


# 1 What is this?


This is brief readme document of my first Ruby plugin. Well, it is a plugin but not in a common way I guess. What "Matchbox" really does is to create a bunch of cars, iteratively. (Yes, they are more like paper boxes I know :)) Anyway, from these cars you can pick a few and let them evolve! You can continue the evolution until you find something interesting, or get tired, which is often the case though. (Below is my blahblah part)

The whole idea is to use Sketchup platform to create a design environment that is different from traditional ones(modeling by hand). Instead, we model by codes (hmm..it doesn't sound inviting), this allows us to control the dimension of freedom and constraints of a certain design and observe its evolution. This idea applies to all kinds of industrial design, from my opinion. A more ambitious thought is to implement engineering analysis (We can start from simple ones, right? Like one-dimensional beam stress analysis) to make this environment more professional. The reason why I use Sketchup instead of other commercial "big blocks" is first: It is FREE; and second: It seems to be promising to make mass collaboration possible; and third: we have a profound community.


## 2 Description of Tools


### R1.1 Description

**Initialize**  : To initialize 4 seeds. These seeds are recorded as:  
/Sketchup6/Plugins/MatchboxPlugin/Genotype\_list\_0.txt.


**Evolve**  : To generate the next 4 seeds. To make this happen, you need to at least select one car. For each round, seeds are recorded as:  
/Sketchup6/Plugins/MatchboxPlugin/Genotype\_list\_\*\*\*.txt, where \*\*\* is the iteration number.

**Load from seed**  : To load seeds from recorded file. Two options, one is to enter the iteration number [and the seed number in that iteration], or just enter the file name without ".txt".

**Save seed(s)**  : To save seed(s). First pick one out of the four by entering [1-4] then give it a name.

**Undo**  : Go back to the previous iteration. (My code sort of lacks efficiency because by "Undo", it actually re-generates all objects saved)

**Calculate volume**  : A simple volume calculator. Need further improvement.

**List evolution tree**  : To track all choices you made in the process by re-generating the tree structure of all your choices. Can take quite a while. Need further improvement.

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