# Introduction

Our group of engineers for the hydroponics system project met up on February 16, 2017 to create a plan for the upcoming construction of the prototypes. As a group, we determined who would certain parts of the build or analysis of the prototype as well as when this would occur. We first split up the work accordingly and placed one person in charge of each prototype as well as one in charge of analyzing the failures and success of every prototype. With all prototypes and projects there are significant forms of failure due to risks. We determined a contingency plan for every significant risk in order for the project to not fail once an issue arises. To ensure the plan was clear and to make sure everything stays on schedule, these tasks were put onto a Gantt diagram. The group also had to determine the materials we needed and the approximate costs of those materials. This cost planning was for keeping the project on budget as well as estimate how much it would cost for the customer.

# Responsibilities

Joseph: Gather materials for final prototype and assembly. (1 week duration)

Umar: Analysis of components (1 day for each prototype)

Josh: Materials for first prototype and assembly of first prototype (2 days)

Martin: experimental small scale models (gathering material and assembly) (3 days)

# Materials \*displayed costs are estimates

## First Prototype

Pop bottles-$4 max

Tape - $2

tubing(straw)- negligible

Tap- $2

## Second Prototype

Plastic container x2 $20

Tubing-taps-plumbing - $10

Plywood - $20

## Final Prototype

Plywood $40

Barrel $100

Taps/Plumbing 20$

Fasteners $20

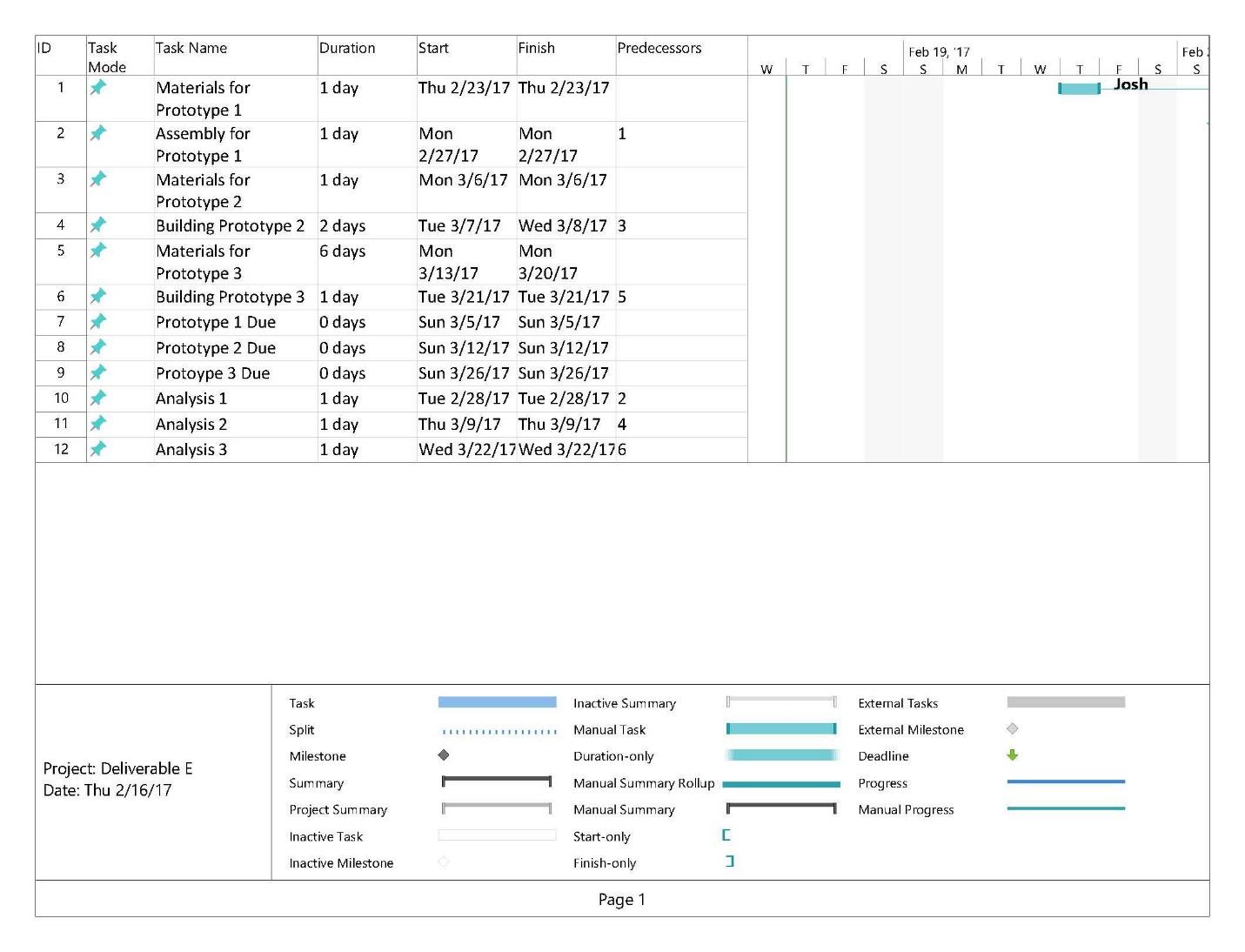
Screen $5

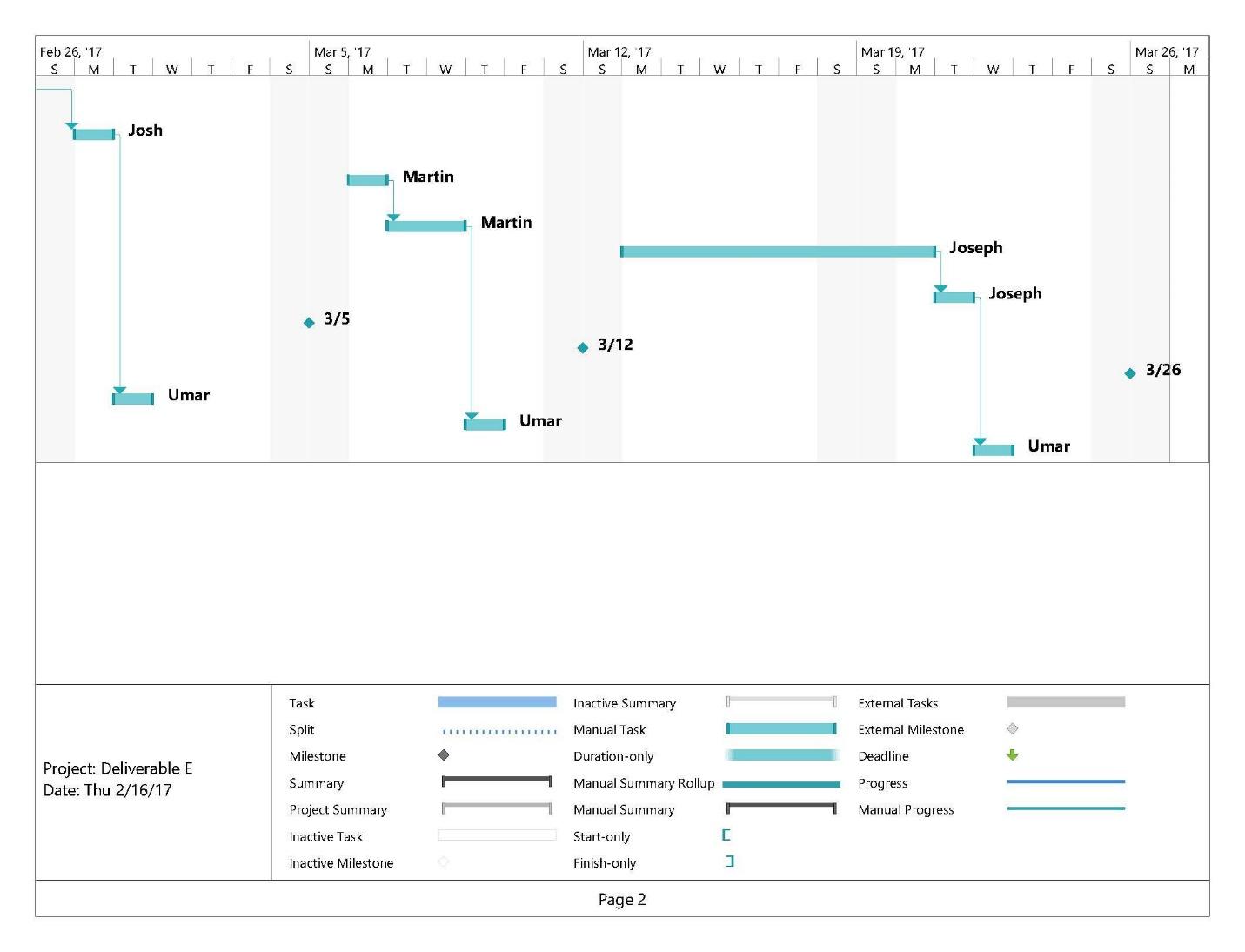
Foam $15

Estimate of total cost: $212

# Risks and Contingency Plans

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| --- | --- |
| **Risk** | **Contingency plan(s)** |
| * Not being able to meet deadlines | * commit to schedule, designate time for potential emergency meetings |
| * Prototypes not being able to replicate final design results accurately | * make designs adjustable |
| * May cost too much | * use alternative components |
| * Prototypes failure may cause delays | * designate time on weekends for emergency meets |

Gantt Chart



# Conclusion

During the meeting, we were able to successfully create a list of tasks to be completed and distribute those tasks among ourselves equally. This lead to the created of the Gantt chart where were accurately scheduled who and when would complete a task as well as create milestones. To plan for the project, as a group we determined significant risks we were taking in the build and the design of the build. These risks were noted and a contingency plan was created for each of them to prepare for a failure if that were to happen. Using the list of materials, we made, we estimated a final cost for the hydroponics system including those of the individual prototypes.