

# Evergood Team Contract

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## 1.0 PROJECT OVERVIEW

### Project Description

The problem to be addressed by the senior design team is the difficulty that Evergood experiences in packaging their wine. Currently, Evergood relies on volunteers to manually fill wine bags with wine. With the increasing demand in their product and a finite number of volunteers, Evergood needs an automated solution. Currently, semi-automated solutions exist, such as their process for filling and canning their other wine flavors, but a fully automated process would benefit the company the best. The goal of this project is to create an automated mechanism for doing this job to save Evergood time and money in order to maximize their net profit and meet increasing product demand. Evergood has said they do not wish to keep any patent rights, so this is an extremely good opportunity for the senior design team to create a product that can be adopted in many other organizations who wish to sell pouched wine. Pouched wine is superior to bottled wine in terms of how long it stays good for because once you open a bottle of wine, the whole bottle is exposed to the air and the quality of the wine quickly deteriorates. However, with pouched wine, you just open the valve to get a serving and then can close the valve again without exposing the rest of the pouch to air, preserving the wine's quality.

### Problem Statement:

Create a model in CAD (Solidworks) to automatically load and fill pouches with Evergood Wine. This process includes loading the pouch, opening it with a puff of inert gas, filling it to a certain volume/weight of wine, sealing the pouch, and unloading it. Our team will also machine a working prototype and/or incorporate an automation process for sticking the labels on the blank wine pouches as well as filling them. Other deliverables include creating a user manual, maintenance manual, writing a final design essay and presenting the project.

## 2.0 TEAM MEMBERS

The following individuals will form the core design team and are responsible for managing the project.

<i>Name</i>	<i>Email</i>	<i>Cell Number</i>	<i>Primary Team Role*</i>
Ryan Beckman	<a href="mailto:rbeckman@uccs.edu">rbeckman@uccs.edu</a>	719-619-8555	Member
Hayden McLaughlin	<a href="mailto:hmclaugh@uccs.edu">hmclaugh@uccs.edu</a>		Spokesman
Brock Martin	<a href="mailto:Bmarti28@uccs.edu">Bmarti28@uccs.edu</a>	719-849-3616	Member
Jackson Taylor	<a href="mailto:Jtaylor15@uccs.edu">Jtaylor15@uccs.edu</a>	719-200-6543	Member
Grace Wenham	<a href="mailto:gwenham@uccs.edu">gwenham@uccs.edu</a>	720-633-6965	Team Lead

\* Roles subject to change throughout the course of the project.

## 3.0 PROJECT OBJECTIVES

If this project is successful, we will provide Evergood with an automated assembly-line-type mechanism which takes the empty wine pouches off a pallet and loads them onto the mechanism, opens the closed pouch with a puff of gaseous nitrogen, fills them with wine, seals them with a cap, and puts them back onto a pallet. This will eliminate

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the need for volunteers and increase Evergood's supply capacity. This project will be considered successful if the automation process works and is faster than the work done by volunteers, which can be measured on a scale of pallets or wine pouches per hour. The team objectives include submitting a project plan, an engineering notebook with continuous notes throughout the project, a final report, a complete design package, and ideally, a working final product (although this is not required by Evergood).

## 4.0 KEY PROJECT CONSIDERATIONS

Here listed are distinct considerations to our product, which automates a wine-pouching process. This product will be used for commercial wine production. Therefore, this product must align with food sanitation and safety guidelines. The materials of the design will be constrained by this fact and must be taken into consideration during the design process (for example, the ease of cleaning the wine-filling lines.) Automation typically includes large machines with many parts.

We are a group of five full-time students and therefore have a very limited time to design and create this product. Time and effort will need to be used to create a design that is easy to build but still meets client specifications. As such we are designating 1:00pm to 2:00pm on Sunday as an available work time for the team to collaborate on the project. This time is separate from the designated Monday faculty advising meetings and is intended for creating weekly updates, updating the project plan, and making progress on the project design, assembly, and testing. This meeting is not required every week, but as full-time students, this will ensure the project is not dropped from our schedules.

The cost of the design will be determined by the budget given to the team by the sponsor and must be followed. This will be a deciding factor of what can go into the design for the automation process.

## 5.0 COMMUNICATION PLAN

The team will meet in person every Monday for faculty advising and hold a short end of week standup meeting every Saturday or Sunday in person or via teams to summarize the weekly progress for the required weekly canvas submission. Additional meetings may be held as needed through Microsoft Teams. Microsoft Teams will be the main form of communication between the team. Information will be stored in our Microsoft Teams "Files" tab of our team as well as GitHub and the engineering notebooks. There will be an expectation to check Microsoft Teams daily and respond to fellow team members by the end of the next day at the latest. Team members will also provide phone numbers means of contact outside of Teams and school email in case of last-minute schedule changes or other highly time sensitive events. If a team member fails to respond after two days, alternative contact methods (call and text) should be attempted and if exhausted, steps laid out in the next section will be taken.

The team spokesman will be the primary contact between the team and any faculty or the sponsor. Meetings with the sponsor will be dependent on the sponsor's availability and wishes, but once the meetings are set with the sponsor, the team members that commit to said meetings will be responsible for communicating the contents of the meetings with the rest of the team. Because of the team members' differing availabilities, it is important that the members attending the meetings record good notes during the meetings, express any concerns or questions the team has, and reports the information from the meetings to the rest of the team.

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## 6.0 DISAGREEMENTS, CONTRIBUTION ISSUES, PARTICIPATION ISSUES

Disagreements pertaining to the success of the end product will be settled by a majority vote. If needed, to ensure there is not a conflict between ECE and MAE students where MAE outnumbers ECE 3:2, we will consult with our faculty advisors. Disagreements or conflicts between individuals not pertaining to the success of the end product will be treated on a case-by-case basis. Resolutions include talking through the problem individually, talking through the problem as a group, talking with a mentor, and in severe cases reporting to the faculty of the course to help decide the best action to be taken which could include suspension from the project. Behavioral issues such as inequities, lacking contribution, participation issues, lateness, and timing issues will be discussed in the same manner as above, and the team will discuss any issues of the sort and decide as a team how to resolve them. A majority vote will be the default method of solving any disagreements between team members for the most part. Patience and tolerance are expected from all members when dealing with disagreements.

## 7.0 ANY ADDITIONAL CONSIDERATIONS

Team members should get their work done but remember not to take things too seriously. Happiness and fun are essential to creativity and producing an exceptional product. Members should keep in mind that there is more to a successful project than just a great design.

## 8.0 SIGNATURES

Hayden McLaughlin	<i>Hayden McLaughlin</i>	10/7/2022
Brock Martin	<i>Brock Martin</i>	10/7/2022
Grace Wenham	<i>Grace Wenham</i>	10/7/2022
Ryan Beckman	<i>Ryan Beckman</i>	10/7/2022
Jackson Taylor	<i>Jackson Taylor</i>	10/7/2022