Details about the 12 Published Novelties

Description of the Novelties

Level 1

- Type 1: new block type with increased linear drag (value 25) and all the other parameters are same as wood blocks (original linear drag of wood blocks is 1).
- Type 2: new block type with doubled score compared to the wood blocks; all the other parameters are same as wood blocks.
- Type 3: new block type with tripled health points compared to ice blocks; all the other parameters are same as ice blocks.
- Type 4: new bird type looks like dark pigs; only the appearance is changed; all the other parameters are same as red birds.
- Type 5: new pig type; only the appearance is changed; all the other parameters are same as small pigs.

Level 2

- Type 1: red bird's bounciness changed to 0.9 (original bounciness of red bird is 0.3); all the other parameters are unchanged.
- Type 2: red bird's linear drag changed to 0.2 (original linear drag of red bird is 0); all the other parameters are unchanged.
- Type 3: health points of wood blocks tripled; all the other parameters are unchanged.
- Type 4: score points of wood blocks doubled; all the other parameters are unchanged.
- Type 5: linear drag of wood blocks changed to 25 (original linear drag of wood blocks is 1); all the other parameters are unchanged.

Level 3

- Type 1: grayscale the colours in screenshot and ground truth representation.
- Type 2: rotate the screenshot and ground truth by 180 degree against the centre point (420, 240) of the image.

Locations of the Parameters Changed for the Novelties (Level 1 and Level 2)

Level 1

- Type 1: 'Linear Drag' parameter in the 'Rigidbody 2D' component of the Prefabs in the 'Assets\Resources\Prefabs\GameWorld\Blocks' folder. 'Color' parameter of the prefab in the 'Sprite Renderer' component for changing the colour.
- Type 2: 'Points' parameter in the 'AB Block' component of the Prefabs in the 'Assets\Resources\Prefabs\GameWorld\Blocks' folder. 'Color' parameter of the prefab in the 'Sprite Renderer' component for changing the colour.
- Type 3: 'Life' parameter in the 'AB Block' component of the Prefabs in the 'Assets\Resources\Prefabs\GameWorld\Blocks' folder. 'Color' parameter of the prefab in the 'Sprite Renderer' component for changing the colour.

- Type 4: 'BasicSmall' Prefab in 'Assets\Resources\Prefabs\GameWorld\Characters\Pigs'.
 'Color' parameter of the prefab in the 'Sprite Renderer' component for changing the colour
- Type 5: 'BasicSmall' Prefab in 'Assets\Resources\Prefabs\GameWorld\Characters\Pigs'.
  'Color' parameter of the prefab in the 'Sprite Renderer' component for changing the colour

Level 2

- Type 1: 'Bounciness' parameter of the 'RedBird' material in the 'Assets\Resources\Materials' folder.
- Type 2: 'Linear Drag' parameter of the 'RedBird' prefab in the 'Assets\Resources\Prefabs\GameWorld\Characters\Birds' folder.
- Type 3: '_Life' parameter of the Assets\Scripts\GameWorld\ABBlock.cs script (line 62).
- Type 4: 'Points' parameter in the 'AB Block' component of the Prefabs in the 'Assets\Resources\Prefabs\GameWorld\Blocks' folder.
- Type 5: 'Linear Drag' parameter in the 'Rigidbody 2D' component of the Prefabs in the 'Assets\Resources\Prefabs\GameWorld\Blocks' folder.
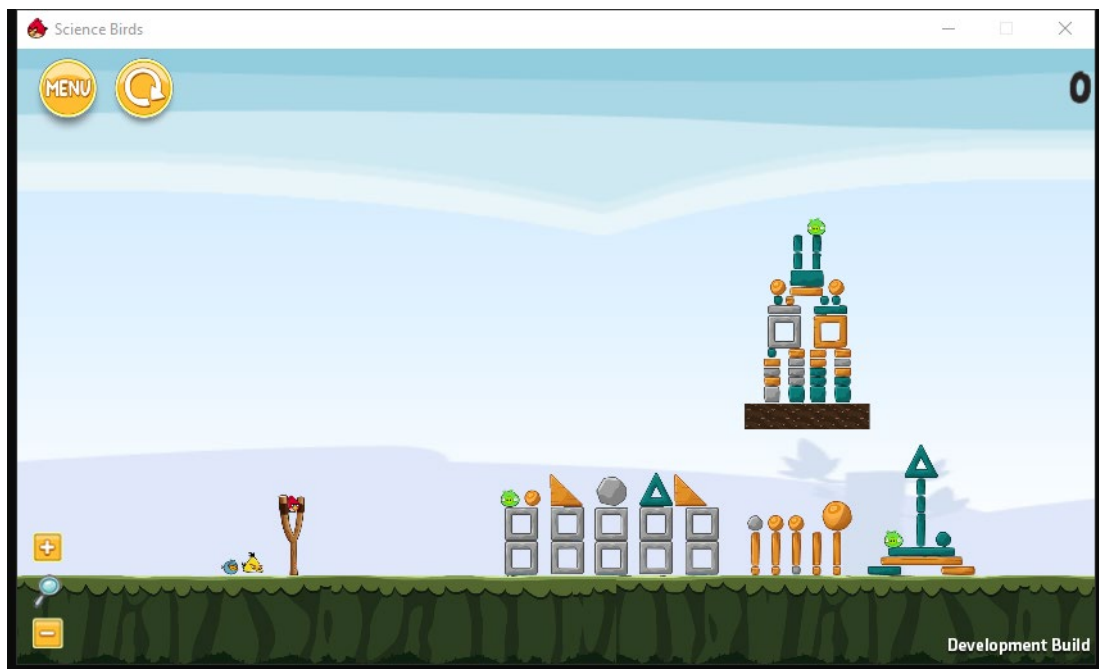
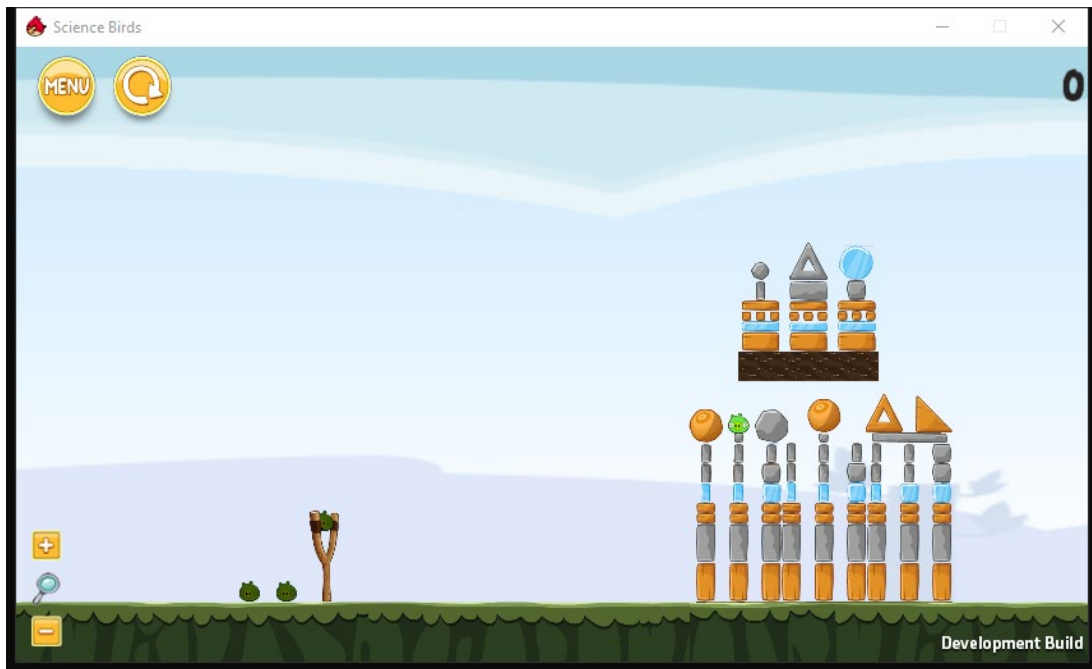**Screenshots of visible novelties (Level 1 and Level 3)**
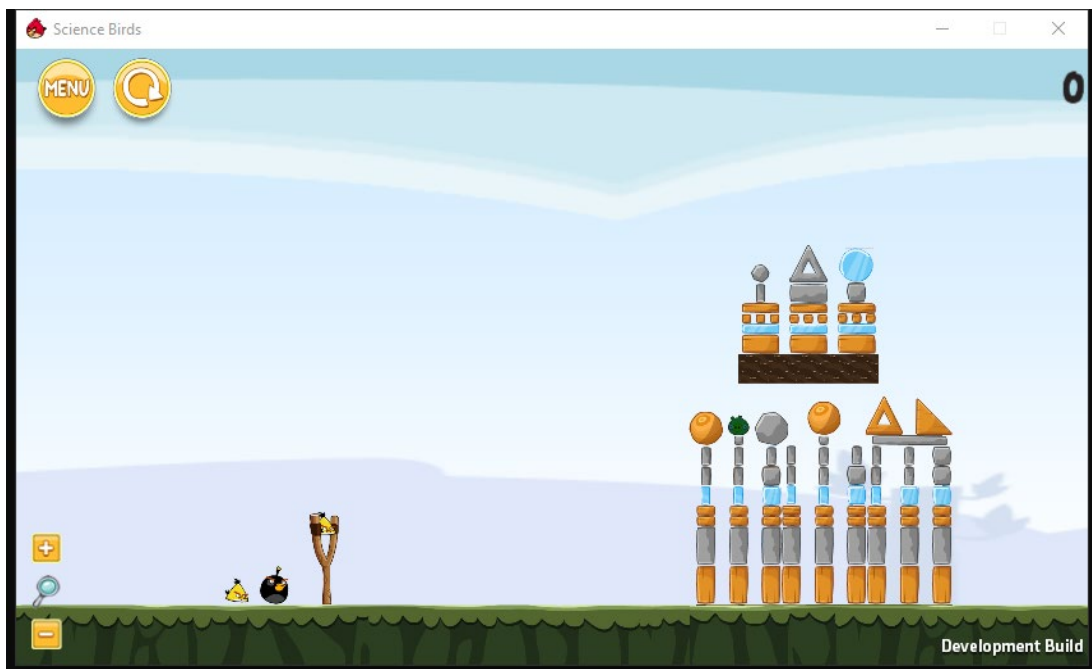

Screenshot 1: Level 1 Type 1
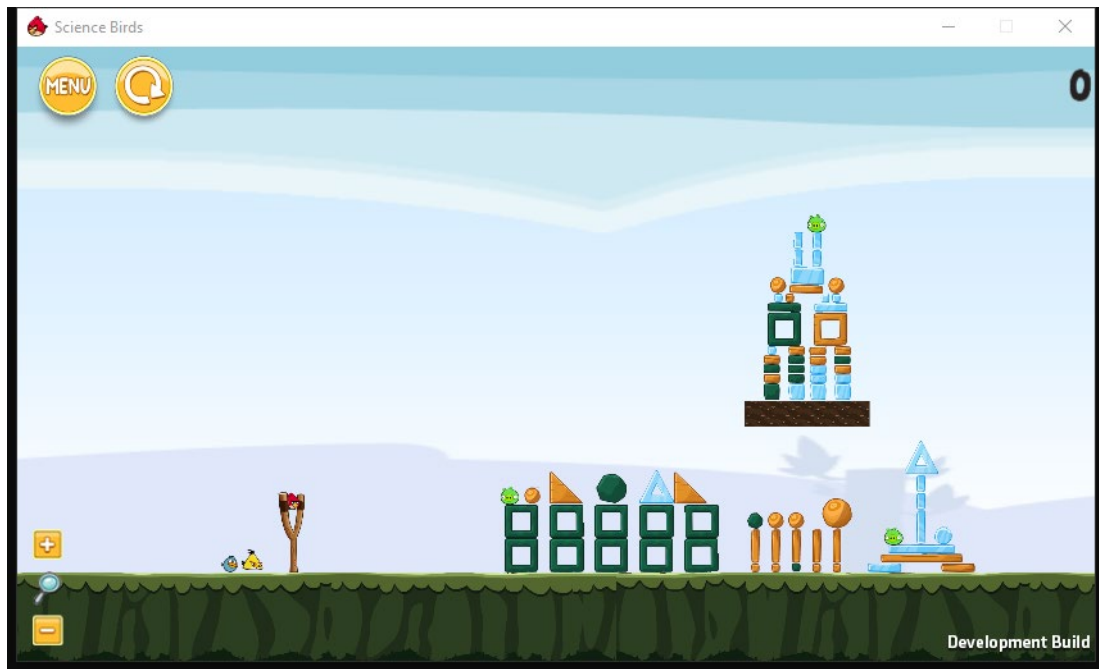
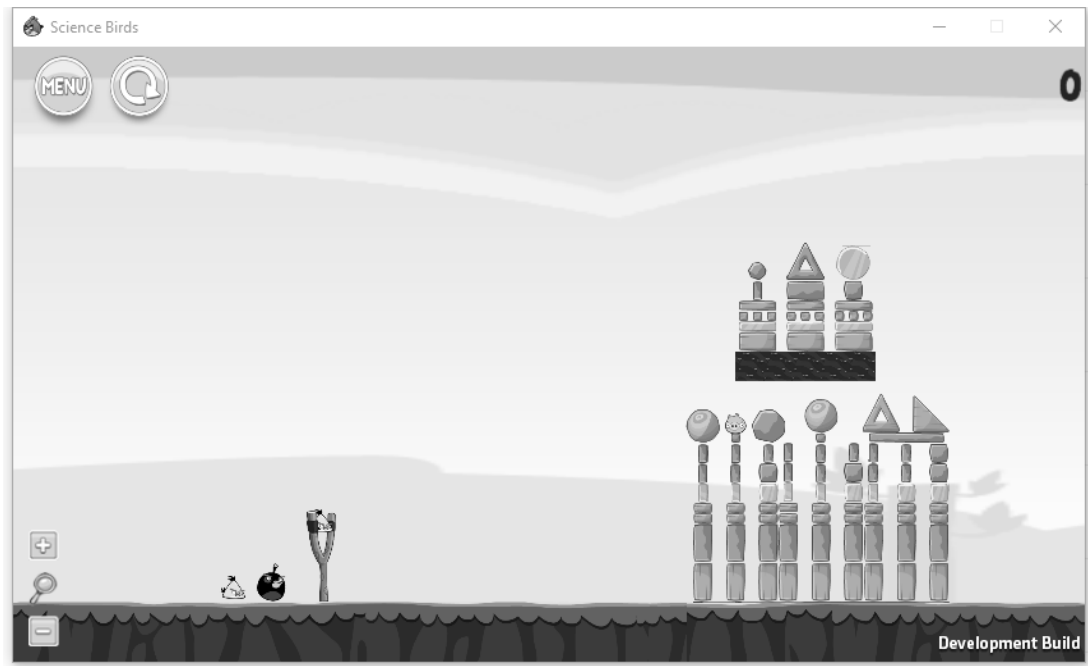*Screenshot 2: Level 1 Type 2*

Screenshot 3: Level 1 Type 3

Screenshot 4: Level 1 Type 4

Screenshot 5: Level 1 Type 5

Screenshot 6: Level 3 Type 1

Screenshot 7: Level 3 Type 2