

Vex Tipping Point: Arcade Escape!



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AUBURN ROBOTICS – AUBIEI

Introduction

In New York City, there is an arcade known as the “Super Arcade.” which has been visited for years. What most people don’t know is that it contains a secret arcade room in its basement with machines that are labeled “too dangerous to play.” One such game is called Robo-World.

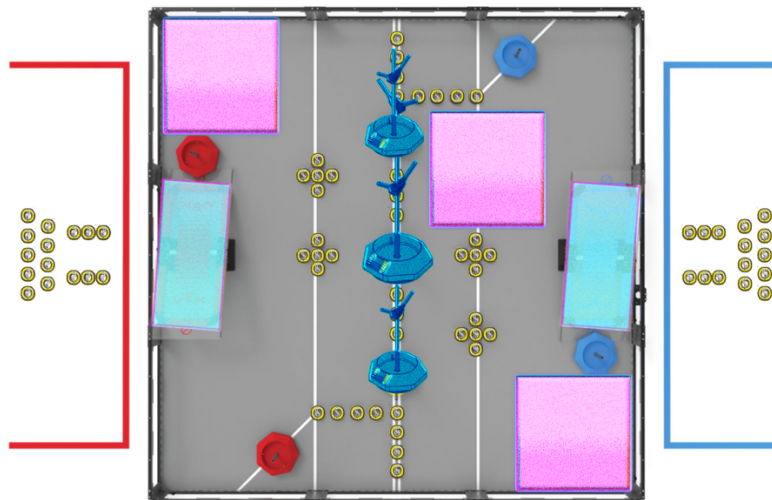
Although it seems like an innocent game, anyone who has ever played it knows what the game truly entails. Anyone who plays the game is immediately transported into the world of the game itself. Confused, players soon realize what happens. The ruler of Robo-World, jealous that his game is no longer played by the general public, captures any players to try and send a message. However, the ruler does offer a term of escape for the player: win the annual Robo-World tournament. How does the player win? By building a digital robot that can win the legendary game of Robo-Capture. The tough part? Your opponents are bots created by AI androids from the world.

The rules of the game are simple: you are given two minutes (45 seconds for the autonomous period and the rest of the time for driver control) to compete against the other bots. Coins differ in value when scored, based on where they are scored. Each Robo-Tower tower scored in a player’s home base is worth 20 points, plus the points values of each coin inside the tower. Lastly, at the end of the match, balancing the robots and goals on the floating platform can earn the player serious points. One warning though: watch out for tiles that light up! If your bot is on a tile that lights up, your robot will be immovable for 5 seconds. To advance, the player must accumulate a higher score than their AI opponent.

At the end of the Robo-World tournament, the winner is given a device that lets them open a portal back to the real world; this is known as the “tipping point.” Now, it’s up to you to design a bot that can secure Robo-Towers, score Robo-Coins, and score higher than AI competitors. You now know the rules; if you ever get trapped, will you be ready to escape?

Field

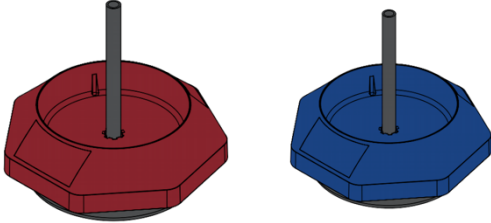
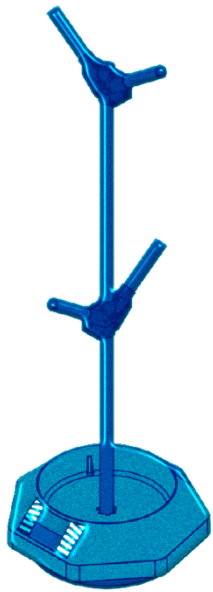
Below is a game field transformed to include theme-based elements for Vex Tipping Point: Arcade Escape!



Game and Field Objects

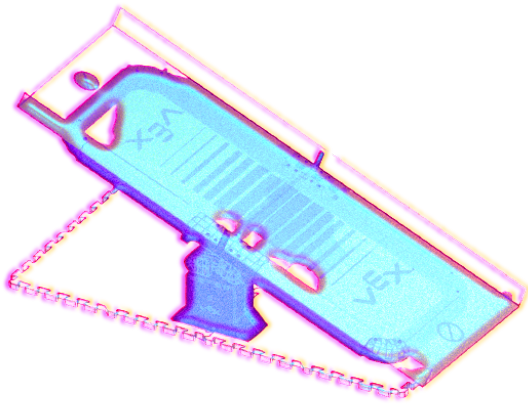
Below is a table detailing the game and field objects for Vex Tipping Point: Arcade Escape! Most objects for the game remain the same. For example, the alliance goals remain red and blue, the field tiles remain the standard VEX colors, and the field perimeter does not change. Additionally, the core rules of the game remain the same for the most part, as the purpose of the “Theme it Up!” challenge is to simply add a theme to the VEX game that has already been revealed without drastically changing the game. However, there are a few changes to notice. First, the neutral goals are a blue color, in an effort to convey a look that fits in with an arcade-style, futuristic game. Second, the platforms also have an 80s-like vector arcade color theme to match the game as well; to fit in with the themes, these are now called “floating platforms”. Lastly, we colored the rings gold and added a dollar sign to them to give the game a true video game feel and also make adding rings to the neutral goals more challenging.

Elements Table

	<p>Alliance Robo-Tower (Formerly Regular Alliance Mobile Goals; Same Point Values as the Standard VEX Tipping Point Game)</p>
	<p>Neutral Robo-Tower (Formerly Yellow Neutral Goals; Small Neutral Towers Have the Same Color Scheme; Same Point Values as the Standard Tipping Point Game)</p>



Robo-Coins (Formerly Purple Rings; They Hold the Same Point Values as the Standard Tipping Point Game)



Floating Platform (Formerly Alliance Platform; When Balanced On, They Provide the Same Point Values as the Standard Tipping Point Game)



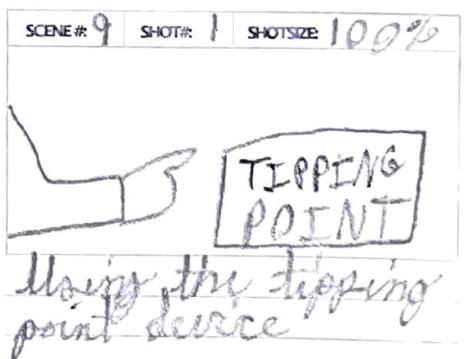
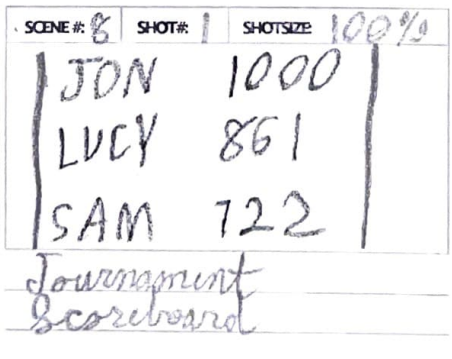
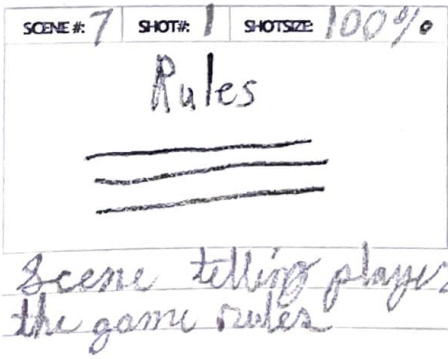
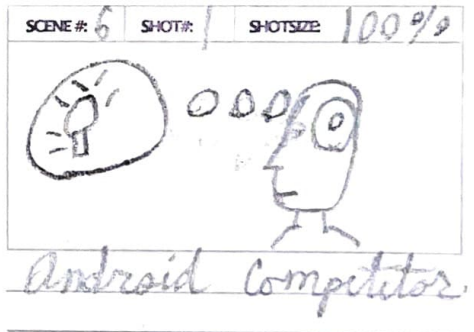
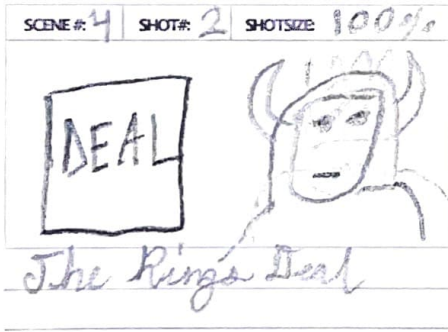
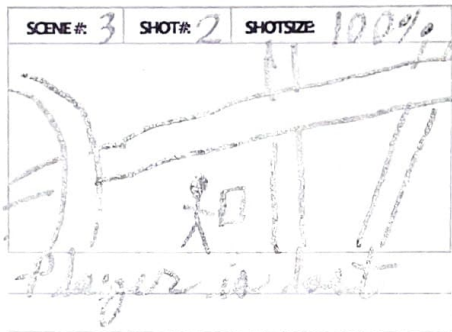
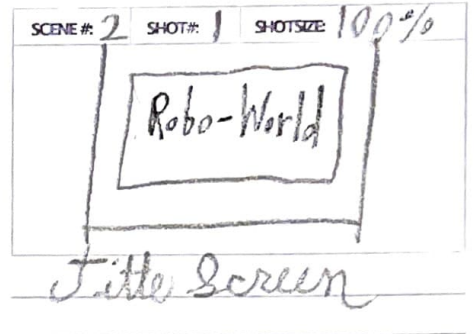
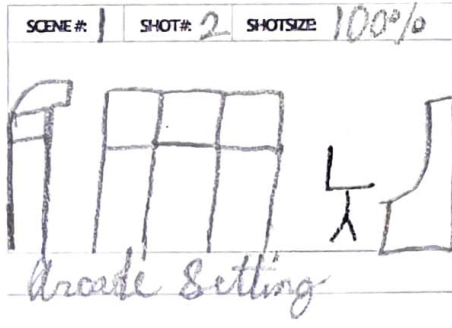
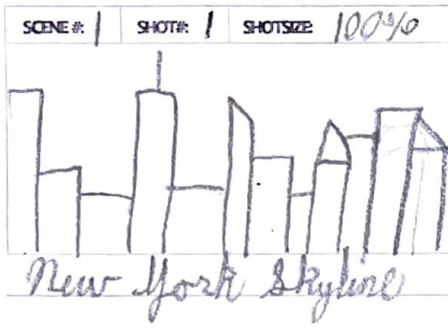
Light-Up Tile (A New Object Introduced With This Game Theme; LEDs Implemented in Each Tile to Arbitrarily Light Up; If a Robot Is on a Shining Tile, It Is Immobilized for 5 Seconds)


Robot Objectives


The objectives for the robots remain the same as the standard VEX Tipping Point game for the most part. The core objective for the game is for the player to score more points than his or her opponents by the end of the match so that they can complete the Arcade Escape and rejoin the real world. Winning (and scoring more points than the other opponent in each match of the tournament) is important because if one does not score more points than his or her opponent, then they may be trapped in the arcade machine for a long time! The only new objective is to dodge the light-up tiles so that the robot can continue moving throughout the match. To do this, the player should notice if the tile his or her bot is on begins to flicker. This flicker acts as a two-second warning to players before the tile fully shines. In the end, hopefully, all players construct a bot that helps them complete the arcade escape!

Storyboard

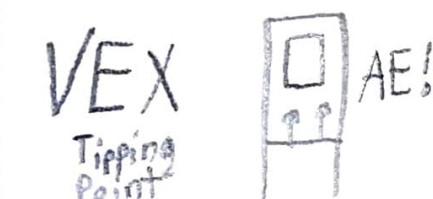
On the next page, you can find a storyboard portraying the action in our video. We hope this gives you an insightful look at our creative design process!



SCENE #	SHOT #	SHOTSIZE
10	1	100%
		
Call to Action		

SCENE #	SHOT #	SHOTSIZE
10	2	100%
		
Successful Escape		

SCENE #	SHOT #	SHOTSIZE
11	1	100%
<p>WILL YOU BE READY? Final Question</p>		

SCENE #	SHOT #	SHOTSIZE
12	1	100%
		
GAME Theme Logo		

SCENE #	SHOT #	SHOTSIZE
13	1	100%
<p>Credits</p> <hr/> <hr/> <hr/>		
Credits - digital scene		

SCENE #	SHOT #	SHOTSIZE
N/A		

SCENE #	SHOT #	SHOTSIZE
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Conclusion

In conclusion, we thank you for taking the time to view our entry for the VEX U “Theme it Up!” online challenge. If you have any questions, or would like the printouts, stickers, LEDs, or other materials to bring this game to life, feel free to leave a comment on our online challenge entry page and we will make arrangements!

Citations

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