




# Functional Requirements & Design Parameters Lab

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- Who decide what functions a product should have?
  - Customers/consumers
  - Apple does an innovative job in interpreting and addressing the consumer needs.

# Vehicles

- Mid-size car
- SUV
- Van
- Pick-up truck
- Flying car



Terrafugia

# Coffee cups



Made in the USA  
Recyclable Material



# Computers

- Desktop, laptop, ipad, netbook

# FRs

- FRs--functional requirements
  - what we want to achieve; what functions a design needs to satisfy
- Words for describing FRs:
  - have the ability to do
  - have a way to do
  - should be able
  - should do
  - .....

# DPs

- DPs--design parameters
  - how we want to achieve it
- DPs are used to describe the features of a design.
- More than one design may result from the generation of the DPs that satisfy the FRs.
  - Less CO<sub>2</sub> emission car: electrical, solar, hydrogen, etc.
- The outcome really depends on the designer's creativity.



Consumer  
Attributes



Functional  
Requirements



Design  
Parameters