UNIVERSITI TEKNOLOGI MARA | Cawangan Johor Kampus Pasir Gudang

FACULTY OF MECHANICAL ENGINEERING

MECHANICAL ENGINEERING DESIGN (MEC332)

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TITLE:

KATZENTOILETTE

PREPARED BY

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1.0 INTRODUCTION

1.1 Overview of the Project

Cat is one of the most popular animals that is taken as pet around the world. Even though cat owners are having no problem with giving attention to their cat, but at the end of the day some of unexpected problems might arise. In one of the articles, it is said that, having a clean litter box is an essential to take care of the cat health. It means that cleaning the litter box regularly is important to improve the cat's hygiene [1]. It is a normal routine for the cat's owner to clean their cat litter box. People nowadays are getting busier with their work life, and sometimes they might be get distracted therefore forget about cleaning their cat's litter box. In order to understand in detail about the cat litter box and cracking the best possible solution for these problems, the problem statements are recorded and observed.

This project will explain in detail about the importance of litter box to cat's owner. Moreover, the objective related to the idea also been known. Another article from PetHelpful's website, talks about the pros and cons of having a cat. Under the topic of "Drawback of owning a cat", the second point highlighted is "Their litter boxes smell and require cleaning" [2] says a lot about the owner of the cat need to able to live with the smell of the cat waste and need to accept the required of cleaning the litterbox regularly. This statement is also related to one of the problem statements for the group project.

At the end of this project, the aim is to produce a cat litter box that is fully improved to be more helpful and reduce hassle to clean for the cat owner. The cat litter box comes with special specification that is easy to maintain by the owner of the cat. It is quick and easy process to clean and most importantly it doesn't require electricity. Also, this cat litter box is called "Katzentoilette" which is mean "cat litter box" in Deutsch language.

1.2 Design Objectives

i) To design a product that will ease the proses of cleaning the cat litter and save morecleaning time.
ii) To design a product that can prevent the sand scattering around the cat litter.

1.3 Scope of Project

The final year project for this semester is about the improvement of the existing Karakuri machine which is cat litter box. The shape of the litter box is rectangular. This litter box is suitable for any sizes of cat because the entrance of the cat litter box is big enough. It can fit from the kitten size to the cat size.

The cat litter box is semi-automatic. For the automatic part is the filter, the user can justuse the pedal to slide down the litter into the tray. It also has helical springs that help to extractthe filter to the normal position, so that the user does not have to open the upper body every time. For the manual part, the components are tray. The user has to pull the tray itself from thecat litter box to throw the litter. Besides that, to clean the litter box, the user has to clean the components manually.

Since this semester learning method is online distance learning, the actual litter box cannot be produced. The outcome of the non-existent litter box is quite impressive because thedrawing of the litter box is done using Solidworks. The deliverable for this project is very complicated because everything is online. To make it easy, a gantt chart is created from the beginning of the project to track the progress of the production.