

Meeting Minutes for Staff Meeting on 9/25/17

Executive Summary

Reported progress since previous meeting has shown an increased understanding of both the project's parameters and the Arduino technology to be used in Team 03's capstone project. On the previous Friday, Team 03 met with head of MWI Labs Jeff Peebles to discuss customer requirements for the NRL Arch improvements as well as to obtain measurements of the device. From this discussion, Team 03 has constructed a series of tasks for each member to solve.

6:31 pm – Discussion of Tempe Meeting

Reimbursements found to be handled directly through MWI Labs, due to their funding the team directly as opposed to handing a lump sum to the university. This will serve to greatly simplify Team 03's handling of budget items in future. Benchmarks set for the project involve the NRL cantilever system are thus: system needs to be foldable into a compact crate, and the vibration problem that affects the accurate antennas needs to be corrected.

Possibilities discussed for possible corrections: using stiffer material, increasing stiffness through additional construction, and using dampening materials to reduce vibrations.

6:40 pm – Delegation of Tasks

Danny Matthews will be continuing research into FEA analysis to construct a SolidWorks model in the next three weeks, and Jacob Head will be researching possible dampening solutions. Mitchell Parker will be looking into material properties, and Zachary McCormick will be conducting research on trusses for a possible construction-based solution.

6:46 pm – RE: Arduino technology

Discussion of Arduino tutorials completed on Saturday, 9/23: LCD display and stepper motor functions. Stepper motor tutorial was chosen due to MWI Labs' specification of stepper motors for use in the construction of the NRL Arch. Results were mixed with regards to the motor; the motor included in the Arduino practice kit proved to be faulty. LCD test had much greater success: completed printing of multiple messages.

6:51 pm – Action Items

- Overall: Completion of Report and PowerPoint presentation for upcoming discussion of capstone project.
- Jacob Head: Conduct research re: vibration
- Zachary C. McCormick: Conduct research re: trusses and how they influence the stiffness of an overall system
- Danny Matthews: Continue work with FEA software for structural analysis
- Mitchell Parker: Continued research in potential alternative materials to use for cantilever beam
- Zack & Jacob: Continue education re: Arduino tech