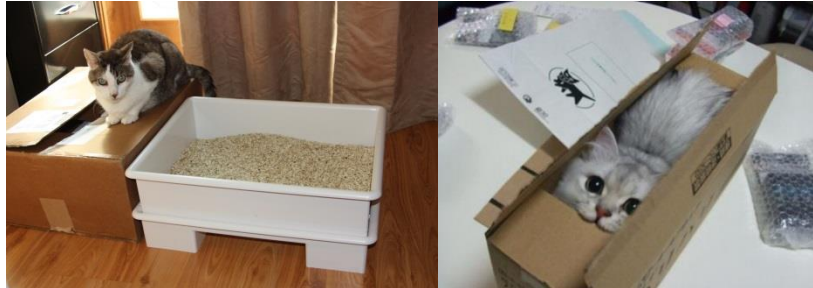


# me293 – Project Management & Social Responsibility

## Tutorial – Automatic Kitty Litter Box

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### Consider the Cat Box



While, to many, cats are cute and relatively trouble free to cohabitate with, there is one feature of living with cats that is not so comfortable. That is, it often falls to the human partner in a cat/human relationship to clean out the powdery cat toilet known as a “CAT BOX”. This smelly and often quite disgusting practice harkens back to an ancient time when cats were king of the jungle and humans were simply supper. Now, for the most part, the roles have been reversed. Humans are at the top of the heap but still serve cats supper - then, hours later, deal with the inevitable smelly consequences.

The focus of this little project is to work toward the creation of a cat’s version of the human “Flush Toilet”.

In the past, great effort has gone into developing an easy-to-use and sanitary human-use toilet. Over time the flush toilet has become the preferred installed device in new construction world-wide. Our friends at Wikipedia have put together a nice summary: [http://en.wikipedia.org/wiki/Flush\\_toilet](http://en.wikipedia.org/wiki/Flush_toilet).

Your task, in this project, is to develop a variety of concepts around a cat’s cat-box. The goal is to allow cats to do their business with little or no human involvement. Here is what to do:

1. Search the internet for variants of “Automatic Cat Box”.  
Keep an open mind while examining how these devices work.  
Select for examination:
  - a. Manual cat-box
  - b. Semi-automatic cat-box
  - c. Fully-automatic cat-box
2. For your selected devices list some pros (things that are good) and cons (things that are bad).
3. Now that you have looked at the problem through the eyes of other people, consider the problem yourself and ...  
State the question in the most general way you can.

(No cheating. This is a 100% indoor cat and it never escapes even to the apartment building balcony. It lives with humans.)

4. Create a "List of Requirements". (See my example online. Be careful not to make this list look like a specification.)
5. Before considering concrete cat-box concepts do some preliminary thinking by: "Defining the Interfaces". Create a list and briefly describe each one. Sketches might help to clarify what you are thinking about.
6. Now use the "Define the Interfaces" results to draw out a few cat-box concepts and as you do this consider how each of these concepts addresses the functions you defined. You may not have to address all interfaces and functions. Think freely and crazily. Think out-of-the-cat-box! Create at least ten concepts and sketch each out. Remember to do this step in a non-judgemental environment so that you have as many ideas as possible at the end of the effort. Be Creative (after all ... you have been asked to create!).