

WONDER FACTORY

Team 2-A:

- Shamlan Alshammari -----→ Client Contact
- Mohammad Alsaïdi ---→ Web Developer / Document Manager
- Bader Alshammari -----→ Project Manager
- Mohammad Alotaibi -----→ Budget Holder

PROJECT DESCRIPTION

- We are building Wonder Factory
- Wonder Factory is a place to display items for children's
- Items which follows the concept under STEMA are:
 - **Science**
 - **Technology**
 - **Engineering**
 - **Mathematics**
 - **Art**

CLIENT DETAILS

- Wonder Factory is actually a project led by
 - **Jackee Alston.**
 - **Steve Alston.**
- Wonder Factory has already created in Flagstaff where children comes for educational and entertaining products
- Project is sponsoring by these two clients
- It is important to know about sponsors because they are actually running the Wonder Factory so they will better judge our project and we have to make the project up to their mark.

BACKGROUND AND BENCHMARKING

- Wonder Factory as stated earlier is already running in Flagstaff
- There are different type of products present in Wonder Factory
- These include
 - **Bicycle Electricity System**
 - **Crossword Puzzle**
 - **Shape and Mathematics**
 - **Golf Playground**
 - **Build bridge**

BACKGROUND AND BENCHMARKING

- Bicycle Light



Figure 1: Bicycle Light [1]

- Crossword Puzzle



Figure 2: Crossword Puzzle [2]

BACKGROUND AND BENCHMARKING

- Shape and Mathematics



Figure 3: Shape and Math [3]

- Build Bridge

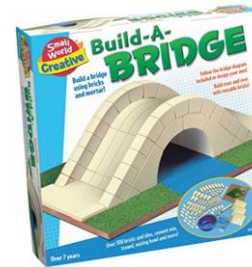


Figure 4: Bridge Build [4]

BACKGROUND AND BENCHMARKING

- Golf Playground



Figure 5: Gold Ground [5]

CUSTOMER REQUIREMENTS

- Customer Requirements are
 - **Safe to Operate**
 - **Child like wonder**
 - **Tactile, Auditory, and Visual**
 - **Simple to Operate**
 - **Portable**
 - **Project Themselves into the role**
 - **Feel smart**
 - **Multiple visitors**

ENGINEERING REQUIREMENTS

- Engineering Requirements have built after understanding the client Requirements
- Client stated that each design must be safe, so it must not have any sharp edge.
- It has decided that different designs have to build for wonder factory so different ideas and their technical requirements have put into the Engineering Requirements

ENGINEERING REQUIREMENTS

- Engineering Requirements are
 - **Weight less than 100 pounds**
 - **No Sharp Edge**
 - **Area less than 10 x 10 feet**
 - **Turn on bulb of 20 watt**
 - **Do calculation for 10 numerical values**
 - **Less work for kids**

QUALITY FUNCTION DEPLOYMENT (QFD)

- QFD is basically a matrix to relate the engineering requirements with the customer requirements.
- From QFD, engineering requirements gets the priority order
- Weightage can assign to the requirements easily.
- It explains which requirement is more important to focus for developing the design project according to the demands of client.

WORK DIVISION

- Work has divided between all the members equally
 - **Generating Concept Variants – All team Members**
 - **Finalized Design – All team Members**
 - **Progress Report – All team Members**
 - **BOM – Bader Alshammari & Mohammad Alsaïdi**
 - **Budget and Gantt Chart – Mohammad Alotaibi & Shamlan Alshammari**
 - **Final Report – All team Members**
 - **Final Presentation – All team Members**

BUDGET

- Our Budget in this project goes within \$500 minimum and \$2,000 maximum
- We anticipate our project will cover the following items:
 - **Materials (40%)**
 - **Manufacturing (40%)**
 - **Prototyping (20%)**

SCHEDULE

- Key Tasks:
- Presentations
- Peer Evaluations
- Website Checks
- Reports
- Prototype
- CAD DRAWING & BOM

REFERENCES

- [1] Amazon, “Bicycle Bike Turn Signal”, <https://www.amazon.com/Bicycle-Bike-Signal-Brake-Light/dp/B006BQEDEQ>
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- [5] Amazon, “Mini indoor Golf Player Pack”, https://www.amazon.com/Mini-Indoor-Golf-Player-Pack/dp/B01A9K2H2E/ref=sr_1_1?s=toys-and-games&ie=UTF8&qid=1517831164&sr=1-1&keywords=mini+golf



THANK YOU FOR YOUR ATTENTION!

Any Questions?