Alpha Release Soaper Duck

Sahin Er

Wacken (Sebastian Walchshäusl)

Albert Zach

Marco Grasso

Recap: Endless Runner

- 2.5D bathroom world

- Track procedurally generated

- Main theme revolves around sliding on soap and water mechanics

Improved track generation

- Multiple trackparts spawned in the beginning
- New pieces spawned in and old pieces removed when player enters new parts with a FIFO queue
- Problem: Tracks spawn into each other because of bend
  - Check if tracks would collide and chose another in that case
- Solution: Remember if a left or right turn has been spawned last

Models

- Hairdryer
- Toothbrush
- Duck + Soap
- Soap dispenser
- Toothpaste

Objects

- Static obstacles : cups, toothbrush
- dynamics obstacle : hairbrush pendels
- translocation objects : hair dryers, ramps
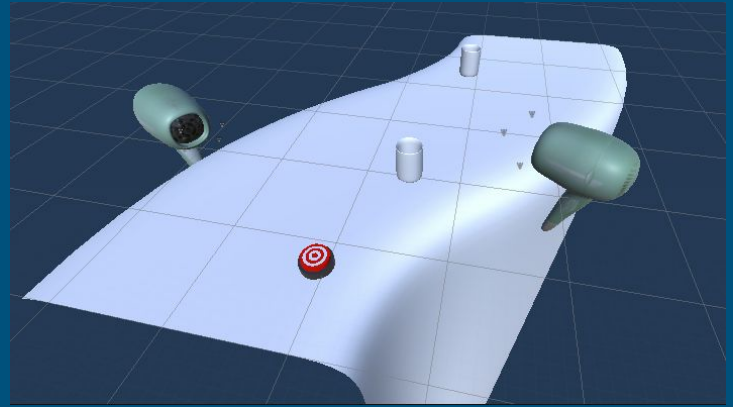- other objects : faucet for refilling

Obstacles had to be resized to fit the new tracks

Track Parts

- Straight paths and curves
- each part is a mini challenges
- Using a few obstacles and power ups per part
- Multiple track pieces together for longer challenges
- Leave space to make track possible, even with higher speed
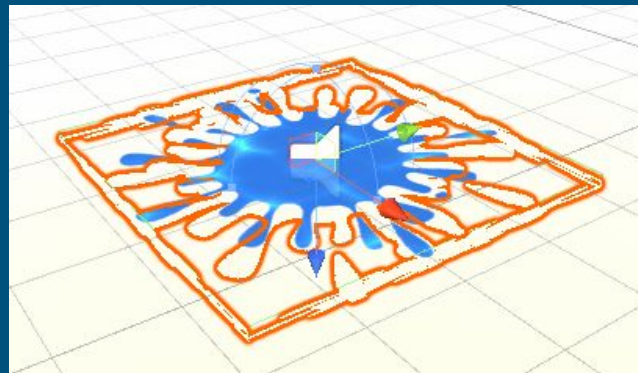
Improved Water shooting

- **Old approach problems:**
  - Splashes don't work on disjointed uv edges.
  - If its UVs overlap, the splashes appear in multiple places on an object.
  - Splash size is tied to object scale.
  - Splashes don't wrap around edges.
  - Raycast can only hit one object at a time, so splashes can't cover multiple objects that are close together.
- **New approach:**
  - Unity Decal Projector
    - Cube that references a texture
    - Put projector onto the track part
    - Projects texture onto the model
  - Works on uv edges
  - Texture only appears at cube position
  - Fixed splash size

Improved Water shooting

- New targeting approach
  - Use raycast to get hitPoint with track
  - Use math to calculate arc from spawnPoint to hitPoint
  - Crosshair at the hitPoint for better visuals
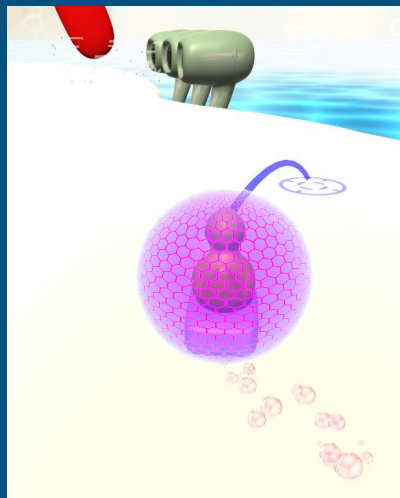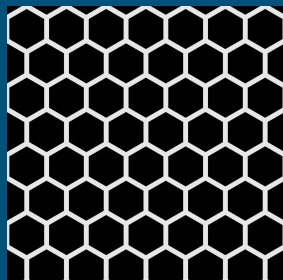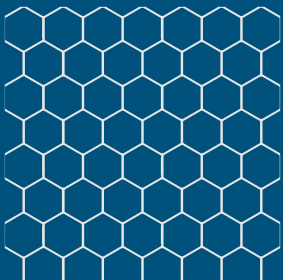 - Unity LineRender to draw blue arc
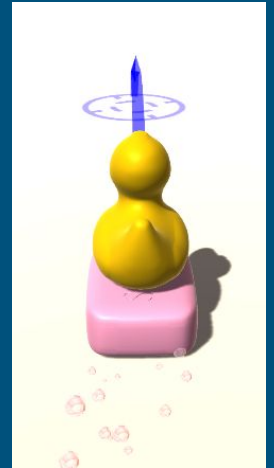
Gameplay GUI

- Water counter

- Speedometer

- Highscore

  - Highscore is saved

    in JSON-File

Power Ups

- Water refill power up
- Shield power up (shader)
  - Base texture
  - Emission texture
  - Fresnel effect

Challenges during development

- Track generation
  - Collision of the track within itself
- Water shooting
  - Problems with first approach at track edges
  - Projectiles to slow → removed them
  - Decal Projector still doesn't wrap around edges
- Slippery mechanic
  - Changed to to wheel based driving

Live demo