We applied multi-disciplinary skills including mechanical and electrical engineering as well as computer science to create a set of seven sequential challenges of varying difficulty and style. Among these challenges are logic puzzles and physical games housed within a wooden casing. The implemented solution allows players to complete all seven challenges for team building purposes.

Benefits

North Texas Escape Rooms
- Mass production of highly durable PEG Devices is profitable for NTER
- Budding market, no previous examples of similar “gen 3” electromechanical devices
- Likely to draw return business because of challenge difficulty and low success rate

The Customer
- Team building helps companies retain talent and promote company culture
- In house activities often cost less for companies than outings
- Allows flexibility for busy people

Final Design

Mechanical
- Prototype created primarily of birch wood
- Prefabricated hardware used for ease of reproduction
- Constructed with durability in mind
- Large compartments and de-centralized design promote collaboration
- Large base and frame add stability

Electrical & Computer Science
- Used in game play to add “wow” factor
- Electronics set design apart from current “gen 1” market rivals
- Allows NTER to update game play based on consumer feedback
- Automation makes design user friendly
- Virtual “Game Master” eliminates the need for staff during game play

Logic & Aesthetics
- Incorporates traditional “escape room” ambiance
- Adds complexity without incorporating extra mechanical components
- Creates an immersive game play environment
- Encourages communication

Challenges & Casing

Challenge 1: Wooden Housing, Virtual “Game Master”, and Push Buttons
Challenge 2: Matching Colors on Color Wheel
Challenge 3: Deciphering Morse Code
Challenge 4: Slide Puzzle Maze
Challenge 5: Einstein Logic Puzzle
Challenge 6: Hand Crank Driven Cam and Follower Mechanism
Challenge 7: Cryptex Safe Logic Puzzle

BreakOut Gaming would like to thank the Fabrication Lab Staff, UTDesign Administrative Team, Discount Copy, and Doctor Wooram Park for more details contact Grace Hoffman at geh130030@utdallas.edu

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