



**TEAM 506**  
**MEWEE TABLE**

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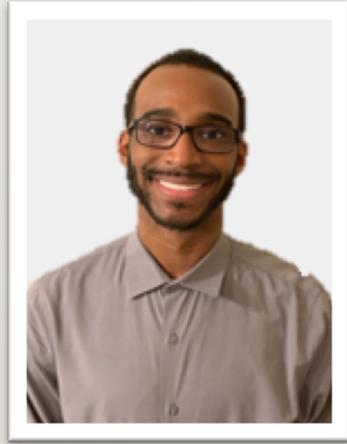
**OCTOBER 8, 2019**

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Lauren Smith, Anthony Muniz

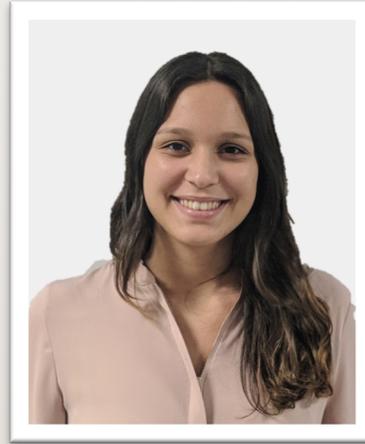
# TEAM INTRODUCTIONS



**Alec Ellis**  
Project Manager/  
Human Factors Engineer



**Kyle Innis**  
Geometric Integration  
Engineer



**Lauren Smith**  
Materials Science  
Engineer



**Rieley O'Brien**  
Systems Engineer



**Anthony Muniz**  
Mechanical Systems  
Engineer

## SPONSOR



Mr. Peter Butler  
Campus Reimagined (CRI)

## ADVISOR



Dr. Patrick Hollis  
Florida State University

# OBJECTIVE

- To design and build a multipurpose table with the ability to turn from a collaborative group table into individual workspaces
- The table needs to be safe and supply electricity for users
- A compact folding design will be included to allow for more convenient relocation and storage



# BACKGROUND

- Tables are the primary object that people use to do work on and collaborate with others
- University libraries have limited table space with some tables only having one to two people sitting at them
- A specific table design is needed to reduce unutilized space and increase work efficiently



# EVERYONE'S PROBLEM

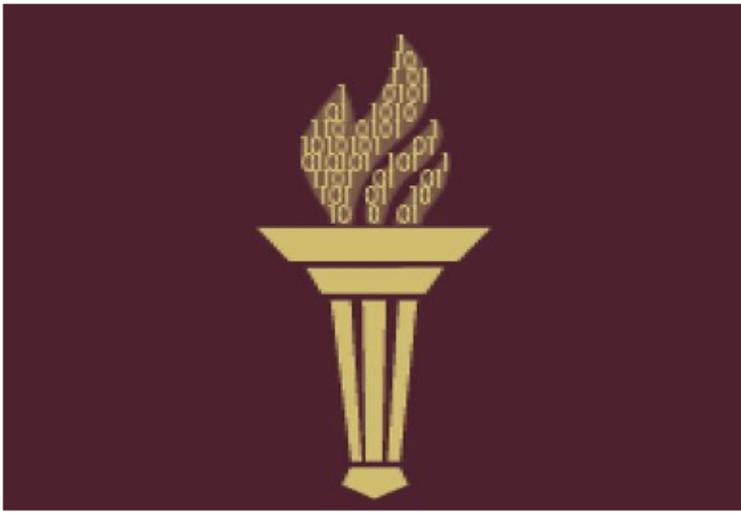


- We have all been to a location that did not have enough seats to sit or that had a misuse of the available space
- For us it is the libraries where thousands of students meet to get assignments done usually there isn't enough space
- For others this is going to a coffee shop and not having anywhere to sit



# PROJECT BRIEF SUMMARY

- Our project is the multi-purpose MeWee table used to maximize workspace and efficiency
- We received this project from Campus Reimagined (CRI)
- Our purpose is to design a table for students to work at in university libraries



# INTERPRETATION CUSTOMER NEEDS

- Interpreting our customer needs provides parameters on what our design should do and have please the general public
- We interpreted that our customer needs a safe and simple table that utilizes the environment's space well
- Some building parameters include mobility and a power supply



# CUSTOMER NEEDS

- We established our customer needs from a discussion with our sponsor

Question	Customer Statement	Interpreted Need
<b>What is the most concerning factor for the design?</b>	The design must be safe and simple.	Our top design priorities are safety and simplicity.
<b>Does the table have an electric element to it?</b>	The table should have outlets and USB ports to charge items.	The design can include a power source that charges people's electronic items.
<b>Who is our primary and secondary market?</b>	The table is being built for the FSU CRI to be used in the student library, but use anywhere work can be done would be beneficial.	The primary market is University libraries and the secondary market is coffee shops / office buildings.

# CUSTOMER NEEDS

Question	Customer Statement	Interpreted Need
<b>What are we hoping to accomplish with the design?</b>	The idea for this table came from observing students who waste available space; sitting by themselves at a multi-person table. Other students avoid the awkwardness of approaching that student to ask to sit at the table.	The table will increase the amount of utilized space when compared to a traditional table.
<b>Can the table be any shape?</b>	Yes, circular tables have already been used for the conceptual idea but any shape and size are allowed.	The table can be any geometric shape, but more research is needed to find an optimal design.
<b>Does the table have to be stationary or mobile?</b>	The table does not need to be mobile, but the easier it folds and moves, the better.	The table allows for simple relocation.
<b>Is there a specific age range for our market?</b>	College Students	The age of the users ranges from 17-25.



# PROJECT SCOPE

- The project scope reflects our interpretation of the project brief and the information collected from our customer

# PROJECT SCOPE



**Project Description** Produce a multi-workspace table where people can choose to work individually or in a group setting.



**Key Goals** Design & create a cooperative table that's simple, safe, and adjustable. Able to accommodate up to 4.



**Primary Market** University/school libraries where students will use tables to work.



**Secondary Market** Coffee shops and social areas where people gather to work individually or in a group.



**Assumptions** Intended for college-age students. Standard 15-amp 120-V outlets for any charging components.



**Stakeholders** The beneficiaries are Dr. McConomy, Dr. Hollis, Mr. Peter Butler, Campus Reimagined (CRI).

# KEY GOALS

- Safety
- Cooperative/singular efficient work environment
- Adjustable
- Simple
  - Anyone can use it, anytime

**SAFETY  
FIRST!**



# PRIMARY/SECONDARY MARKET

- Primary market is university libraries
- Secondary markets include retail places like coffee shops or any place with working lounges (hotels, airports, etc.)

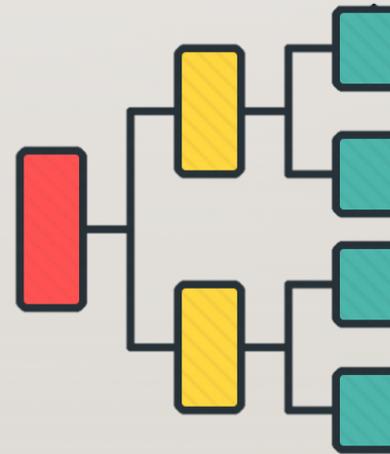


# ASSUMPTIONS

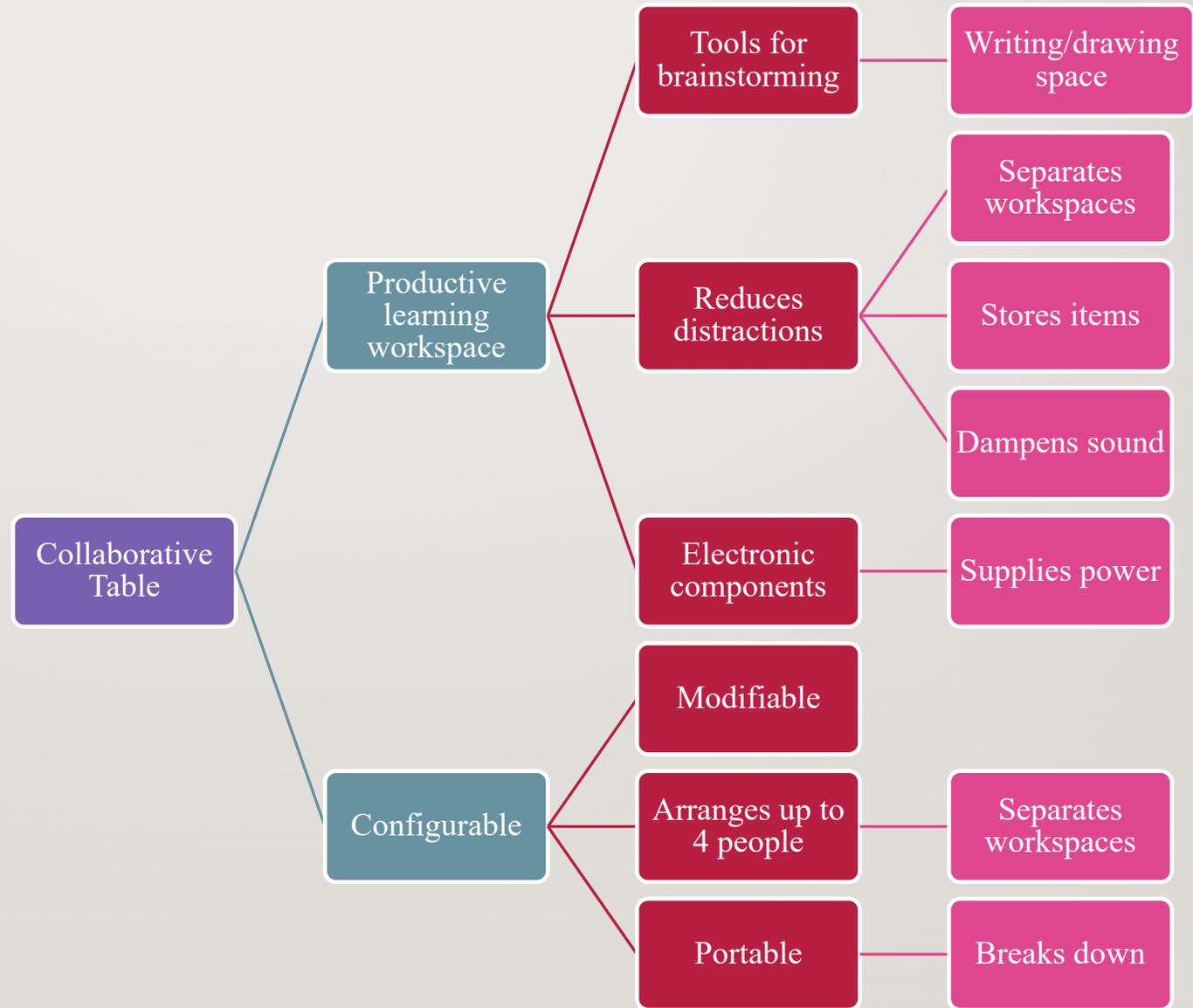
- Modeled after college age people
- Output power will be 15 A/140 V across multiple devices

# FUNCTIONAL DECOMPOSITION SIGNIFICANCE

- Necessary for understanding what the design must achieve in order to be successful
- We analyzed the environment the design would be in, and its main functions within the primary and secondary market



# FUNCTIONAL DECOMPOSITION



# FUNCTIONAL DECOMPOSITION CROSS REFERENCE TABLE

Function	Configurable	Productive Learning Workspace
Writing/Drawing Spaces	○	×
Stores Items	○	×
Dampens Sound	○	×
Supplies Power	○	×
Has Moving Components	×	○
Separates Workspace	×	×
Breaks Down	×	○

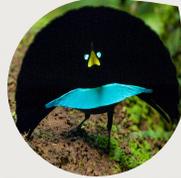
- Only one subfunction involved in both functions (separates workspace)
- Two primary functions, one how users will interact with the table and the mechanical properties of the table

# GOING FORWARD

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## Research inspirational models, fields of engineering, and designs

- Biological engineering



Vogelkop superb bird of paradise



Wahne's parotia

- Research on people's opinions of the what they want/like about a table

## Concept generation and concept selection

- Create preliminary designs

## Create a prototype

- 3-D CAD models
- Acquire supplies for prototype
- Construct

# REFERENCES

- *Campus Reimagined*. (n.d.). photograph.
- Chan, J.T. (n.d.). *My (Non-Minimalist) Workspace*. photograph.
- *Dirac Science Library*. (n.d.). photograph, Tallahassee.
- Mikitani, M. *Simplicity: It's Complicated*. (2019). photograph.
- McConomy S. (2019) Engineering Characteristics, Functions, Targets, and Metrics. [PowerPoint Slides]. [https://famu-fsu-eng.instructure.com/courses/280/files/27018?module\\_item\\_id=6873](https://famu-fsu-eng.instructure.com/courses/280/files/27018?module_item_id=6873)
- McConomy S. (2019) Project Scope. [PowerPoint Slides]. [https://famu-fsu-eng.instructure.com/courses/280/files/23987?module\\_item\\_id=6103](https://famu-fsu-eng.instructure.com/courses/280/files/23987?module_item_id=6103)
- *Vogelkop Superb*. (n.d.). Photograph.

**EML4551-2**

**“OTHERS DREAM OF THINGS THAT  
WERE, AND ASK 'WHY?'  
I DREAM OF THINGS THAT NEVER  
WERE, AND ASK 'WHY NOT?'”**  
**~CARDINAL SAINT-SAENS**

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