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Device - Portal Gun

Issue - Safety
    - Can't be placed near moving objects
    - Can't place a portal on a living creature.
    - Can't place portal more than 5 feet above ground.
    - Can't be placed in such a way that gravity creates an infinite loop

Initial Ideas -
    Jaryd -
        - Gun has a camera that prevents portals from being placed in unsafe
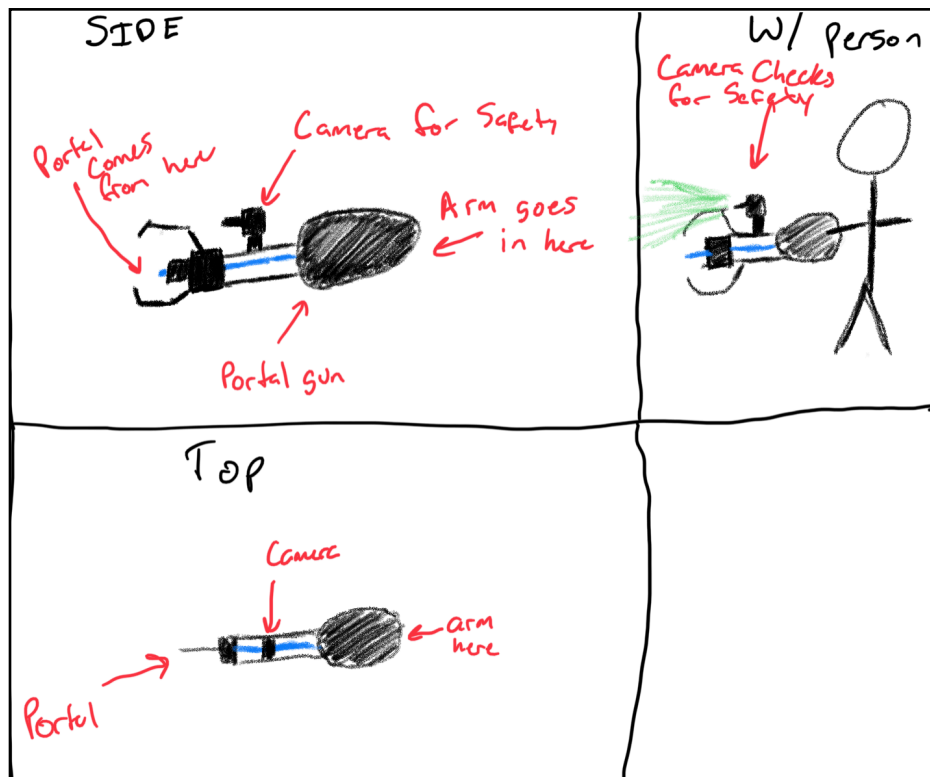positions
        - Gun sends physical object to test above criteria
    Derek -
        - Gun would contain a depth sensor
        - Gun would have infrared heat sensor

Proposed Solution - Add a camera to the Portal Gun to verify that the safety standards have been satisfied before being allowed to place portal in a given position. Some trade offs include increased software and complexity necessary, the possibility for false positives, and the amount of added safety is only as good as the cameras and software allow. These changes are worth the tradeoffs as they would make the portal gun significantly safer to use and the camera solves many of the safety issues without many dedicated sensors, or being too bulky on the device.

Sketch -

Feedback -

Emily Parker -

  Positive: Facing issues I never would have thought of with a portal gun

  Suggestion: consider maybe different ways the camera could detect the surfaces as good or bad?

  Incorporation: Possibly add other sensors that would work as a fallback or to increase the ability of the portal gun to detect surfaces.

Michael Truong -

  Positive: Allows for fast and easy transportation.

  Suggestion: How will you handle issues with the camera getting dirty?

  Incorporation: Add in a failsafe to make sure that if the camera gets dirty, the user is alerted before they try to continue using the portal gun.

Noah Nguyen -

  Positive: I appreciate that the relative simplicity of the hardware would probably allow for one to add this to the device without having to completely scrap and create a new one.

  Suggestion: Would the camera possibly lead to reduced functionality of the gun? E.g. if the device was previously used to catch moving crates or other people.

  Incorporation: Add an "emergency" option to change the settings to allow the user to do things they otherwise wouldn't be able to, such as catch a moving object.