

## Senior Design Project Data Sheet

Project #	Project Name	Project Track	Project Family
P12242	MOOG Flight Simulator Cockpit Table Interface		
Start Term	Team Guide	Project Sponsor	Doc. Revision
2011-2	Michael Zona	Dr. Jason Kolodziej	

### Project Description

#### **Project Background:**

MOOG is an innovative designer, manufacturer, and integrator of precision motion control products and systems. MOOG earned an eminent standing in the aerospace field when Bill Moog (founder) developed the electro-hydraulic servovalve. To further their aerospace customer relations, MOOG has contracted with RIT to produce a flight simulator. This flight simulator will combine MOOG motion table technologies with a Beechcraft Duchess Cockpit, Visual Displays, redesigned Controls, and custom flight software. This team will focus on interfacing the cockpit, visual displays, and motion table.

#### **Problem Statement:**

This team must design a robust mounting solution to interface the motion table and the cockpit in a way that will allow for ease of disassembly.

#### **Objectives/Scope:**

1. Attach Cockpit to Motion Table
2. Design for Disassembly
3. Provide Aesthetically Pleasing solution
4. Design for Cockpit mobility
5. Design must support visual display equipment

#### **Deliverables:**

- Fully assembled interface solution
- CAD drawings of solution

#### **Expected Project Benefits:**

- Enhance MOOG and RIT partnership
- Provide MOOG with a great marketing tool

#### **Core Team Members:**

- Andy Birkel – Lead Engineer
- Christina Cignarale – Project Manager
- Matt Glynn
- Daniyar Tokohza

### Strategy & Approach

#### **Assumptions & Constraints:**

Constraints

1. \$5000 Budget
2. Weight of Cockpit and Attachment Solution must not exceed capabilities of the Motion Table

Assumptions

3. The COG of the plane cannot be accurately measured so an educated method must be used to provide an adequate number
4. Assume total weight of passengers to be 400lbs
5. Assuming light weight enclosure for the back of the cockpit that will be negligible in COG estimation

#### **Issues & Risks:**

- Project will require procurement of materials: Lead time may constrain construction time
- May need to weld parts together, this will require outsourcing