



BME 590: FUNDAMENTALS OF  
ENGINEERING DESIGN

# STATEMENT OF PROJECT GOALS

*Salinas - Fall 2017*

# DEFINE THE PROJECT NEED

UNDERSTAND ALL COMPONENTS TO DEVICE, CLIENT AND ENVIRONMENT



**UNDERSTAND THE NEED (NOT THE DEVICE)**



**UNDERSTAND THE CLIENT**



**UNDERSTAND CONSTRAINTS**



**UNDERSTAND EVALUATION**

# NEED

## **Statement of need**

- Describe the task/process the client is trying to accomplish**
- Describe why it is currently difficult for the client to accomplish the task/process**

## STATEMENT OF PROJECT GOALS

# GOAL

**Project Goal**  
**Describe the problem you will**  
**solve**  
**"To develop a**  
**system/way/method to..."**



# CURRENT ADVANTAGES/DISADVANTAGES

- List what is relevant to project

## OVERALL PROJECT FEATURES

- Features that are necessary and/or desired
- Rank in order of importance

## OVERALL PROJECT CONSTRAINTS

- Factors that will influence use, setup, storage, etc.
- Criteria to demonstrate success
- List the 3 most important criteria that will demonstrate that your device is successful

## STATEMENT OF PROJECT GOALS



# EX. PROJECT DESCRIPTION

Jill is a teen age girl with multiple physical and cognitive disabilities. She enjoys movement but uses a manual wheelchair that she cannot propel independently. Staff would like to have a device that will allow Jill to experience rocking or tilting movements, but that will be quick to setup and can be stored easily. The goal of this project is to develop a device that will allow Jill to experience movement, but that can meet the storage and setup requirements in the class room.

## STATEMENT OF PROJECT GOALS



# EX. TEAM SPG

### Understand the need

- The client would like to experience motion
- The client spends the majority of her day in a wheelchair, with severe physical and cognitive impairments. Because of that, the motion must account for the client and her wheelchair

### Client's abilities

- Partial dexterity in right arm and hand
- Some dexterity in neck and head
- Ability to operate a crude switch with either her right hand or her head
- She can recognize music and motion

# EX. TEAM SPG

## Client's limitations

- Severe cognitive disabilities: brain development halted at 6 months of age
- Completely nonverbal, though she can hum along with songs
- Suspected visual impairments: they think she can only distinguish between light and dark
- Physical dexterity limited to the aforementioned body parts
- The client does not have the physical dexterity to independently move her wheelchair

## STATEMENT OF PROJECT GOALS



# EX. TEAM SPG

### Project Constraints

Heavy weight to support—approximately 200 lbs, including client, wheelchair, and device

Stowability: This device must fit in the already-full classroom.

Must be compatible with multiple wheelchair designs (implicit: for practicality, patient must be in wheelchair when using device)

Staff must be able to setup device quickly and have device be safe to use with minimal supervision

# **CREATE A SPG SLIDE FOR CLASS ON TUESDAY**

Include the following sections:

- Statement of Need (about CLIENT not device)
- Project Goal
- Current Methods and advantages/disadvantages
- Constraints