

Feature number: 1

Feature Name: Physics-Based-Driving

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Test Status: Complete

- **GameObject Class:**
 - **Enum Orientation**
 - Declares constants for directions
 - **GameObject**
 - Parameters - Vector2, Texture, Orientation
 - Switch statement with enum cases for directions
 - Orientation based on Vector float values
 - **OnUpdate**
 - Updates GameObject
 - **OnDraw**
 - Draws object
 - Takes Vector, Texture and Orientation to draw sprite at specified position
- **BoxColliderObject Class:**
 - Extends GameObject
 - **BoxColliderObject**
 - Input world object, texture position, bodytype, orientation
 - Creates physics body
 - **OnDraw:**
 - Draws sprite collision object
- **PlayerObject Class:**
 - Extends BoxColliderObject
 - **PlayerObject**
 - VelcroPhysics
 - Braking - higher the value faster the car stops
 - Handling - higher value the less rotation car has
 - Mass - higher the value more resistance moving
 - Acceleration - higher the value faster the car is at start of movement
 - Creates player object(car)
 - **OnUpdate:**
 - Updates player data VelcroPhysics
 - **OnDraw:**
 - Draws player sprite given physics

TEST

- **SetStats:**
 - Set VelcroPhysics
- **Accelerate:**
 - Change acceleration speed value. Cars acceleration increase/decrease dependent on number -1 to 1
PASS
- **Steer:**
 - Change steer(handling) value. Rotation increases/decreases dependent on number -1 to 1.
PASS
- **Brake:**
 - Change brake value. Car brakes faster/slower dependent on value of brake
PASS
- **Program Class:**
 - Class to run game
- **UntitledCarGame Class:**
 - Variables declared
 - **Initialize:**
 - Change graphics height and width changes size of window
PASS
 - **LoadContent:**
 - Content(sprites) loaded here
 - Change texture(sprite) to different images, image displayed changes according to image
 - Create player and collider instance
 - Change vector starting point(where car is) and orientation
 - Player and collision object orientation changes here which effects movement of player and collision objects to forward, back, left and right correspond to north, south, west and east. Only effects when car is moving
PASS
 - **Update:**
 - Game updates running
 - Change movement here
 - Vector moveInput to change Y and X movement. 0,0 for no movement
 - brakeValue how fast car brakes
PASS

- **Draw:**
 - Draws sprites and other specified objects