

# MATERIAL DESIGN

**COMP 41690**

**DAVID COYLE**

>

**D.COYLE@UCD.IE**

# **MODELS AND MODELING**

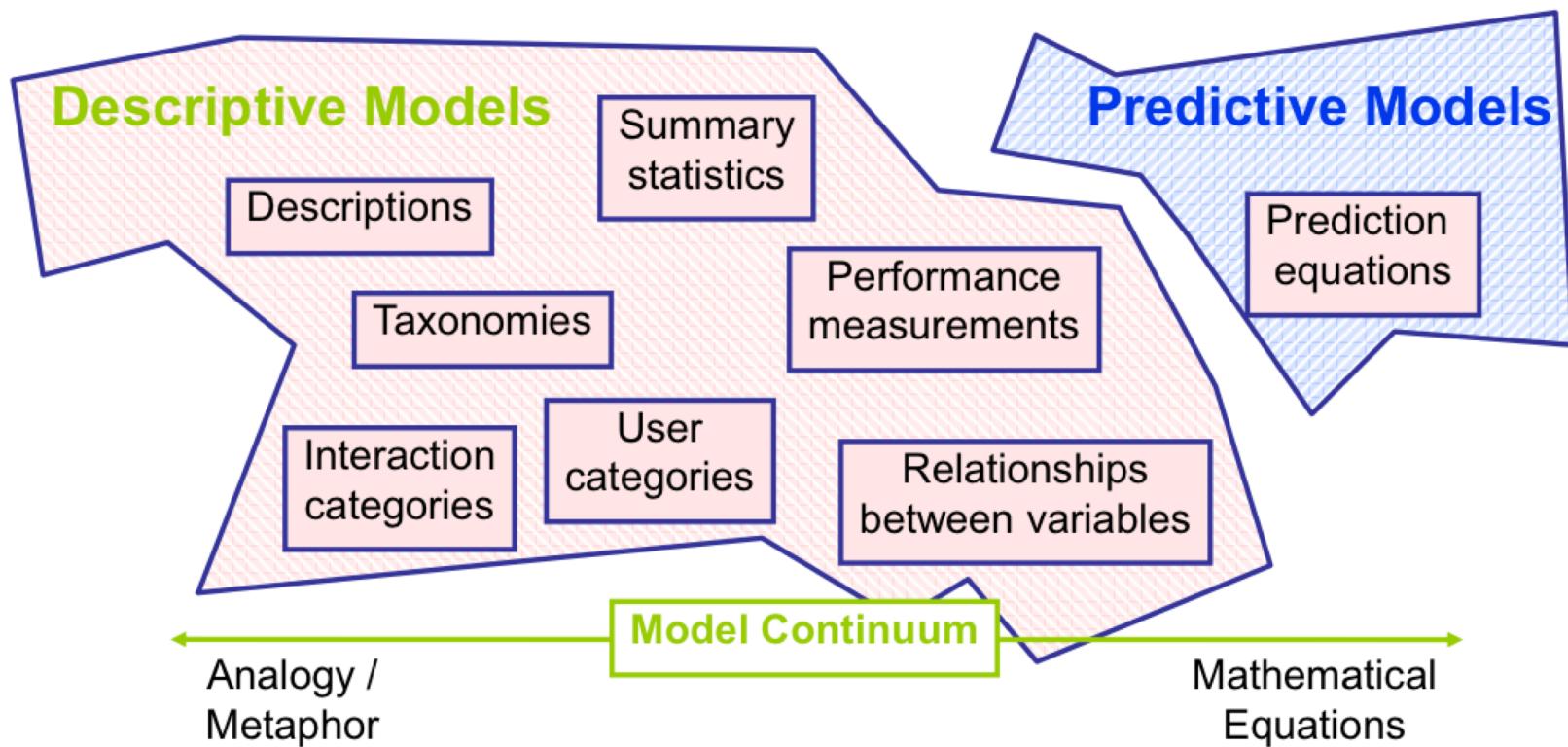
## **A simplification of reality**

- Generally not disproved
- Can be of restricted utility
- Can be extended, abandoned or replaced

## **Important to see if it is useful**

- Useful if it helps in
- Evaluating, designing, understanding, etc.

# A MODEL OF MODELS



# **DESCRIPTIVE MODELS**

**A framework or context for thinking about or describing a problem or situation**

**A verbal or graphic articulation of categories or identifiable features in an interface**

**Arms the designer with a tool for studying and thinking about the user interaction experience**

# METAPHOR

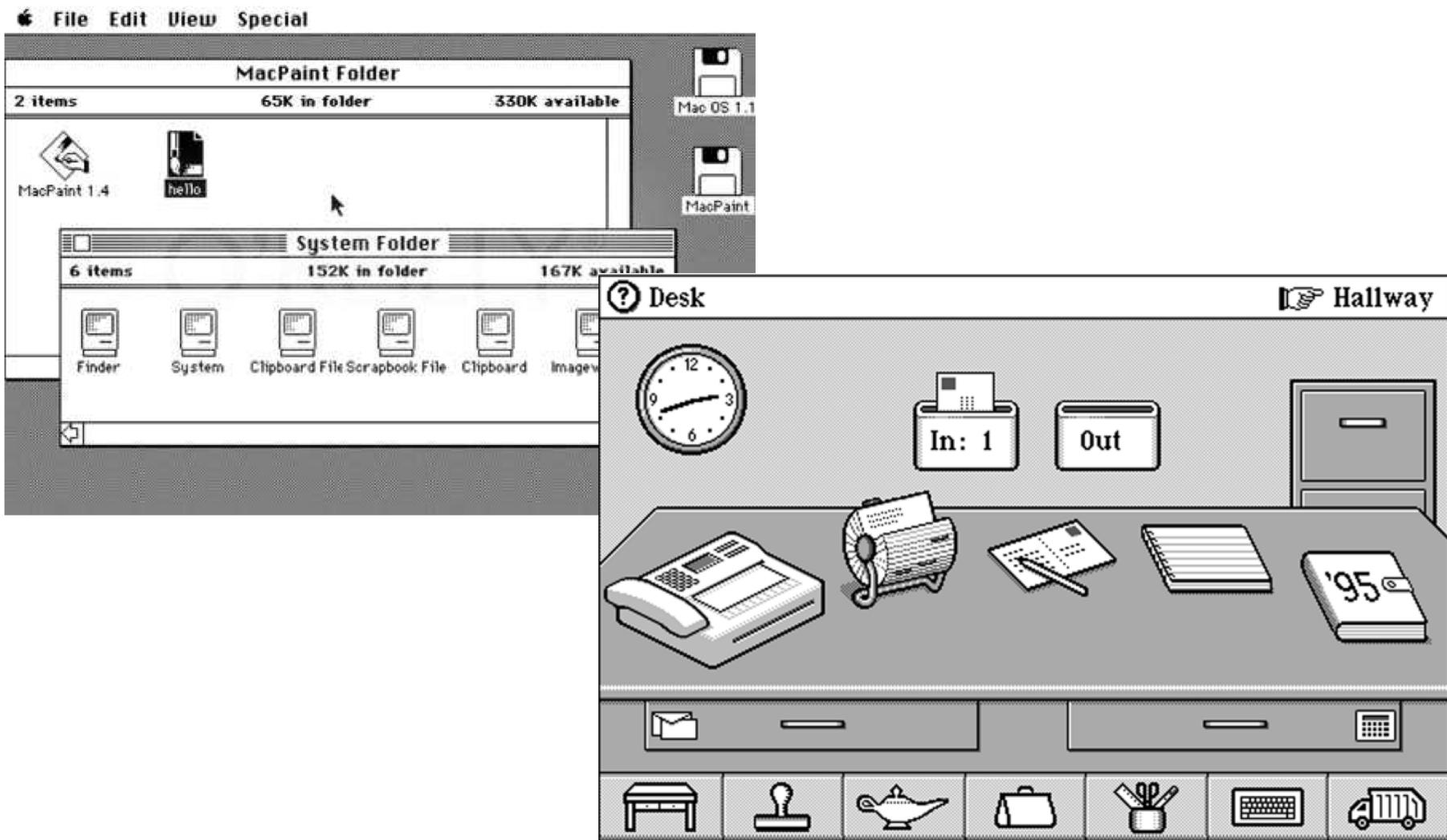
- relating computing to other real-world activity is effective teaching technique

- LOGO's turtle dragging its tail
- file management on an office desktop
- word processing as typing
- financial analysis on spreadsheets
- virtual reality – user inside the metaphor

- Problems

- some tasks do not fit into a given metaphor
- cultural bias

# THE DESKTOP

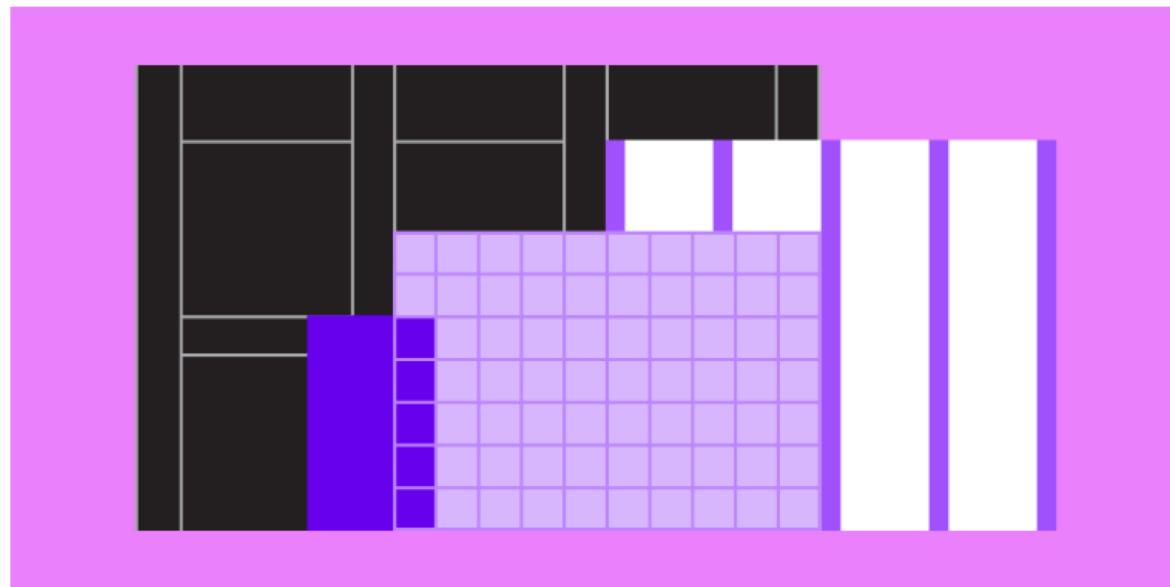


[https://en.wikipedia.org/wiki/Desktop\\_metaphor](https://en.wikipedia.org/wiki/Desktop_metaphor)

# MATERIAL

Material Design is a visual language that synthesizes the classic principles of good design with the innovation of technology and science.

## Goals



### Create

Create a visual language that synthesizes the classic principles of good design with the innovation and possibility of technology and science.

### Unify

Develop a single underlying system that unifies the user experience across platforms, devices, and input methods.

### Customize

Expand Material's visual language and provide a flexible foundation for innovation and brand expression.



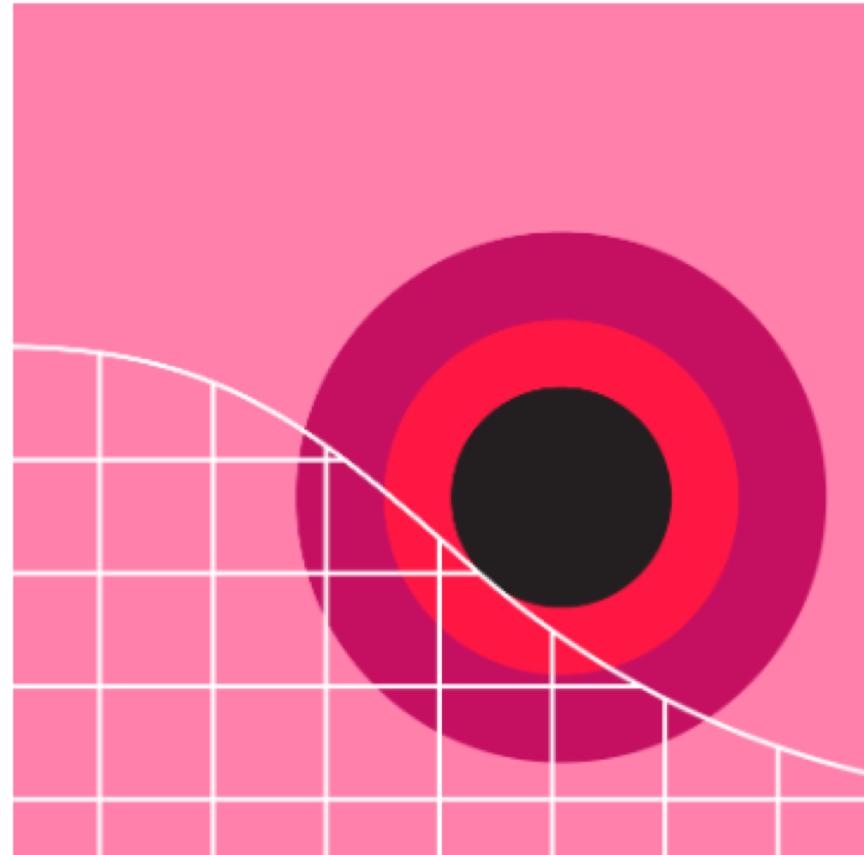
## Material is the metaphor

Material Design is inspired by the physical world and its textures, including how they reflect light and cast shadows. Material surfaces reimagine the mediums of paper and ink.



## Bold, graphic, intentional

Material Design is guided by print design methods – typography, grids, space, scale, color, and imagery – to create hierarchy, meaning, and focus that immerse viewers in the experience.



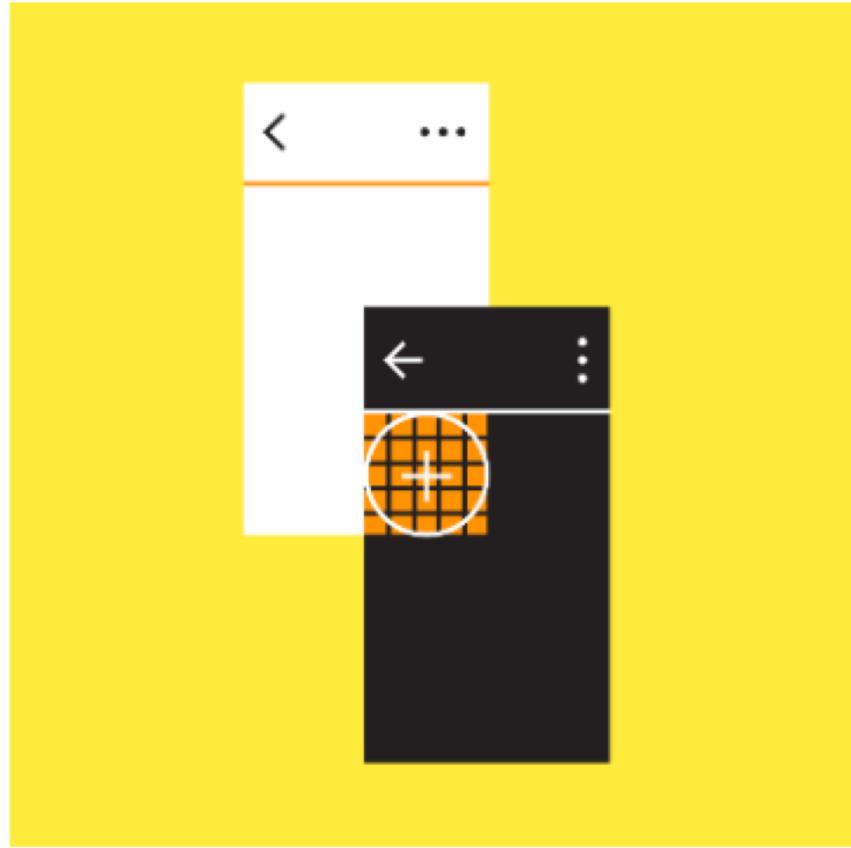
## Motion provides meaning

Motion focuses attention and maintains continuity, through subtle feedback and coherent transitions. As elements appear on screen, they transform and reorganize the environment, with interactions generating new transformations.



## Flexible foundation

The Material Design system is designed to enable brand expression. It's integrated with a custom code base that allows the seamless implementation of components, plug-ins, and design elements.



## Cross-platform

Material Design maintains the same UI across platforms, using shared components across Android, iOS, Flutter, and the web.

For Android applications, **Material Components for Android (MDC Android)** unites design and engineering with a library of components for creating consistency across your application.

# What's next?

**Learn more about material design**  
[www.google.com/design/spec](http://www.google.com/design/spec)

[youtube.com/GoogleDevelopers](https://youtube.com/GoogleDevelopers)



▶ ▶ 🔍 11:09 / 11:28



[https://www.youtube.com/watch?time\\_continue=668&v=YaG\\_ljfzeUw](https://www.youtube.com/watch?time_continue=668&v=YaG_ljfzeUw)

Red 50	#FFEBEE	Pink 50	#FCE4EC	Purple 50	#F3E5F5
100	#FFCDD2	100	#F8BBDO	100	#E1BEE7
200	#EF9A9A	200	#F48FB1	200	#CE93D8
300	#E57373	300	#F06292	300	#BA68C8
400	#EF5350	400	#EC407A	400	#AB47BC
500	#F44336	500	#E91E63	500	#9C27B0
600	#E53935	600	#D81B60	600	#8E24AA
700	#D32F2F	700	#C2185B	700	#7B1FA2
800	#C62828	800	#AD1457	800	#6A1B9A
900	#B71C1C	900	#880E4F	900	#4A148C
A100	#FF8A80	A100	#FF80AB	A100	#EA80FC
A200	#FF5252	A200	#FF4081	A200	#E040FB
A400	#FF1744	A400	#F50057	A400	#D500F9
A700	#D50000	A700	#C51162	A700	#AA00FF

<https://material.io/design/color/the-color-system.html#tools-for-picking-colors>

## [MDC Text Field](#) features include:

- Displaying built-in error feedback
- Supporting a toggle for password visibility using `app:passwordToggleEnabled`
- Offering built-in helper text functionality using `app:helperText`
- Displaying total and max character counts using `app:counterEnabled` and `app:counterMaxLength`

## [MDC Button](#) features include:

- Built-in touch feedback (called the MDC Ripple) by default
- Default elevation
- Customizable corner radius and stroke

## Cards

Cards are components that display content and actions on a single subject. They're a flexible way to present similar content as a collection.



**Vagabond sack**  
\$120



**Stella  
sunglasses**  
\$58



**Whitney belt**  
\$35

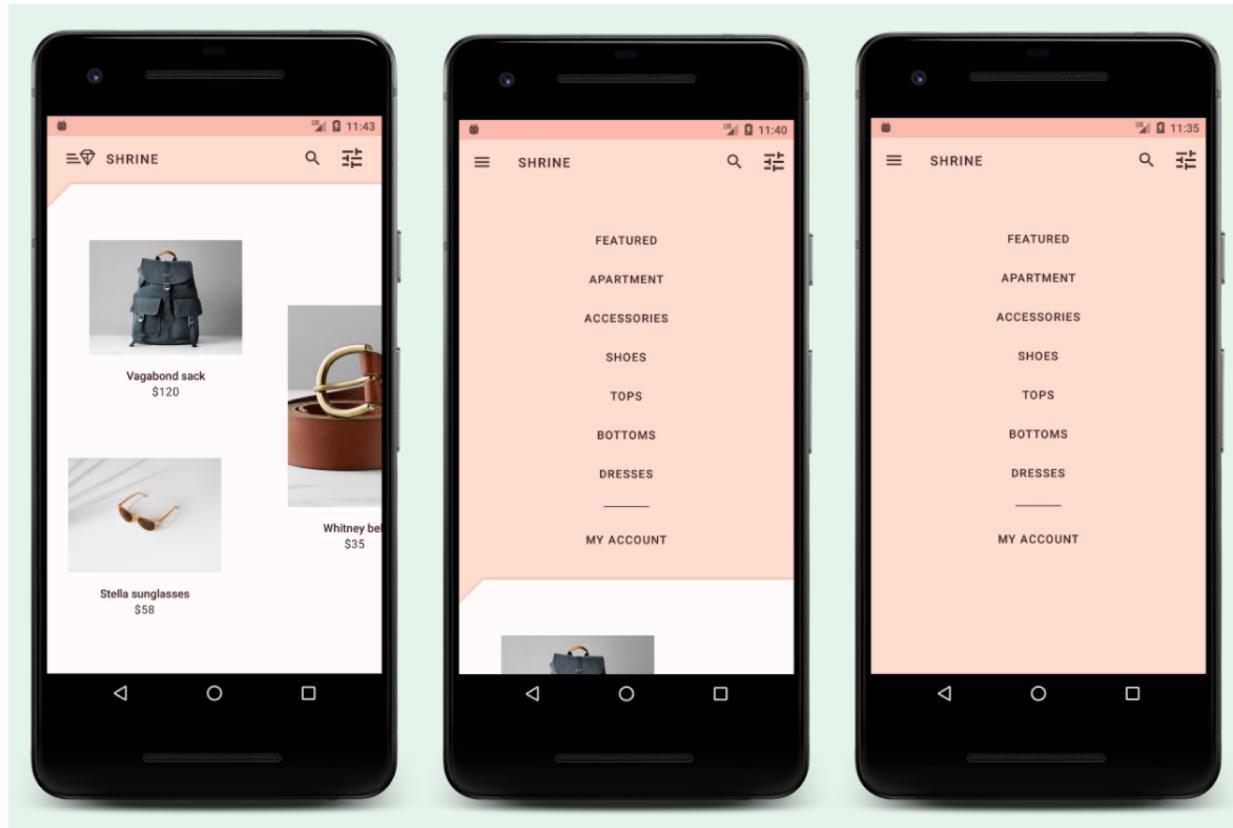


**Garden strand**  
\$98



# MATERIALS TUTORIAL

<https://material.io/collections/developer-tutorials/#>



# **QUESTIONS?**

**Contact:**

[d.coyle@ucd.ie](mailto:d.coyle@ucd.ie)

**Next:**

ROOMS