Gabe's Chocolate Factory

A solution to create elegant and edible fonts

Product Proposal

- Gabe's Chocolate Factory is a two-dimensional chocolate plotter printer for baking application.

Product Definition

- Printer must be able to print chocolate lettering for cakes.
- Lettering should be easy to input and have a variety of fonts.
- Must be easy to sanitize.
- Should handle one print job without being reloaded.
- Font must be appropriate size for cakes.

Product Definition - Weighting

- Printer must be able to print chocolate lettering for cakes. - 30%
- Lettering should be easy to input and have a variety of fonts. - 20%
- Must be easy to sanitize. - 30%
- Should handle one print job without being reloaded. - 10%
- Font must be appropriate size for cakes. - 10%

Competition and Benchmarking

Focus 3D Food Printer created by byFlow

- One of the most refined food printers on the market
- Portable case
- Any paste like material including chocolate
- $4,599 price tag
- 10 etxra cartridges, 4 nozzles, and preloaded designs
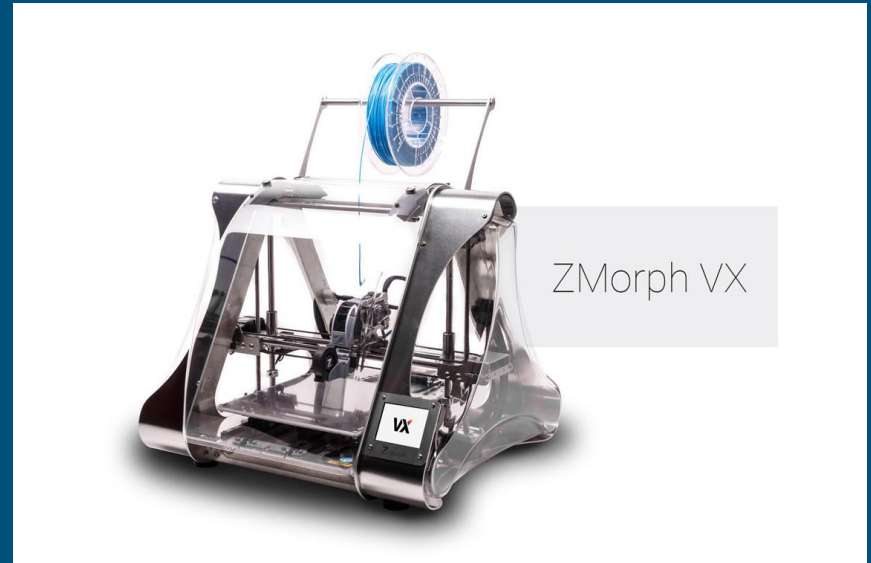- Most in library prints take only 2-15 minutes

Competition cont

Procusini 3.0

- $2,250 price tag
- Universal plug and play solution
- Pasta, marzipan, fondant, and chocolate
- User can create and print with own mixtures
- Dual extruders allowing for twice as fast printing
- Mix and match materials and colors
- Acess to several apps and videos to make designs

Competition cont

ZMorph VX

- 3D printer, CNC mill, and laser cutter
- $4,399 price tag
- 5 different extruder/ tool heads
- Caution when switching tooling
- Best for printing flat patterns

ZMorph VX

Engineering Specifications

- Create a device similar to a conventional Fused Deposition Material (FDM) printer
- Must have an extruder head that can properly position material on a print bed
- The extruder must lay down molten chocolate in desired shapes such as lettering that is 1-3 inches in height and a width of half the overall height.
- Will take conventional text files and convert it to machine code.
- Chocolate will be stored in a clear 16 oz nutrient sterile reusable kitchen syringe

Engineering Specifications Cont.

- The printer will deal with only milk chocolate
- The extruder head must keep the chocolate between 86-88°F with the target being 87°F ensuring the chocolate will be easily extrudable in a continuous stream.

Gantt Chart

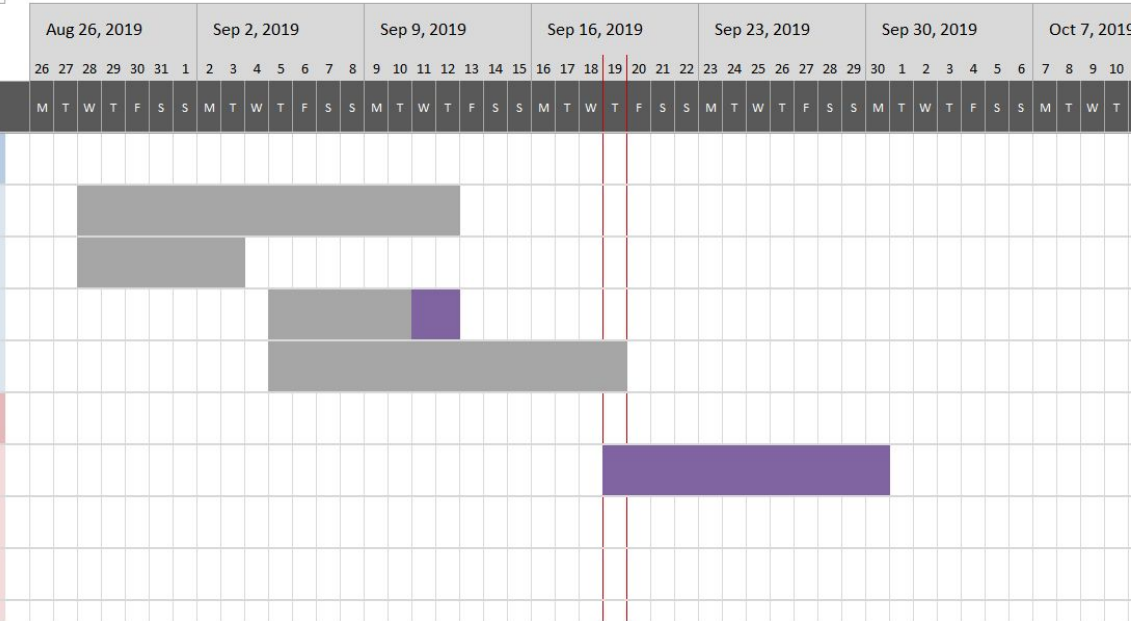## 3D Chocolate Printer

SIMPLE GANTT CHART by Vertex42.com
https://www.vertex42.com/ExcelTemplates/simple-gantt-chart.html

Project Start: Wed, 8/28/2019

Display Week: 1

TASK	ASSIGNED TO	PROGRESS	START	END
Product Definition				
Product Proposals	All Members	100%	8/28/19	9/12/19
Product Selection	All Members	100%	8/28/19	9/3/19
Document Creation	All Members	75%	9/5/19	9/12/19
SRR Presentation	All Members	100%	9/5/19	9/19/19
Design Phase				
First sketch	Jordan	0%	9/19/19	9/30/19
Body Design				
Extruder Head				

Aug 26, 2019 | Sep 2, 2019 | Sep 9, 2019 | Sep 16, 2019 | Sep 23, 2019 | Sep 30, 2019 | Oct 7, 2019

Work Breakdown Structure

Gabes Chocolate Factory

Body Design		Website		Chocolate Extruder Head	
Structural:	60	design:	25	Research:	100
Electrical:	70	Creation:	10	Design:	40
Other Components:	60	Total:	35	Ordering:	40
total:	190			total:	180

Statement of work

Supplied:

- Website
- Prototype Printer
- Solidworks Models
- Full machine specifications

Acceptance Criteria

Success is defined by the ability to print out Dr. Bevill's name in a calligraphy and sans-serif style font using milk chocolate.

QUESTIONS?