

# Determining “Other Design Differences” and Ways to Support Generic Substitutability



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# Product Design

Appearance

Functionality

Manufacturability

Value

Improves life

# Design Changes

## Evolution of the Mini



Source: BMW/Mini <https://www.thedrive.co.uk/car-manufacturers/evolution-of-the-mini/>

**Are these the same?**

# Ketchup

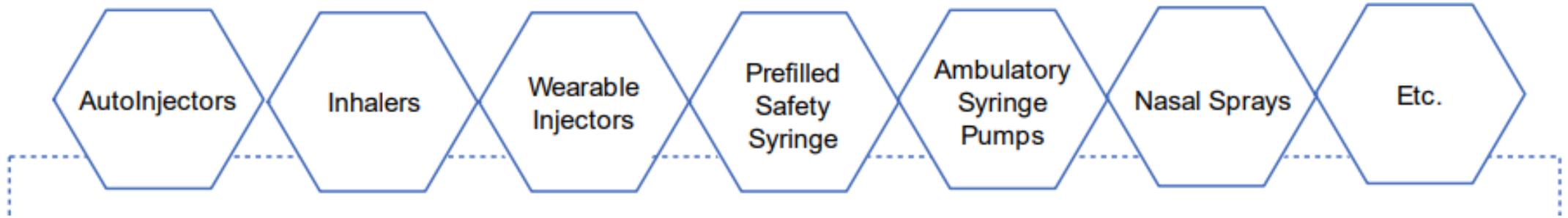


Are these the same?

Are they substitutable?

.....it depends on the task.  
.....it depends on the context.

# Comparative Analyses for Generics



.....not as easy as ketchup.

**How do we describe DESIGN when there's no common vocabulary?**

**How do we link DESIGN (attributes) to TASKS?**

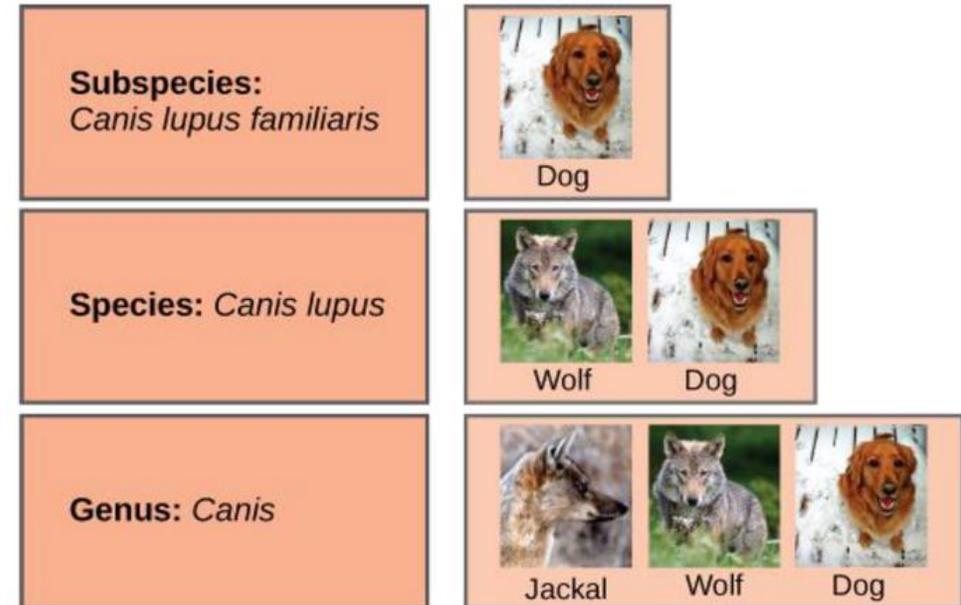
# How do others compare differences?

Examples span biological research and education

Recognized in Human Factors

- Use of WHO's International Classification for Patient Safety (ICPS) as a human factors taxonomy to identify contributing factors for medical/surgical complications (Mitchell, 2018)
- Classification of Human Factors Accidents in Aviation Accidents (Weigman, 2005)

## Hierarchical Classification of the Common Dog



<https://courses.lumenlearning.com/boundless-biology/chapter/organizing-life-on-earth/>

.....Build Taxonomies.



## What if ..... ?

Repeatable method to  
**simplify** and **standardize**  
classification of design  
attribute differences for DDCP  
interface design

Guide the process of  
determining “minor” vs “other”  
design differences

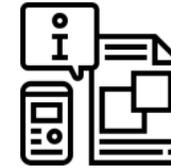


## Taxonomy of design:

A method for organizing subject-specific concepts and creating a vocabulary for those concepts

### User Interface

#### Labeling



All labels and other written, printed or graphic matter

#### Interaction Points



Areas of targeted user interaction and points of contact with a product.



# Link Design Feature to Task

Instructions on using Design Feature Taxonomy

1. Use Taxonomy to identify & classify design

2. Use Task Analysis to relate design features to tasks

3. Conduct Risk Analysis [using TA]

4. Compare RLD to Generic based on taxonomy to determine design differences

Minor difference = change within a sub-category

Other difference = change in design feature identification (e.g., IFU is printed on device rather than paper handout)

## Task

Task	Product 1 (Advair Diskus)	Product 2 (Breezyne)	Product 3 (Respirometer)
Prepare to Deliver Medication (1st time use)	Informational → Design Counter	Informational	Informational → Design Counter → Scan
Prepare to Deliver Medication (everytime)	Informational → Design Counter	Informational → Design Counter	Informational → Design Counter → Scan
Open Mouthpiece	Cover, Audible → Snap	Cover	Cover
Load Medicine	Lever, Audible → Click	Mouthpiece, Cover	
Inhale Medicine	Mouthpiece	Mouthpiece, Cover	Pushbutton, Mouthpiece
Close Mouthpiece Cover	Cover, Audible → Snap → Real Time Information → Design Counter → Visible		Cover
Post Delivery			Mouthpiece, Cover
Check for Refill	Real Time Information → Design Counter → Visible	Real Time Information → Design Counter → Visible	Real Time Information → Design Counter → Visible

Taxonomy Description

Taxonomy Description

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Thanks!



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