Design Manifesto for 15-112 Term Project 2013

Topic: Space Janitor Alpha

Space Janitor Alpha had a tumultuous course of design and development. As it stands, the core concepts that surrounded the project idea are intact: I endeavored to make a 2-D arena-style game in which the player was tasked with protecting the integrity of a spaceship’s engine core from an unrelenting swarm of alien bugs. The problem to solve was then defined as coding a platformer in which every arena configuration was dynamic and introduced no collision bugs to the player’s avatar. This meant that every rectangle in the game had to be collision-enabled, destructible, and not clip the player or any enemy at any point despite the player’s movement simulating basic gravity and acceleration.

In order to do so, the collision function had to be designed (and redesigned, and again, redesigned…) until all the particular angles in which a player or an enemy could collide with it were corrected for. There are no “maps” or re-locational tricks - every time a character’s next move would collide with a block, it was instead replaced with a move as close to the point it was aiming for without colliding with anything. After every movement, all the player’s surroundings are examined, to determine whether further movement in a given direction was possible- or to determine whether the player was not on a platform, and therefore falling. Because the player character had to potential to- at any point- collide with more than 1 rectangle, each time a collision was determined, the farthest possible non-colliding point was generated for each corner using a combination of case-based interpolation and slope comparisons. The result is pretty fluid motion, spontaneous level design (due to constant destruction) and a frantic gameplay environment that runs smoothly and is enjoyable to play.

Thank you!

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