Variance - General Documentation

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CONCEPT

Variance is a three-player cooperative exercise in which each player controls one axis (x, y, and z) of a ball onscreen. The players' goal is to deposit the ball in a box, whose position changes with each successful deposit. Players achieve this through the use of three unique controllers, an exercise bike, a grip strength exerciser, and a microphone.

DETAIL

- Bike

  The ball's y axis value corresponds roughly to how fast the player pedals on the bike. A higher RPM value means the ball travels higher. The ball constantly drops when the player is not pedaling, so players must maintain a steady speed on the bike. This is achieved through the use of a Hall Effect sensor and an array of magnets on the bike's front wheel.

- Grippers

  The ball's x value corresponds to a potentiometer embedded into an exercise gripper. The player is able to increase the value by squeezing harder on the grippers.

- Microphone

  The ball's z value corresponds to an input voice pitch interpreted by Imitone, an audio input to midi output program. Higher pitched sounds increase the z value, and lower pitches decrease it. A potentiometer is used as an adjustment tool, which remaps the pitch values used to process input. This is useful when accommodating a wide range of player vocal ranges.

CONCLUSION

      Variance can be considered complete in its current state. Should people express interest, it is infinitely extendable with more types of alternative controllers, with the eventual goal being to amass a wide cycling collection of controllers, so that the Variance experience is always new, even to those who have played the game previously.