: https://www.dafont.com/iceberg.font?text=AI-valanche&back=theme
- Stone Drop SFX: https://pixabay.com/sound-effects/search/shooting-sound/
- Background Music: https://pixabay.com/music/search/snowflakes/

Tutorials:
- First Person Camera in Unity

Timeline

- 10/4   Beta: different screens (main menu, pause menu, level select), complete AI, playable demo
- 10/11 Release: peers can play completed game with full sound effects and non-buggy AI

Alpha Demo

https://play.unity.com/mg/other/webgl-builds-372040

Kind of janky on mobile but it works