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Project Management
Assignment 1

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Plagiarism Declaration

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Plagiarism is to use another's work (even if it is summarised, translated or rephrased) and pretend that it is one's own. This assignment is our own work.

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I know that a mark of zero may be awarded to assignments with plagiarism and also that no opportunity be given to submit an improved assignment.

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Executive Summary

In today's day and age, engineers are expected to be versatile in more aspects than ever before. One of these is project management. This assignment hopes to introduce and ready engineering students for project management and as close to reality as possible. For example, the teams of students are multi-disciplinary, and had most probably not had prior experience working together.

For this particular assignment, a project structure / 'blueprint' has been designed in order to manage the creation of a beer brewery.

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Table 1: Milestones

Milestone	Critical Path Tasks	Task Group	Task Duration (Days)	Target Date
1	Evaluate Market	Market Assessment	12	27-04-2017
	Develop Business Opportunity		14	
	Customer Preference Study		21	
	Business Evaluation (NPV, etc.)		4	
2	Design and Development Plan	Design	6	06-06-2017
	Design Specifications		22	
3	Advertising Campaign	Commercialization	28	14-07-2017
4	Design Labeling	Design	5	03-08-2017
	Approve Design		4	
	Initial Engineering Specifications	Engineering	5	
5	Design Verification Activities	Engineering	7	01-09-2017
	Verification Design Review		4	
	Release Pre-production Specifications		10	
6	Build Functional Model	Engineering	18	27-09-2017
7	Issue Sample (Production Equivalent)	Procurement	5	24-10-2017
	Perform Supplier Process Capability	Supplier Quality	14	
8	Process Engineering Plan	Manufacturing	15	14-11-2017
9	Validation Design Review	Engineering	4	24-11-2017
	Approve Model Design		4	
10	Qualify Supplier	Supplier Quality	10	08-12-2017
	Design Transfer Activities	Engineering	7	
	Product Release Meetings	Engineering Quality	3	
11	Develop Production Control Plan	Manufacturing	8,5	08-01-2018
	Approve Production Parts		5	
	Contracting for Deliveries		8	
12	Submit Production Purchase Order	Manufacturing	2	31-01-2018
	Production Pilot Test		5	
	Debugging Production System		4	
	Production Release		3	
	Product Launch	Commercialization	3	

2.4 Work Breakdown Structure

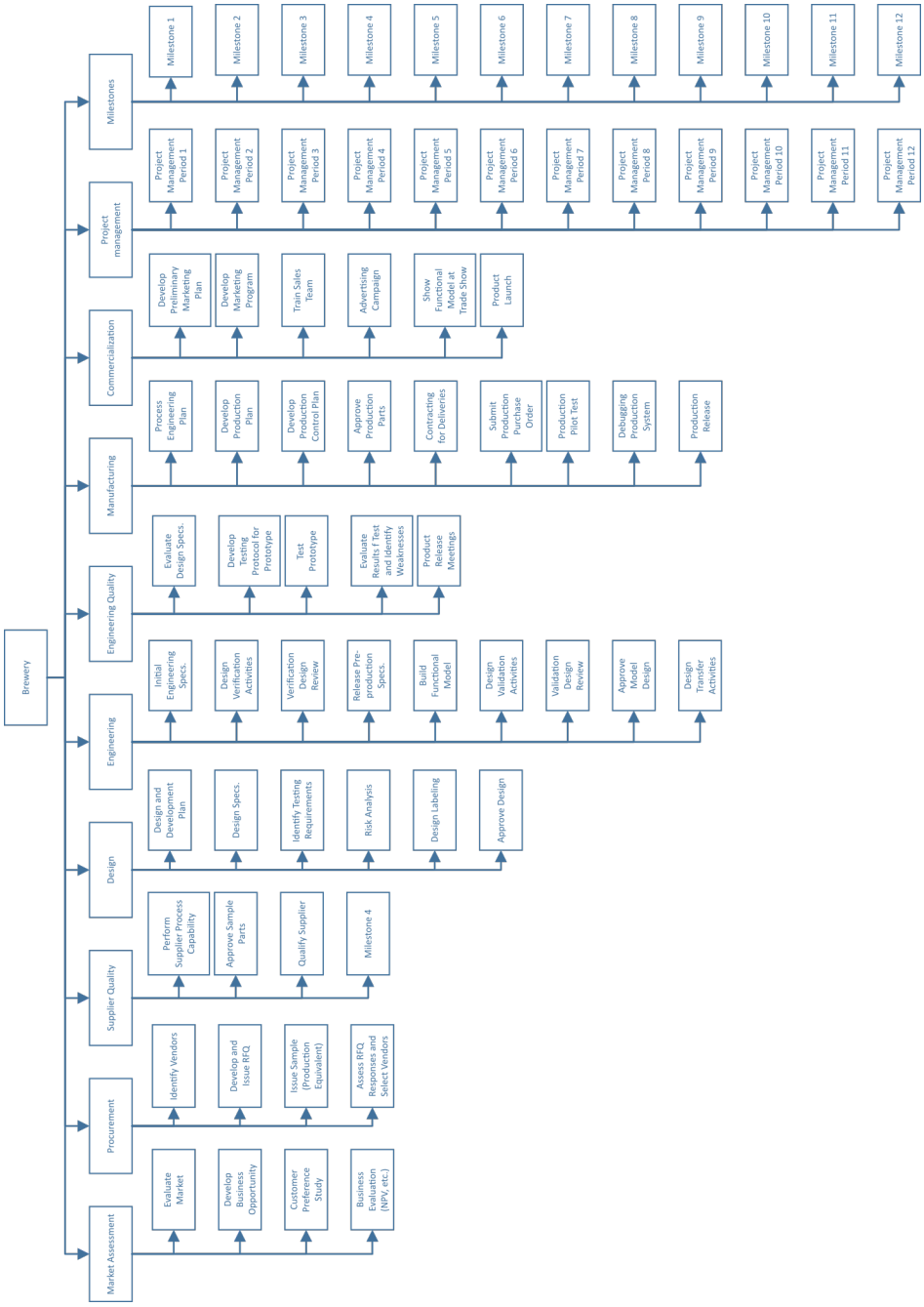

Figure 1: Work Breakdown Structure

2.5 Technical Requirements

2.5.1 Summary of product

There are four types of beer that need to be manufactured namely: Weiss, Ale and two different flavoured lagers. All the beers utilize the same brewing system with slight alterations needed to create each unique beer. These alterations include different fermenting processes and different grains used. There needs to be four brewing systems working simultaneously in order to produce a sufficient amount of all beers.

2.5.2 Product Requirements

- There should be 4 varieties of beer
- Each beer will be sold in 500ml glasses
- The temperature of the beer should always be carefully monitored from the brewing process until the product is sold to the customer
- Control systems should be put in place in order to monitor and control each stage of the brewing process
- The quality of the final product needs to be of a high standard in order to compete in the respective market
- The final product should be marked at a reasonable price in order to appeal to a wider target market (students)
- The process compromises of 12 stages that need to be carefully executed in order to produce the best possible product

2.5.3 Project Requirements

- Project commences 20th February 2017 and terminates 3rd May 2017
- All the suppliers of the company should be identified and have their capabilities assessed
- The final product must be designed completely. The components should include specifications, risk analysis, design analysis, production process and possible testing requirements.
- A full quality assessment must be done throughout all stages of production of the final product

2.6 Limits and Exclusions

2.6.1 Limits

2.6.2 Exclusions

2.7 Review and Approval

3 Project Baseline Plan

3.1 Baseline Commentary

4 Project Budget

The estimated budget and estimated hours provided by Sim4 project was used as a guideline of what should be spent during each period to ensure that the project would stay within the budget of $380 000.

To calculate the budget the effectiveness of the resources were brought into consideration. An assumption was made that all resources will work at an 80% effectiveness rate. The estimated hours of each task as well as the safety margin of 80% effectiveness was used to determine the hours worked for each task using the formula provided.

$$Actual\ time\ worked\ (hours)\ =\ \frac{Estimated\ time\ (hours)}{\%effectiveness}$$

The budget forecast is provided in Appendix

Table 2: Budget Forecast

PERIOD 1						
Estimated provided from simmulation					Estimated Budget	
TASK NAME	TYPE	Estimated Cost ($)	Estimated Time (hours)	EstimatedCost per Hour		RESOURCES
Evaluate market	Market Assessment	$4 800,00	96	$50,00	Devision	Estimated Ho
Develop Business opportunity	Market Assessment	$10 080,00	112	$90,00		
Customer preference study	Market Assessment	$8 400,00	168	$50,00	Project Management	200
Business evaluation (NPV, etc.)	Market Assessment	$4 000,00	32	$125,00	Market Assesment	100
Project Management Period 1	Project Management	$25 000,00	200	$125,00	Market Assesment	112
		$52 280,00			Market Assesment	32
					Market Assesment	96
Total cost	$52 280,00				Total cost	$52 508,89
Budget left over	$327 720,00				Budget left over	$327 491,11