



WINERY ROBOT GAME

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The Driving Question for this project was: **How can wineries and hotels be more family friendly?**

There is a demand for hotels and wineries to attract people to stay longer, to incorporate families, and to have something engaging for all members of the family. In this project, students were challenged with the problem of designing a game that could be played with robots at a winery tasting room. The goal for this game was to make the tasting room more family friendly by giving the children of customers something engaging to do.

Students worked in groups of seven, with a mixture of AP Physics and Manufacturing & Product Development students to try to solve this problem. The groups used the engineering design process to work through various ideas and iterations of their games. They prepared a sales pitch including a working prototype of their game. They used Vex Robotics, where the groups needed to design, build, and program the robot. At least one functional piece of the robot needed to be custom manufactured by the students or modified in some way. The groups presented their sales pitches to an authentic panel of community members including winery owners, hotel representatives, human resource managers, and more, demonstrating how their robot game worked and why theirs in particular should be chosen. Final work was assessed using a rubric evaluating Written Communication, Oral Communication, Collaboration, Agency, and Knowledge and Critical Thinking.

Teacher Reflections

All in all the project went very well. Most of the groups pulled everything together and had a successful sales pitch with a working prototype. The biggest issue we had was keeping the groups on track and self-motivated. We were also surprised at how the physics applications were not obvious to the students, we needed to be explicit with them. All of the groups had good ideas for games that would be kid friendly.