



CHICKEN FOOD FEEDER (PROTOTYPE)

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**JABATAN KEJURUTERAAN MEKANIKAL
POLITEKNIK SEBERANG PERAI**

SESI JUN 2017

DEKLARASI PENYERAHAN LAPORAN AKHIR

DEKLARASI DARIPADA PELAJAR (KETUA KUMPULAN)

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Tarikh: 2/10/2017


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
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“Kami akui karya ini adalah hasil kerja kami sendiri kecuali nukilan yang setiap satunya telah kami jelaskan sumbernya”


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PENGESAHAN LAPORAN PROJEK

Laporan projek bertajuk "Chicken Food Feeder (Prototype)" ini telah dikemukakan, disemak serta disahkan sebagai memenuhi syarat dan keperluan penulisan projek seperti yang telah ditetapkan untuk tujuan penganugerahan Diploma Kejuruteraan Mekanikal

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APPRECIATION

In the Name of Allah, Most Gracious, Most Merciful

Let me first offer my deepest gratitude to the almighty also peace and blessings be upon the Prophet Muhammad because of the bounty of Allah and in his mercy may we be able to generate reports and project final semester to fulfil one of the conditions provided for the award of the Diploma Mechanical Engineering.

Heartfelt appreciation goes to Ms. Zuraila as the supervisor of the final semester of our group who have helped for nearly six months to produce a sketch of the project and reports on this final semester project. She also has a lot of encouragement, and advice that is useful to us and never give up in order to provide guidance to us throughout our project he became supervisor.

Do not forget also to our parents and our family have a lot of encouragement for us to continue to be successful and struggling with the problems encountered during the process of producing this final semester project. Thanks also go out to all lecturers at the Polytechnic that has provided guidance and opinions to us to produce this project in particular academic adviser, Mr. Sharidan Bin Mohamad Shariff and Chief Project Coordinator Semester End Not Depreciated businessman chicken farm, Mr. nor Azlan Bin Mohamed owners and managers Jelutown Ventures Sdn.

Finally, I also wish to express our appreciation to colleagues and those involved directly and indirectly in providing support and encouragement for this project. Finally, we hope that the project generated benefits the owner Jelutown Ventures in particular and the academic world in general.

ABSTRAK

Dalam era moden, teknologi canggih ini merupakan asas penting bagi kejayaan pergerakan buruh yang komprehensif dan produktif. Secara amnya, aktiviti pertanian juga harus sesuai dengan pemodenan dengan teknologi canggih untuk membuat produk yang bersaing dengan produk negara lain. Antara isu utama yang menjadi kekangan kepada petani ialah mereka masih menggunakan kaedah manual untuk memberi makan kepada ayam dan kesan negatif tidak langsung pada masa dan kos penggunaan. Mereka tidak menggunakan teknologi canggih untuk mengembangkan ladang ayam mereka dalam proses memberi makan ayam. Seterusnya, penggunaan tenaga kerja sangat tinggi dan menyebabkan maklumat yang diperlukan mengenai banyak pekerja. Jika majikan tidak mengambil langkah pertama, majikan harus menanggung kos penyelidikan kerugian bagi banyak pekerja dan akan bekerja dengan majikan untuk melepaskan diri dari kerja kerana tekanan yang sangat tinggi. Pekerja perlu membuat proses pengisian bran berulang kali. Untuk menangani masalah yang disenaraikan di atas, kami mengeluarkan idea yang sangat bijak untuk membuat produk makanan ayam yang mengenakan lebih moden dan maju untuk mengurangkan kos buruh dan kos menyelidikinya. Produk ini juga akan membolehkan para pekerja melakukan proses penambahan makanan ayam berbanding dengan kaedah pengisian makanan yang lama.

ABSTRACT

In the present era in modern, sophisticated technology forms an important basis for the success of a comprehensive labor movement and productive. Generally, farming activities should also be in accordance with the modernization with sophisticated technology to make the products competitive with products of other countries. Among the key issues to be constraints to farmers is that they still use manual methods to feed the chickens and indirect negative impact on time and cost of use. They do not use advanced technology to develop their chicken farm in the process of feeding the chickens. Next, the deployment of labor is very high and cause the necessary information concerning the many employees. If employers do not take the first step, employers should bear the cost of researching losses for many workers and will work with employers to get away from work due to very high pressures. Employees need to make the process of filling bran repeatedly. To address the problems listed above, we issue a very brilliant idea to make chicken feed product charging more modern and advanced to reduce the cost of labor and cost of researching them. The product also will enable workers to perform the process of replenishment of chicken feed compared with the old method of filling food.

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CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION

The final year project is one of the tasks that has been enacted by the Ministry of Human Resources. The final year project is designed to expose students to the skills and knowledge to produce a project that has been designed and planned. The final year project is also a mandatory requirement that Seberang Perai Polytechnic students must take.

Each student is required to produce a group project. Students are required to formulate and implement projects according to their creativity. Assessment will be made on every project that has been implemented by the time stated in the final year project, indirectly assessing and using the knowledge learned in polytechnic either theory or practical. Additionally, it can also expand the experience in completing the task.

Students are also given the task of preparing a daily report book or known as a log book intended to record the activities of a fellow project. Daily report books are as evidence that students are doing the work done in preparing projects. Daily report books also refer to students to make executive reports. Daily reports also help supervisors and administrators monitor the progress of student projects to perform more disciplined tasks according to the pelan

1.1 BACKGROUND PROJECT

The project to create is a machine that is Chicken Food Feeder machine that is used to distribute bran in each feeder. This Chicken Food Feeder machine is guided by the carrier. This is one of the innovations you want to make. Carrier used is to facilitate the distribution of bran to each feeder.

1.2 PROBLEM STATEMENT

From discussions with business owners Jelutown Ventures SDN BHD only have 3 worker's to cater the whole farm, the workers have a very high workloads. Worker's use a lot of energy to refill the brans into the feeder one by one. Worker's frequent movement in and out of the coop can cause the chicken to be injured.

1.3 OBJECTIVES

The objective of this project is to produce "Chicken Food Feeder:" which meet the criteria below :

- A) Reduce workload for the workers at Jelutown Ventures.
- B) Reduce worker's movement in the coop thus reduce risk of chicken's injury

1.4 SCOPE OF PROJECT

Scope project is an important element to make sure the project can be finish exactly like how the schedule runs. So, scope project has to be followed to prevent the project out from the objective. Scopes of the project are:

A) To facilitate bran refilling process during feeding hours at jelutown venture from manually one by one to semi-auto machine.

This project is a semi-auto-engine because the employee needs to use the controls to move the carrier that bran into a feeder.

B) To reduce injury by restricting movement of workers to standing beside the machine.

At Jelutown Venture, during the process of feeding the chicken, the worker must pass one feeder to another. This can be a risk to the chickens rather than being stuck or snapped

1.5 DEFINITION OF TERMS

Terms that can be explained more precisely the requirements in this study are:

A) Chicken feeding system

This nutritional system is powered by electricity that is used motor to move the system like a carrier.

1.6 CONCLUSION

Based on the study, the issues and interests of the "Chicken Food Feeder" are very important as there is too much competition in poultry farming. Therefore, further studies need to be done to ensure that the positive impacts can be achieved by poultry farmers by using project ideas to ensure that healthy competition can be created among poultry farming entrepreneurs. It can also lead to more new idea exist. In the next chapter, the researcher will relate the problems that arise with theories, concepts and studies obtained by scientific studies.

CHAPTER 2

LITERATURE REVIEW

2.0 INTRODUCTION

Before starting the project, observations were made on all aspects of the chicken food harvesting system. There are many aspects to be concentrated on the product that has the added capacity to save on costs. The most important things to be focused on are spare parts. Each component of the selection materials were focused including advantages and disadvantages. In the picture below, shows that History Under a small study. The chicken feeder project gets support from chicken farm operator Jelutown Ventures Co, which runs a farm in Taiping, Perak. Mr. Nor Azlan Bin Mohamed, owner of Jelutown Ventures Co. Before operating, he worked as an engineer at one of Malaysia's companies. But he decided to stop and start his business. He said running chicken farms was more beneficial in terms of time and commercial cost. In the first entrepreneur opened the chicken farm worker looking for a very special problem in honor of daily work at chicken coop, full peripheral patience, he managed to get three employees to reduce business labor costs fluctuations. In poultry farm capacity Creating three farms he managed only 15 thousand chickens. The system of nutrition scheduling while the system is listed in table 2.1.

F1-R1/ROSS308-M											F1-R1/ROSS308-F										
Age	Wgt (g)	Daily Gain	Feed /Bird	Mort	Sold	Birds Balance	Bag (50kg)		FCR	Age	Wgt (g)	Daily Gain	Feed /Bird	Mort	Sold	Birds Balance	Bag (50kg)		FCR		
							Plan	Actual									Plan	Actual			
	42			132	3368	1476	233			40				139	3368	2030	232			7,000	
	42			7		3500	0.5			42				7		3500	0.5			7,000	
1	57	15	14	7		3493	1.0			1	57	15	13	7		3493	1.0				
2	73	16	17	6		3487	1.2			2	73	16	17	6		3487	1.2				
3	91	18	20	6		3481	1.4			3	91	18	20	6		3481	1.4				
4	111	20	22	5		3476	1.5			4	111	20	22	5		3476	1.5				
5	134	23	24	5		3471	1.7			5	134	23	24	5		3471	1.7				
6	160	26	26	4		3467	1.8			6	160	26	26	4		3467	1.8				
7	189	29	28	4		3463	1.9	0.856		7	188	28	28	4		3463	1.9			0.898	
8	221	32	30	4		3459	2.1	0.909		8	220	32	30	4		3459	2.1			0.943	
9	257	36	35	4		3455	2.4	0.955		9	254	34	35	4		3455	2.4			0.981	
10	296	39	40	3		3452	2.8	0.995		10	292	38	40	3		3452	2.8			1.014	
11	339	43	46	3		3449	3.1	1.030		11	333	41	44	3		3449	3.1			1.043	
12	385	46	52	3		3446	3.5	1.062		12	376	43	48	3		3446	3.5			1.070	
13	434	49	58	3		3443	3.8	1.090		13	423	47	52	3		3443	3.8			1.096	
14	488	54	63	3		3440	4.2	1.117		14	473	50	57	3		3440	4.2			1.119	
15	545	57	70	2		3438	4.6	1.142		15	526	53	62	2		3438	4.6			1.142	
16	605	60	77	2		3436	5.0	1.165		16	582	56	67	2		3436	5.0			1.164	
17	669	64	84	2		3434	5.4	1.187		17	640	58	72	2		3434	5.4			1.186	
18	737	68	91	2		3432	5.8	1.209		18	701	61	77	2		3432	5.8			1.207	
19	808	71	97	2		3430	6.2	1.230		19	765	64	83	2		3430	6.2			1.228	
20	882	74	103	2		3428	6.7	1.250		20	831	66	89	2		3428	6.7			1.249	
21	959	77	109	2		3426	7.1	1.270		21	899	68	95	2		3426	7.1			1.270	
22	1040	81	117	2		3424	7.5	1.290		22	969	70	101	2		3424	7.5			1.290	
23	1123	83	123	2		3422	8.0	1.309		23	1042	73	107	2		3422	8.0			1.311	
24	1209	86	133	2		3420	8.5	1.328		24	1116	74	113	2		3420	8.5			1.332	
25	1297	88	141	2		3418	9.0	1.348		25	1191	75	119	2		3418	9.0			1.352	
26	1388	91	148	2		3416	9.5	1.367		26	1268	77	126	2		3416	9.5			1.373	
27	1481	93	155	2		3414	9.9	1.386		27	1347	79	133	2		3414	10.0			1.393	
28	1576	95	162	2		3412	10.4	1.405		28	1427	80	140	2		3412	10.5			1.414	
29	1673	97	170	3		3409	10.9	1.424		29	1507	80	146	3		3409	10.9			1.434	
30	1771	98	178	3		3406	11.4	1.443		30	1589	82	152	3		3406	11.4			1.455	
31	1871	100	184	3		3403	11.8	1.462		31	1671	82	158	3		3403	11.8			1.476	
32	1973	102	194	3		3400	12.3	1.480		32	1754	83	164	3		3400	12.4			1.496	
33	2075	102	201	3		3397	12.8	1.499		33	1838	84	171	3		3397	12.8			1.517	
34	2179	104	208	3	500	2894	13.2	1.518		34	1922	84	178	3	500	2894	13.3			1.737	
35	2283	104	215	8	800	2086	11.6	1.537		35	2006	84	185	8	800	2086	11.9			1.558	
36	2388	105	217	10	1200	876	9.1	1.556		36	2090	84	186	10	1200	876	7.8			1.579	
37	2493	105	219	8	868		3.8	1.575		37	2175	85	187	8	868		3.3			1.599	
38	2599	106	221					1.594		38	2259	84	188							1.620	
39	2705	106	223					1.613		39	2344	85	189							1.641	
40	2811	106	225					1.632		40	2428	84	190							1.662	
41	2917	106	226					1.651		41	2512	84	191							1.682	
42	3023	106	228					1.670		42	2595	83	192							1.703	
43	3129	106	230					1.689		43	2678	83	194							1.724	
44	3234	105	232					1.709		44	2761	83	196							1.745	
45	3339	105	234					1.728		45	2843	82	198							1.766	
ROSS308 (2014)						132	3368	271	233	466	ROSS308 (2014)						139	3368	232	466	
Overall Performance						1.77%	96.23%	6,736	3.77%	466	100.00%	Overall Performance						1.97%	96.23%	1.540	7,000
(Barn 1 - EIP45)						271	6,736	96.23%	7,007.0	TARGET FCR											

Table 2.1.1 : Feeding time schedule.

	Chicks	Chickens
Morning	Once	Once a day
Evening	Once	



Figure 2.1.2 : Shows the workers refill the feeder container



Figure 2.1.3 shows the workers refill the feeder container



Figure 2.1.4 shows the workers refill the feeder container



Figure 2.1.5 shows the workers refill the feeder container

2.2 VISIT TO JELUTOWN VENTURES SDN BHD



Figure 2.2 Taking picture with owner of Jelutown Ventures Sdn Bhd



Figure 2.2.1 The area outside the coop

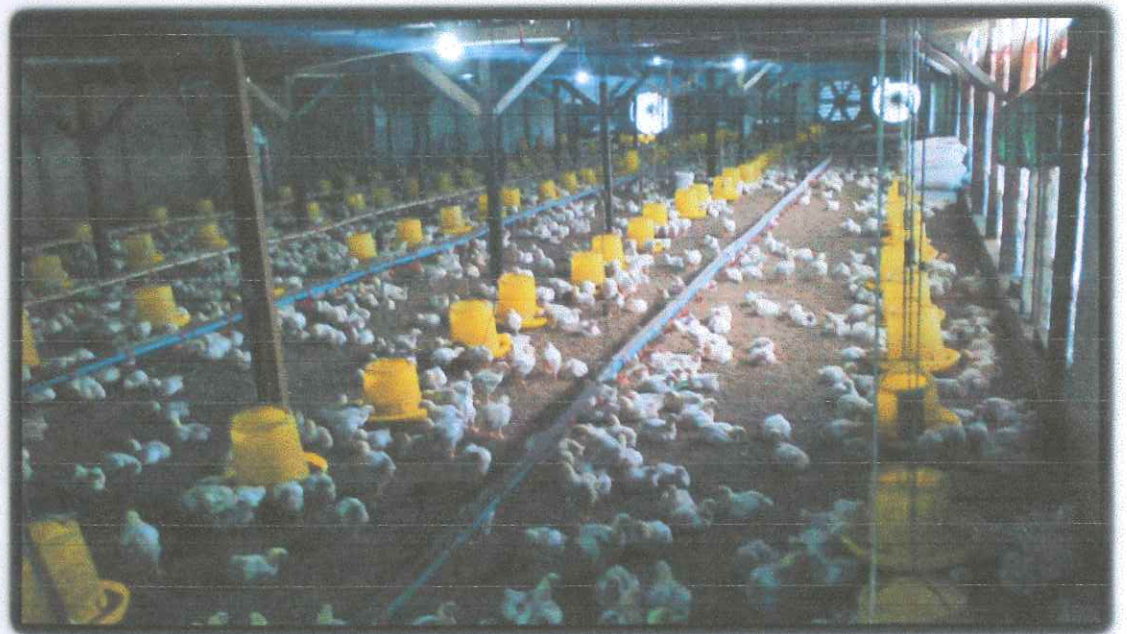


Figure 2.2.2 The view from inside the chicken coop



Figure 2.2.3 shows a discussion with the owner of the chicken farm



Figure 2.2.4 The feeder in Jelutown Ventures Co.



Figure 2.2.5 Type of bran used

2.2.6 Support Letter from Jelutown venture Co.

KEPADA SESIAPA YANG BERKENAAN 10 Januari 2017

Adalah saya **Nor Azlan bin Mohamed** pemilik Perniagaan **Jelutown Ventures** menjalankan ternakan Ayam Pedaging bertempat di Lorong Long Jaafar, Bukit Gantang Taiping, Perak. Kapasiti ternakan ayam tersebut berjumlah 50,000 ekor didalam reban dengan sistem tertutup.

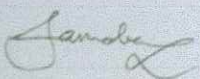

Saya menyokong penuh usaha inovasi merekabentuk "Chicken Food Feeder" dari pelajar Politeknik Malaysia Seberang Perai yang dianggotai oleh:

- 1) Muhamad Hariz Hilman bin Ahmad Rodzi
- 2) Muhammad Amir bin Anur Hussien
- 3) Muhd Shahzim bin Muhammad Hanifah
- 4) Noraiman Naim bin Che Ibrahim
- 5) Ummi Umairah bt Samsudin
- 6) Nurul Liyana bi Ismail

Semoga usaha ini mendapat kejayaan yang cemerlang dan dapat memberi faedah kepada penternak ayam seperti saya, malah memajukan negara di masa hadapan.

Sekian, terima kasih.

Yang Benar,

Nor Azlan bin Mohamed
Pengurus.
(Tel: 019-5778053)

2.3 ANALYSIS OF EXISTING DESIGN

As know, there is a system or a diet that was designed before. Each design has its advantages and disadvantages of each. The basic form is a type of container storage that limit for storage is 9 kg. Guided by this basic form are generate ideas to develop a variety of ways to feed the chickens.

The shape of the chicken coop is most important because the project of chicken food feeder will use a lot of space in the coop because the production of building materials will be set up in a chicken coop that was filled by thousands of chickens, if the project structure not valid with chicken environment in the coop, it will affect their grow such as injury on the chicken. The selection of component use in the project "Chicken Food Feeder " was take good care thoroughly to estimate cost.

There are two food containers that will focus of to study it more. Firstly, not use any electricity to both traditional medicine and the use of modern technology using equipments that more advance for the first production. Bran former equipment it has a different size because the usability of its range and the second "Chicken Pan" Both equipments have the pros and cons of his own, here the described why this title of "Chicken Feeder Food".

Below is a diagram of the difference between traditional method and the modern method.

2.3.1 The former first bran:

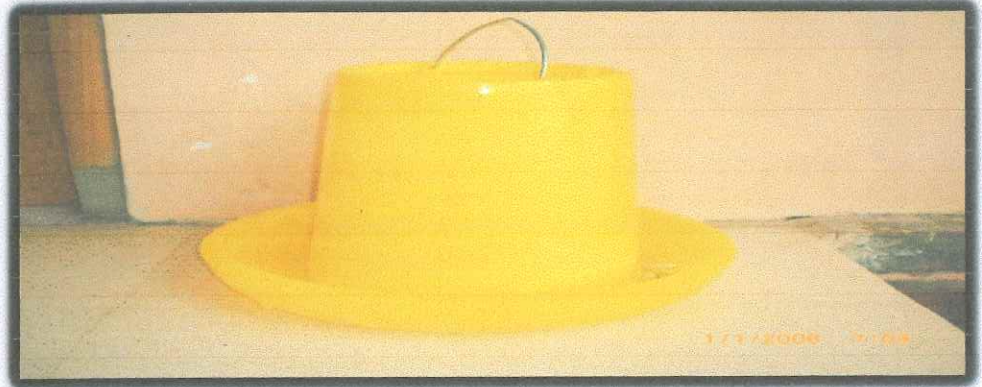


Figure 2.3.1 The size of the container 12 "

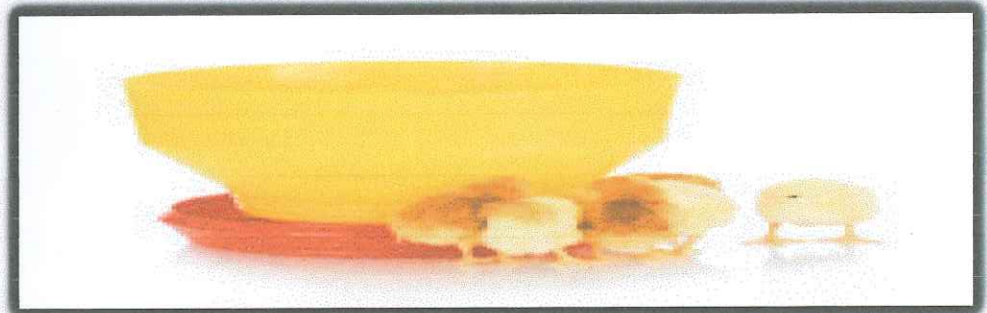


Figure 2.3.1 The size of 5 "Below is a diagram of the former brand available in the market



Figure 2.3.2 The former chicken feeder

2.3.2 The second meal bran

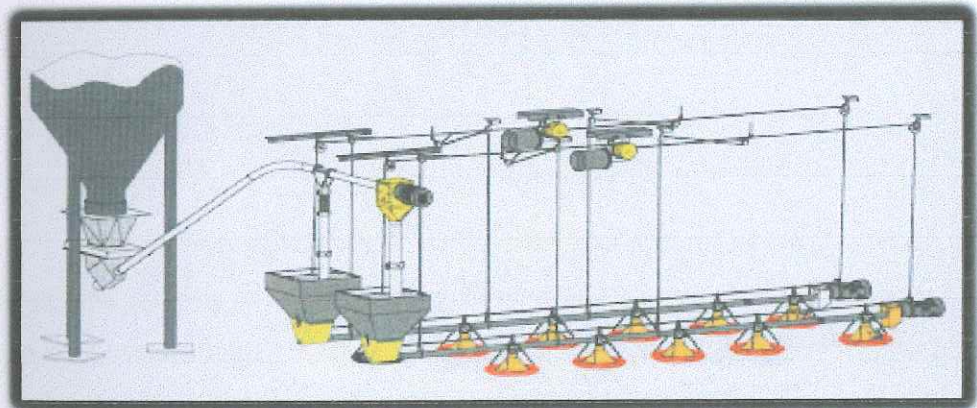



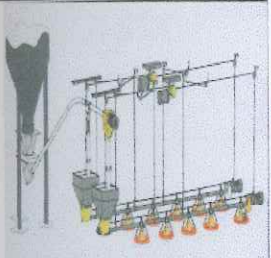

Figure 2.3.2 Modern poultry feeding system



Figure 2.3.3 Chicken food containers

Both former chicken feed on the characteristics of its own in which the former first working without regard to the environment and used the second it was more of a system that is already complete but with some components that have been happening excavation, the chart below shows the difference between the former first with a second machine.

Table 2.3.4 shows the difference to existing machines with products that will be made

	Operating method	Advantages	Disadvantages
	<p>Using traditional manual methods or the use of manpower</p> <ul style="list-style-type: none"> - Need A lot of energy to remove the bran while pouring. 	<ul style="list-style-type: none"> -Lightweight -easy to handle 	<ul style="list-style-type: none"> -bran idle to water -Chicken feces attached to the bran -the process of replenishment bran will occur as a result of spilled waste -Easy reversed if the chicken flock -Can Cause back pain
	<p>Using modern methods of operation of the machine is "fully automatic"</p>	<ul style="list-style-type: none"> - Easy to get food chicken without a break -Increase efficiency in the use of workers 	<ul style="list-style-type: none"> -pipe Easily clogged bran delivery -pipe Shipping bran difficult to maintain Component of the pipe that is easily damaged spring - Wasting Because no system Jelutown diet
	<p>Using manpower to expedite the motor placed on the car with embroider button to move the car to fill bran</p>	<p>workers making them easier to fill bran</p> <ul style="list-style-type: none"> reduces workload -Easy basis to - Bran not too exposed to the air 	<ul style="list-style-type: none"> - Require a large space -Light LED flammable

2.4 ANALYSIS OF MATERIAL

MATERIAL	ADVANTAGE	DISVANTAGE
ALUMINUM	<ul style="list-style-type: none"> • Has high steps to hard • Light • Easy to shape • Malleable 	<ul style="list-style-type: none"> • Soft • Easy broken • Hard to welding
STAINLESS STEEL	<ul style="list-style-type: none"> • Hard of healing • Easy to welding • No rusk 	<ul style="list-style-type: none"> • Hard to shape because it is thick • Expensive
COPPER	<ul style="list-style-type: none"> • Malleable • Light • Long lasting 	<ul style="list-style-type: none"> • Expensive • Easy to absorb heat
MILD STEEL	<ul style="list-style-type: none"> • Long lasting • Easy to welding 	<ul style="list-style-type: none"> • Heavy • Expensive • Easy to absorb heat • Easy to corrosive
IRON	<ul style="list-style-type: none"> • Malleable • Long lasting 	<ul style="list-style-type: none"> • Easy to corrosive • Easy to conduct electricity • Absorb heat

CHAPTER 3

METHODOLOGY

3.0 INTRODUCTION

This section describes the investigative focus, research methodology and specific method used in this study. The methodology used was a mixed method research framework encompassing both qualitative method and measure. This section also explains about the design and construction of the course as well as describing the measure which were used provided information perspective toward gaining an understanding of it. In this chapter, there is about to produce the project. With this, a group discussion is made to discuss about the project.

After discussion, all data is searchable to start the project. Inventor are using to draw project drawing and to study design. Some discussion is made to discuss about the best process to create and link the components that confabulate. In general, the project "Chicken Food Feeder" is using CNC milling, cutting riveted, welding and so on. In addition, the measurement process is also heavily involved in producing components of the projects, especially on the main container.