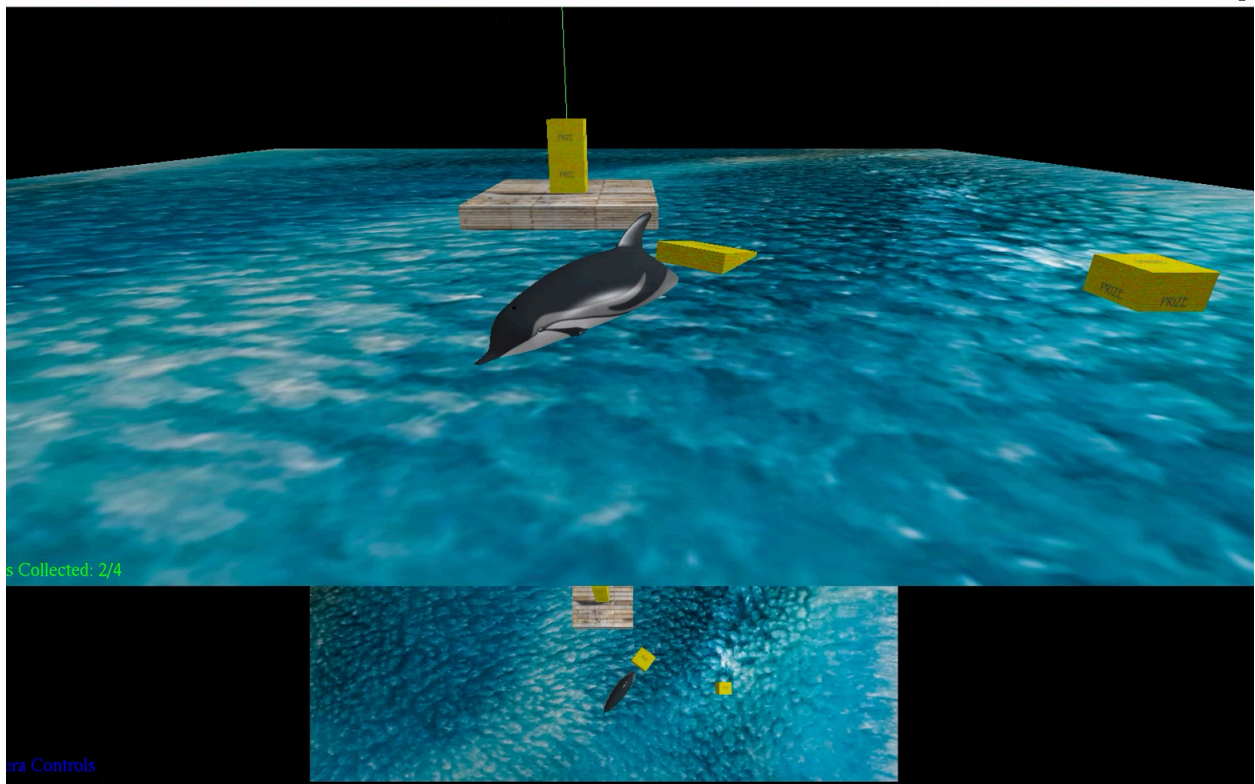1. Nicholas Burt CSC-165 Section 2 "A2 – Dolphin Adventure 2"

2.
3. To play the game navigate the dolphin to a bobbing prize box. Once close enough the prize will become attached to the rear of the dolphin. Navigate the dolphin with the prize to the dock at the center of the map to deposit the prize. Once this has been done with all prizes your done!
4. Gamepad and keyboard inputs for moving dolphin
    1. Gamepad:
        1. LEFT JOYSTICK X - axis turns the dolphin left or right
        2. LEFT JOYSTICK Y - axis moves the dolphin forward or backwards
        3. BUTTON 1 - moves dolphin forward
        4. BUTTON 2 - reorients the dolphin level with the plane
        5. BUTTON 3 - changes controls between viewports
    2. Keyboard:
        1. w - moves dolphin forwards
        2. s - moves dolphin backwards
        3. a - Turns dolphin left
        4. d - Turns dolphin right
        5. up - pitches dolphin upwards
        6. down - pitches dolphin downwards
        7. space - changes controls between dolphin and second viewport
        8. u - reorients the dolphin level with the plane
5. Gamepad and keyboard controls for orbit controller
    1. Gamepad:
        1. RIGHT JOYSTICK X axis moves camera in azimuth (side to side)
        2. RIGHT JOYSTICK Y axis changes cameras elevation (up/down)
        3. The D PAD/POV hat UP and DOWN buttons zoom the camera in and out
    2. Keyboard:
        1. l - Rotates camera around avatar counterclockwise

2. k - Rotates camera around avatar clockwise
3. p - Zooms Camera out
4. o - Zooms Camera in
5. Period - raises camera elevation
6. Comma lowers camera elevation
6. Controls for zooming and panning overhead viewport
    1. Gamepad:
        1. LEFT JOYSTICK X - pans view left/right
        2. LEFT JOYSTICK Y - zoom camera in/out
    2. Keyboard:
        1. a pan camera left
        2. d - pan camera right
        3. a/s - zoom camera in/out
7. Node Controllers:
    1. Rotation Controller: press 0 to pause game and see the dolphin rotate around its upward world vector
    2. Bobbing Controller: Moves prize-boxes and prize deposit dock up and down to appear to be bobbing in the water. can be toggled by pressing 1 on keyboard
    3. Stretch Controller: unmodified from example in class press 2 on the keyboard to be treated to an expanding and contracting dolphin
8. When the avatar is near enough a prize, the prize is added as a child object to the avatar and oriented behind the dolphin no matter the dolphins movement. Then when the dolphin with the prize is close enough to the dock at the center of the map, the prize parent is switched to the dock
9. Changes to TAGE engine:
    1. Added the following classes to tage.input.action
        1. PitchAction
        2. ToFroAction
        3. TurnAction
        4. UpRightAction
    2. Added the following classes to tage.nodeControllers
        1. BobbingController
        2. StretchController
    3. Modified GameObject and Camera classes to include movement methods
    4. Added method to NodeController for removing targets
10. Some movements are not synchronized to elapsed time
11. Anything special:
    1. Movement is restricted at edges of map.
12. Assets used:
    1. **Dolphin_HighPolyUV.png:** from class handout
    2. **brick1.jpg:**
        - Image by Freepik
    3. **checker.jpg**
        - Image by Freepik
    4. **wood.jpg:**
        - Image by ilovehz on Freepik
    5. **prizeBox.jpg:** modified from brick1 texture
    6. **waterTexture.jpg:** homemade