A game-based learning approach to encourage teenage girls to pursue Industrial Engineering

Introduction:
Taking the Road Less Traveled (TRLT) is a one-day conference at Iowa State University for middle school and high school girls to learn about STEM fields. Since the first conference in 1987, over 85 schools and 63,000 girls have participated in the conference [1]. Participants attend interactive sessions to explore STEM opportunities. The current game used to introduce the participants to Industrial Engineering (IE) is difficult to win which can be discouraging for the girls. To solve this problem, this project aims to create multiple games and activities for the Industrial and Manufacturing Systems Engineering (IMSE) department to use during TRLT that encourages the teenage girls to pursue a career in IE.

Objectives:
• To help students gain a greater understanding of Industrial Engineering
• To provide the IMSE department with additional recruitment activities for future use

Methods:
• Observe students in TRLT sessions
• Identify issues in existing game
• Research games that demonstrate IE topics
• Research interest areas of teenage girls
• Create new games that demonstrates IE topics utilizing interest areas of teenage girls

Acknowledgements:
Thank you to Heather Robinson, Devna Popejoy-Sheriff, Erin Gibson, Sarah DuBois, the WiSE office, and the Honors Program for the guidance and support throughout this project.

References:
[1] Data and Assessment / Program for Women in Science and Engineering / Iowa State University, www.wise.iastate.edu/about/data-and-assessment-