

# Christmas Ornament Display Structure

Team 7:

Dolores Gallardo

Ryan Palmer

Miles Roux



Northern Arizona University  
Department of Mechanical Engineering

# Topics

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# Introduction

- My Star of Bethlehem LLC
- Based in Sedona, Arizona
- Specializes in Christmas Ornaments
- Marketing to Northern Arizona
- Consumer and Commercial
- Portable Display Stand

# Needs Identification

**Need Statement:** Our client does not have a way to easily display their products when marketing locally.

# Goal

Design a better way to display the Christmas ornaments at public venues.

# Objectives

- Durable
- Will Not Damage Christmas Ornament
- Recyclable
- Reliability
- Adjustable Height

# Constraints

- Ornament elevated 6 to 8 ft minimum
- Can fit in compact car
- Stand must not exceed 50 lb
- Total cost under \$500
- Ornament must be hung or mounted
- Assembly time cannot exceed 30 min
- Supports 3 different size ornaments
- Freestanding

# Testing Environment

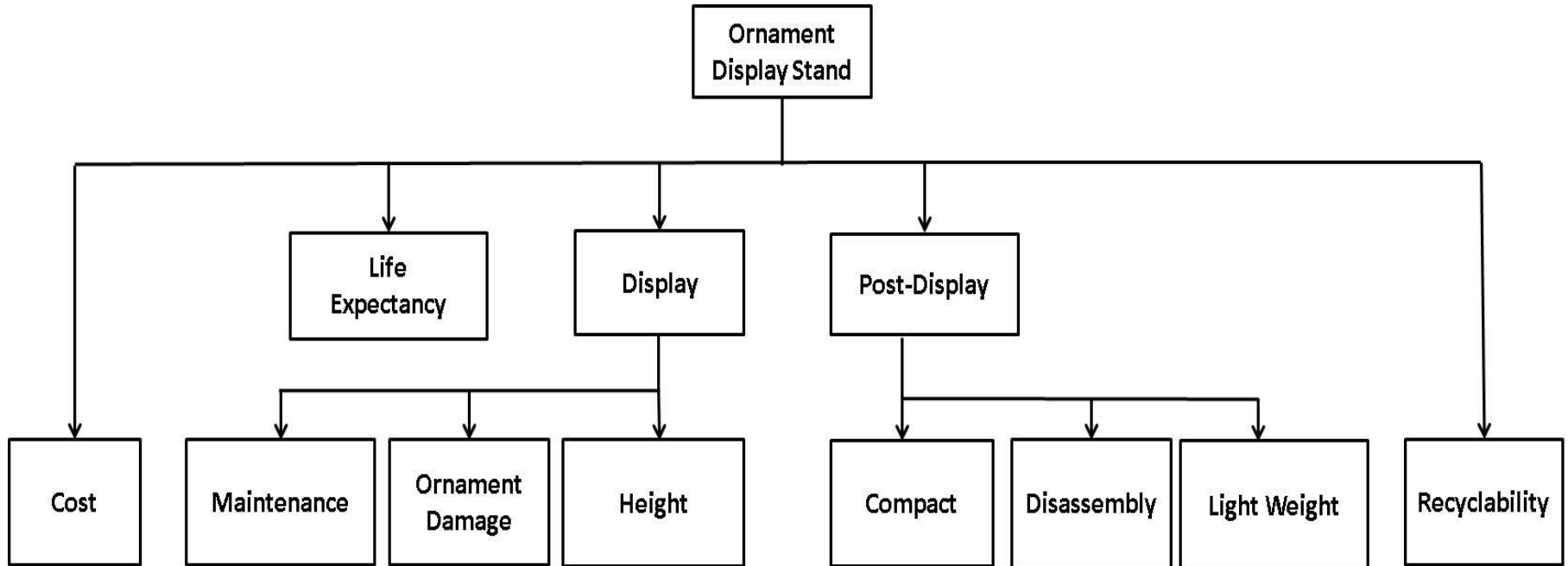
- Northern Arizona sales locations
  - ▶ Flagstaff
  - ▶ Sedona

Some objectives require more time than is available for the project.

- ▶ Durability
- ▶ Reliability



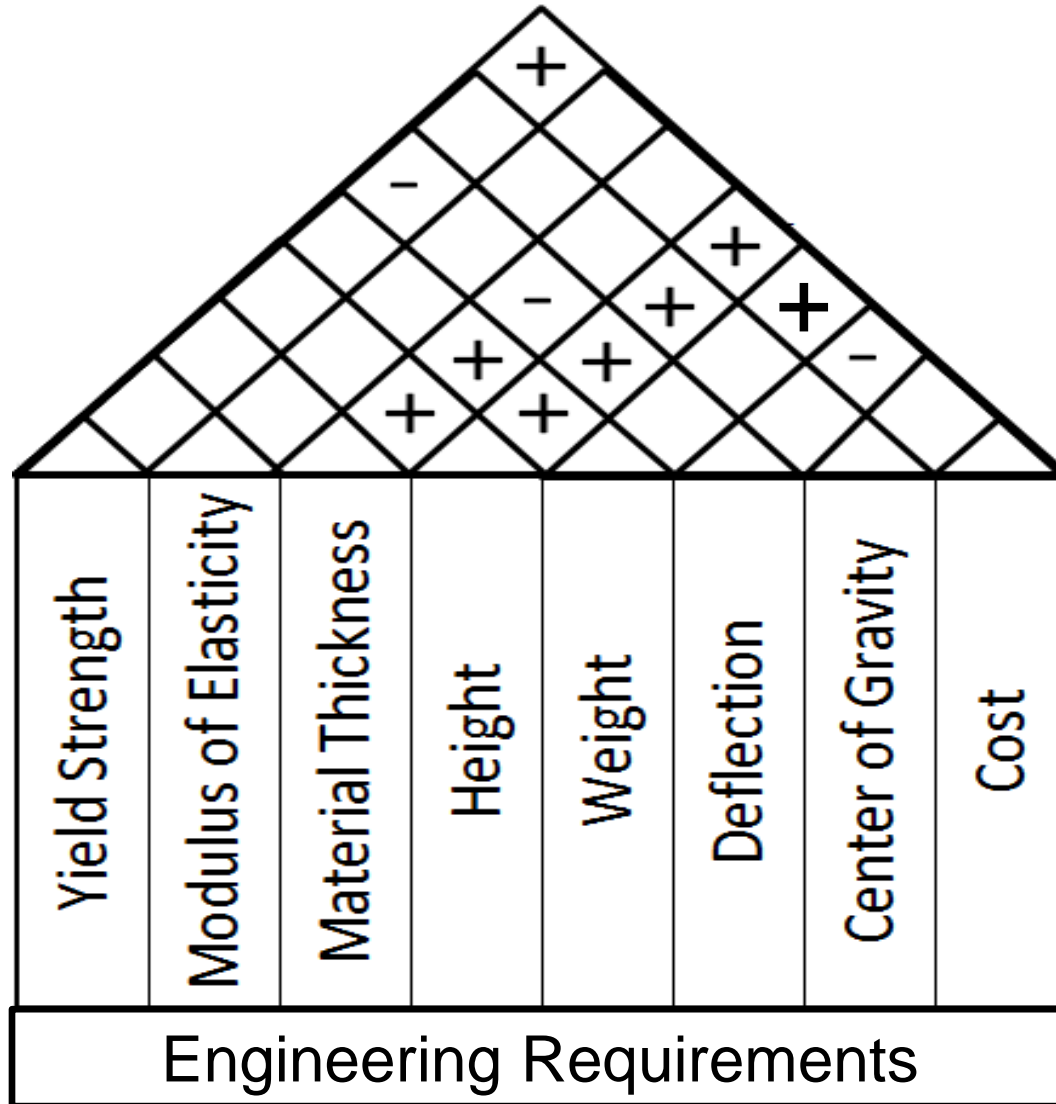
# Criteria Tree



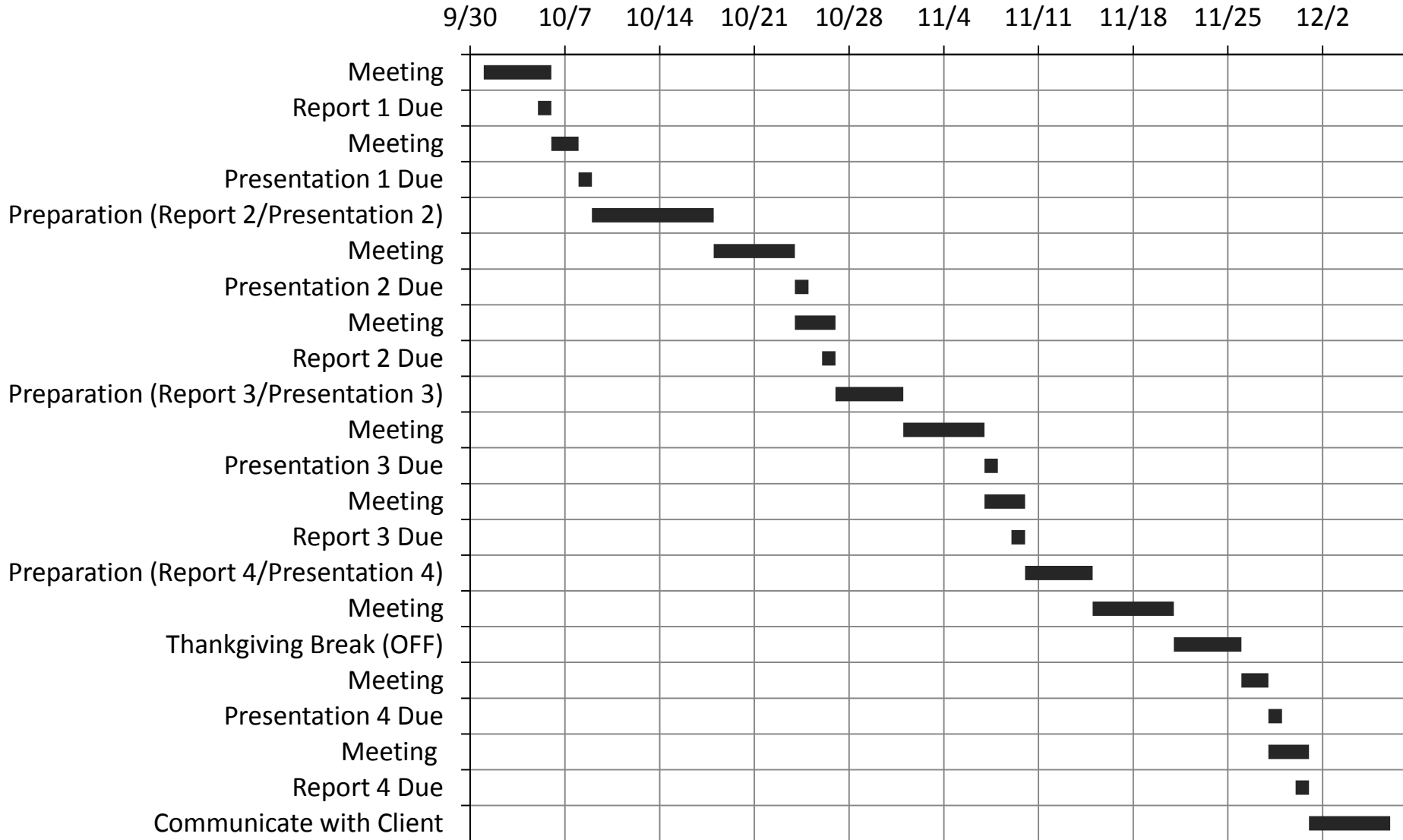
# Quality Function Deployment

		Engineering Requirements							
Customer Requirements		Yield Strength	Modulus of elasticity	Material thickness	Height	Weight	Deflection	Center of gravity	Cost
Freestanding		X		X		X		X	X
Collapsible				X	X	X	X		X
Lightweight		X		X	X	X			
Easy to assemble and disassemble					X	X			
Ornament elevated at least 6 to 8 feet off the ground		X	X	X	X	X	X	X	X
Portable				X	X	X			
Resistant to weather		X	X				X	X	X
Inexpensive		X		X	X		X		X
Units		psi	psi	in	ft	lb	in	in <sup>4</sup>	\$

# House of Quality



# Projected Project Timeline



# References

Otte, Dieter. (2012). *My Star of Bethlehem;  
The Star That Keeps on Giving.*

Retrieved from <http://mystarofbethlehem.com/>