Project Deliverable E - Project Schedule and Cost`
February 20th, 2020
Group D1 - Construction

Prototype 1: Week of March 1st

Tasks To Be Completed		
Task	**Duration**	**Member To Complete The Task**
Develop a blueprint for the greenhouse	1 Day	Karl
Determine ideal materials	1 Day	Ethan and Steve
Construct a basic prototype out of cheap materials	1 Day	Marcus
Analyze key components of the system that must be included	1 Day	Jack and Tanish
Test prototype functionality	20 Minutes	Marcus

Possible Risks	
Risk	**Contingency Plan**
Current Dimensions may not allow for efficient functionality.	Make simple adjustments to the prototype to test possible conditions and possibilities to find ideal dimensions.
Materials may not be readily available.	A list of several material possibilities will be made to ensure that there is a backup plan.
Prototype may not be finished in one day.	Ensure that the blueprint and determination and collection of materials is completed before the actual prototype is made.

Cost Estimate	
Material	**Cost**

Toothpicks	$1.50
Saran wrap	$2.50
Overall Cost: $4.00	

Prototype 2: Week of March 8th

Tasks To Be Completed		
Task	**Duration**	**Member To Complete The Task**
Determine and collect materials to build the base	½ Day	Karl, Jack, Steve
Measure and Cut materials to build the base	½ Day	Marcus, Ethan, Tanish
Construct the Base	1 ½ Days	Ethan and Karl
Ensure the base is correct based on blueprint	10 minutes	Steve and Marcus
Collect and Measure materials to build other components (ie. walls, roof)	1 ½ - 3 days	Tanish and Jack

Possible Risks	
Risk	**Contingency Plan**
Measurements may be incorrect.	Save all unused wood to be used for possible inserts if needed.
Not all the wood is completely straight, thus there may be gaps in the base.	Analyze the wood before cutting to ensure that the measurements will be appropriate even with faulty wood.
Not enough material.	Limit ourselves to a certain amount of materials and build based on that. If more is needed afterwards, more materials must be ordered.

Cost Estimate	
Material	**Cost**
2x4x8 Wooden Planks (x6)	$3 each
2x3x8 Wooden Planks (x24)	$2.50 each
7/16 x4x8 OSB (x2)	$11.30 each
Nails	$4.95
Overall Cost: $105.55	

Prototype 3: Week of March 22nd

Tasks To Be Completed		
Task	**Duration**	**Member To Complete The Task**
Cut materials for walls and roof	½ Day	Ethan and Tanish
Construct the 3 walls, 1 wall with opening for door in it	1-2 Days	Marcus, Karl, Jack, Steve
Construct the frame of the roof	2-3 Days	Ethan, Marcus, and Steve
Connect the walls to the base and the roof fame to the walls	1-2 Days	Jack, Ethan, and Tanish
Integrate the Hydroponics system into greenhouse	2-3 Days	Whole Team
Finish the outside of the structure (ie. cover walls and roof with plastics) and insulate structure	1-2 Days	Whole Team

Possible Risks

Risk	Contingency Plan
Hydroponics requires modifications to structure.	We will have extra material left for any modifications that require so. Otherwise we will need to find a solution that works with both the greenhouse and hydroponics team
The different parts of the greenhouse do not fit together perfectly.	With the extra material that is left and tools like a nail gun we can adjust how our green house sits so that all pieces will sit in unison
Something in our design does not work out in reality	Have two or three other backup plans for each part that involve different techniques than the original plan

Cost Estimate	
Material	**Cost**
10ft Plastic Gutters (x3)	$7.63 each
2x12 ft Plastic Roofing (x1)	$70
4x8 ft Polycarbonate Walls (x5)	$80
Overall Cost: $ 492.89	