



# Design Processes

From need to needed

Hat tip to Prof. Wayne Li  
for some content



# Good Design

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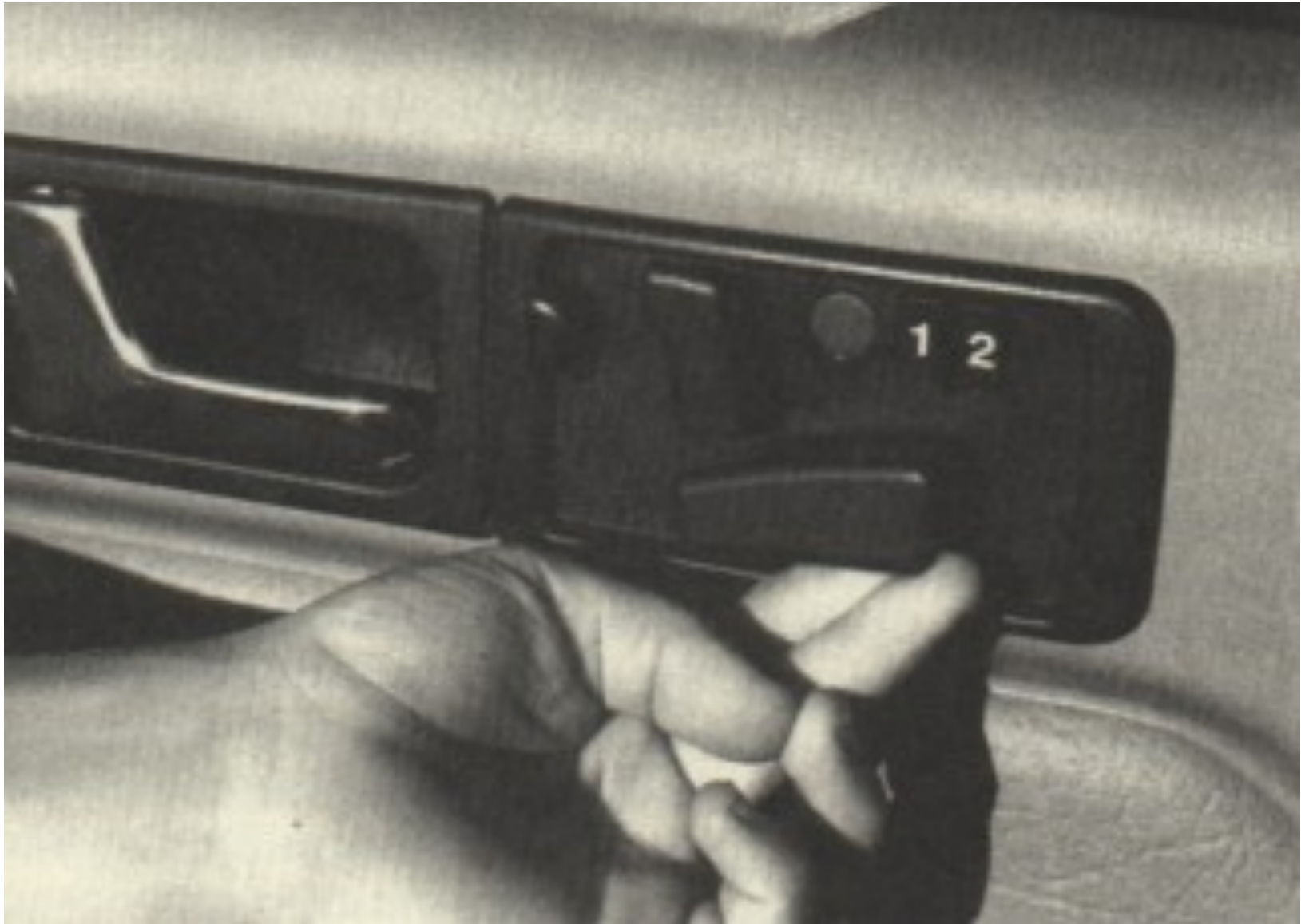
“Every designer wants to build a high-quality interactive system that is admired by colleagues, celebrated by users, circulated widely, and imitated frequently.” (Shneiderman, 1992, p.7)

*...and anything goes!...*



# The Good...

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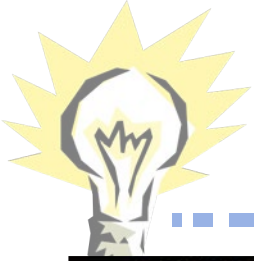


Fall 2019



# The Good...





# The Bad...

PALM BEACH COUNTY, FLORIDA  
NOVEMBER 7, 2000

(REPUBLICAN) GEORGE W. BUSH - PRESIDENT DICK CHENEY - VICE PRESIDENT	3 ➔	
(DEMOCRATIC) AL GORE - PRESIDENT JOE LIEBERMAN - VICE PRESIDENT	5 ➔	← 4
(LIBERTARIAN) HARRY BROWNE - PRESIDENT ART OLIVIER - VICE PRESIDENT	7 ➔	← 6
(GREEN) RALPH NADER - PRESIDENT WINONA LaDUKE - VICE PRESIDENT	9 ➔	← 8
(SOCIALIST WORKERS) JAMES HARRIS - PRESIDENT MARGARET TROWE - VICE PRESIDENT	11 ➔	← 10
(NATURAL LAW) JOHN HAGELIN - PRESIDENT NAT GOLDHABER - VICE PRESIDENT	13 ➔	

PALM BEACH COUNTY, FLORIDA  
NOVEMBER 7, 2000

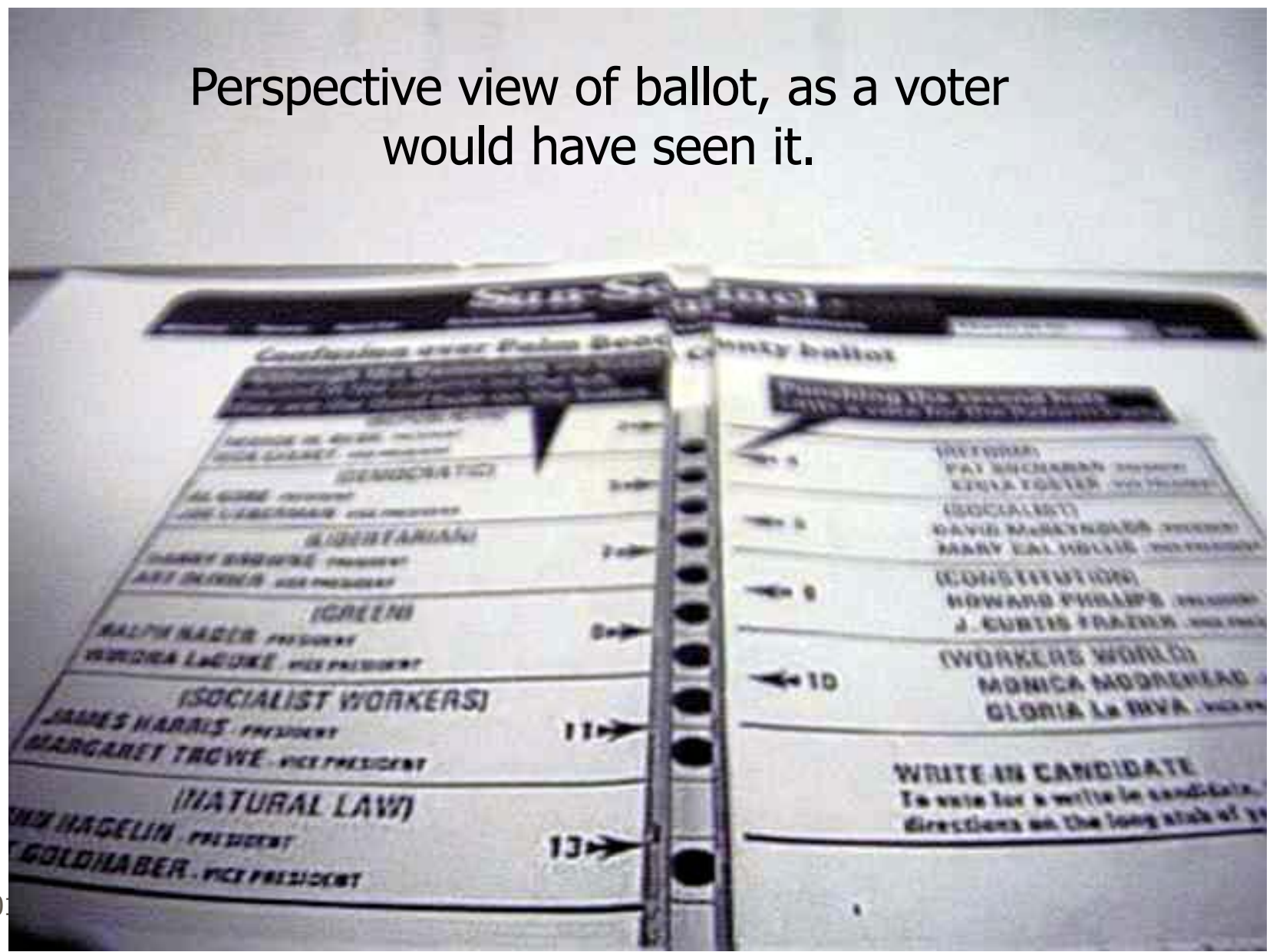
(REFORM) PAT BUCHANAN - PRESIDENT EZOLA FOSTER - VICE PRESIDENT	
(SOCIALIST) DAVID McREYNOLDS - PRESIDENT MARY CAL HOLLIS - VICE PRESIDENT	
(CONSTITUTION) HOWARD PHILLIPS - PRESIDENT J. CURTIS FRAZIER - VICE PRESIDENT	
(WORKERS WORLD) MONICA MOOREHEAD - PRESIDENT GLORIA La RIVA - VICE PRESIDENT	
WRITE-IN CANDIDATE To vote for a write-in candidate, follow the directions on the long stub of your ballot card.	

es will electors.)



# The Bad...

Perspective view of ballot, as a voter would have seen it.





# The Bad...



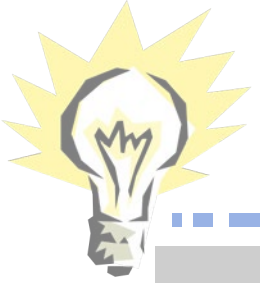


# The Bad...?



Fall



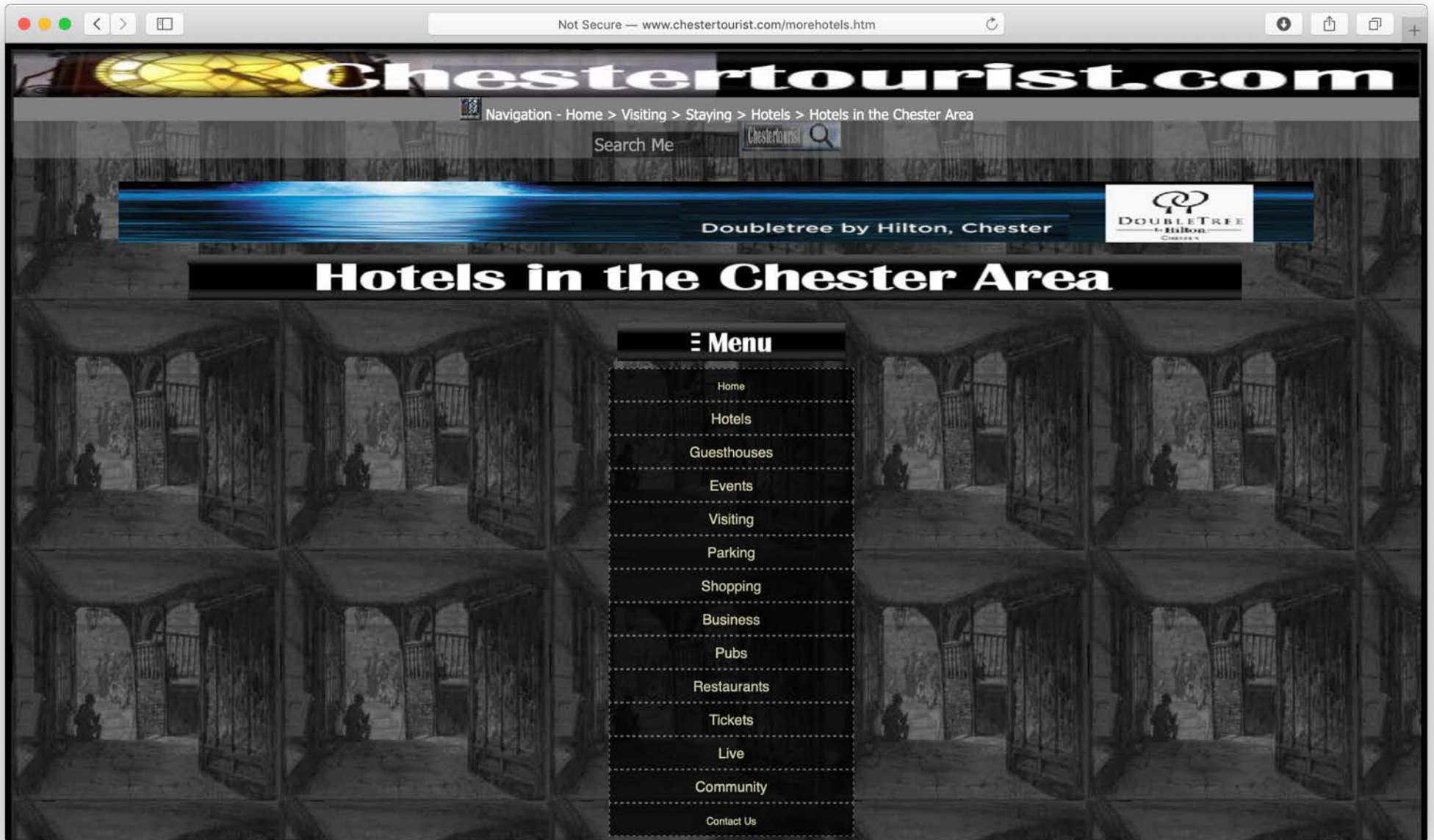


# The Bad...





# The Ugly...





# The (really) Ugly...

Not Secure — www.arngren.net

**www.ARNGREN.net** Teknologi & Gadgets

23 Butikker **el-biler til barn** Index

Search  el-retur Slik Betaler du

Drone-Bike Løfteevne: 8kg kr. 19.998,-

Bygg ditt e-2-seters He kr. 398.000,-

**Index**  
Akvarium  
Alarm  
Alkotester  
ATV (el.)  
Bildefilser  
Bil (elektrisk) gas  
Billbane  
Conrad-elektronikk  
Digital-Kikkert  
Disko-Lys  
Dummy-Kamera  
DVD-Spiller  
Elektronikk & DAB  
EL-Scoter & Bil  
Figurer  
Golf-biler (m/skilt)  
Hobby & RC  
Hoverpod  
HP-Måler (Bil)  
Isbitmaskin  
Kamera (trådløst)  
Kino (bærbar)  
Kompass (Bil/Båt)  
Laser-Jamer (Bil)  
Luft-Jekk  
Lykt (oppladbar)  
Mobil-telefon-1, 2  
Motorsykel-Mini  
Omformer (110V)  
Oversetter (44 sprk)  
PC-mini (9"), 2,  
Rakett-Fly  
RC Produkter  
Robot-Hund  
Robot-Støvsuger  
Roboter  
Solcelle-Flyggsek  
Star Wars  
Sykkel-PC s.h.  
Togbane (til PC)  
Traktor (elektrisk)  
TV-Ur & Arm. Ur  
Walkie Talk  
Elektronikk

**Solcelle-pakker** Nyhet!  
8.998,-

**Se alle våre el-Kjøretøy til Barn og Ungdom. Norges største utvalg**

**el-biler til barn** Nyhet!  
12V 24V 48V  
4WD fra kr. 1.798,-

Ingen alders-grense el-scooter  
3-hjul Cargo-el-Bike  
el-bil fra 34.998

**Elektriske-Kjøretøy**  
- Elektrisk-ATV - Roboter  
- el-biler til barn/ungdom  
- Solcelle-produkter  
- Forbruker Elektronikk  
- Batterier & Ladere, etc  
- Fjernstyrte produkter  
- Disko-Lys - Rakett

Alle Produktene på denne siden lagerføres hos ARNGREN i Oslo. Se Lagerkoden etter Prisen (lev. 2 - 5 dager):  
● Er på Lager  
● Kommer før 3 uker  
● Lengre enn 3 uker

**Kjøpsloven Angreskjema**

**Avatar-Gunship.** Er det råeste Helikopteret noensinne. Video  
Nyhet!  
kr. 299,- ● 4-CH

**3-Hjuls el-sykel**

**Mercedes SUV** m/ Gummi-Hjul fra kr. 2998,- el-ATV  
4998,- el-ATV  
3.998,- el-ATV  
el-scooter  
BMW-i8

**elsykel**  
Fatbike-1500w

**Roboter Elektronikk**

**Fotball-Trener** fra kr. 2.598,-

**Elektronikk**  
Elektrisk-Scoter Fra kr. 9.998,- ● (3000w) Trå 798

**G-Tog** Nyhet 4WD  
el-Bil ; Cross-Rider fra kr. 89.998,-

el-ATV med skilt (16 år) 19.998,- el-ATV

el-bil (16 år & moped-Lappen) fra kr. 34.998,- ●

**Fatbike-500w**

el-sykel m/Oljestyrt skivebremser fra 6.998,- Elektronikk

**Luft-jekk (4.2 tonn)** til Bil eller Båt. fra kr. 998,- ● el-ATV

Alarm Wi-Fi GSM & kamera 1.999,- ●

**Kraftig Hjul el-sykel** Nyhet!  
fra kr 9.998,-

RC Tank i Metall (55 cm) med Luftkanon fra kr.1.298,- ● RC-Produkter G-Tog

Lyd, Røk, Lys

el-bil kr. 89.998,-

el-ATV

20-144x Kikkert-lengste & kraftigste. kr. 1998,- ●

Hus-Alarm m/nr. sender kr. 599,- ●

Alarm Wi-Fi & GSM Kamera sett 1.998,-

RC Produkter

100km/t Elektrisk-ATV 6000 watt kr. 59.998,- ●

EL-Scoter 5000 watt kr. 29.998,- ●

Styreenhet & Fordelere til Bil fra kr. 2998,- ●

RC Fly-Båt 70 cm lang fra kr. 1299,- ●

El-Bil; Comarth 2WD/4WD. 2 eller 4 seter fra kr. 89.998,- ●

el-retur

RC Fiskebåt

Kikkert 20-144x, Damp-maskin

el-retur

RC Fly-Båt

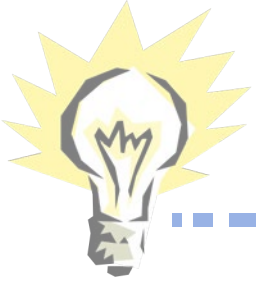
Di for



# What The...???

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# What About This...???





# What About This...???

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# But What Makes it Good?!

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- Functionality
- Speed & efficiency
- Reliability, security, data integrity
- Standardization, consistency
- **USABILITY !**



# Don't Forget This...

**SEAT**

**NOU SEAT ALTEA XL I-TECH**  
**PER 13.900 €**

AMB 4 ANYS DE GARANTIA I MANTENIMENT  
| 4.000 € EN EQUIPAMENT DE REGAL

SEAT.ES

ENJOYNEERING

SEAT, Mercedes, Opel, EDGE. Consum mitjà combinat del 4,3 a 6,8 l/100 km. Emissions de CO<sub>2</sub> del 112 a 159 g/km. PDI reduïda per a la Perifèria de les Illes per a Altea XL 1.2 TSI 17 kW (231 CV) Referència TECH 13.900 € i Greys (PA, Injecció de metanol), transport, accesoris opcionals, equipament valorat en 4.000 €. Finançat per SEAT. SEAT Altea XL 1.2 TSI 17 kW (231 CV) per a clients particulars que entreguin un SEAT usat d'un màxim de 10 anys i flexió mitjana total Volkswagen Finance SA UE segons les condicions contractuals un capital mínim de 9.000 €, amb una permanència mínima del finançament de 36 mesos. Campanya de promoció amb altres vehicles. Preu de venda al públic de 13.900 €.

**Enjoyneering!**





# Closer to Fine: A Philosophy

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*...The human user of any system is the focus of the design process. Planning and implementation is done with the user in mind, and the system is made to fit the user, not the other way around....*



# “Good Design” Means

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- Systems are built for **humans**; must be designed for the user
- Recognize individual differences; appreciate design implications of these **human factors**
- Recognize the design of things, procedures, etc., influences human behavior and well-being
- Emphasize empirical data & evaluation
- Things, procedures, environments, and people do not exist in isolation



# Good Design Is Not...

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- ☹ **NOT just applying checklists and guidelines**
  - ❖ These can help, but USD is a whole philosophy
- ☹ **NOT using oneself as the model user**
  - ❖ Know your real users; recognize variation in humans
- ☹ **NOT just common sense**
  - ❖ Knowing how to design a fire alarm so it will be heard over background noise is not something we all know.
  - ❖ The HF specialist knows where or how to get the information needed to answer design questions



# The Design Basics

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Discover

Ideate

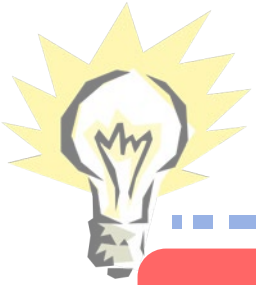
Evaluate

Iterate

Empathy

Creativity

Execution



# Design Flows

Discover

Ideate

Evaluate

Iterate

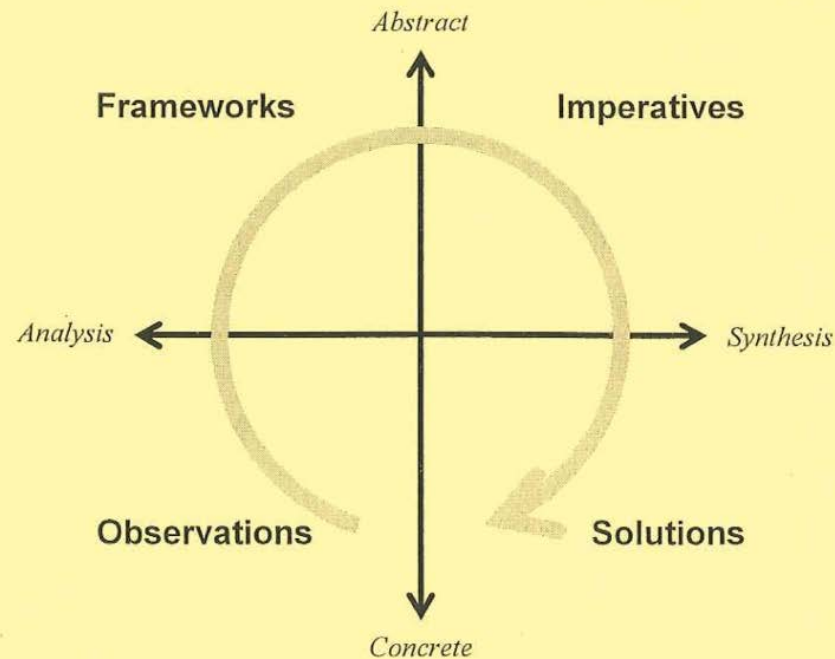
Empathy

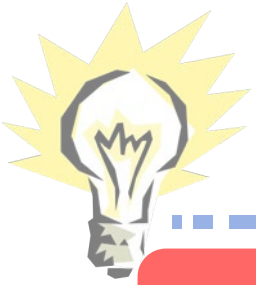
Creativity

Execution

## The Design Process

*The act of creating a new design can be seen as a process whereby the designer toggles between the concrete world and abstract concepts, between analysis of the situation and synthesis of a desired result.*





# Design Flows

Discover

Ideate

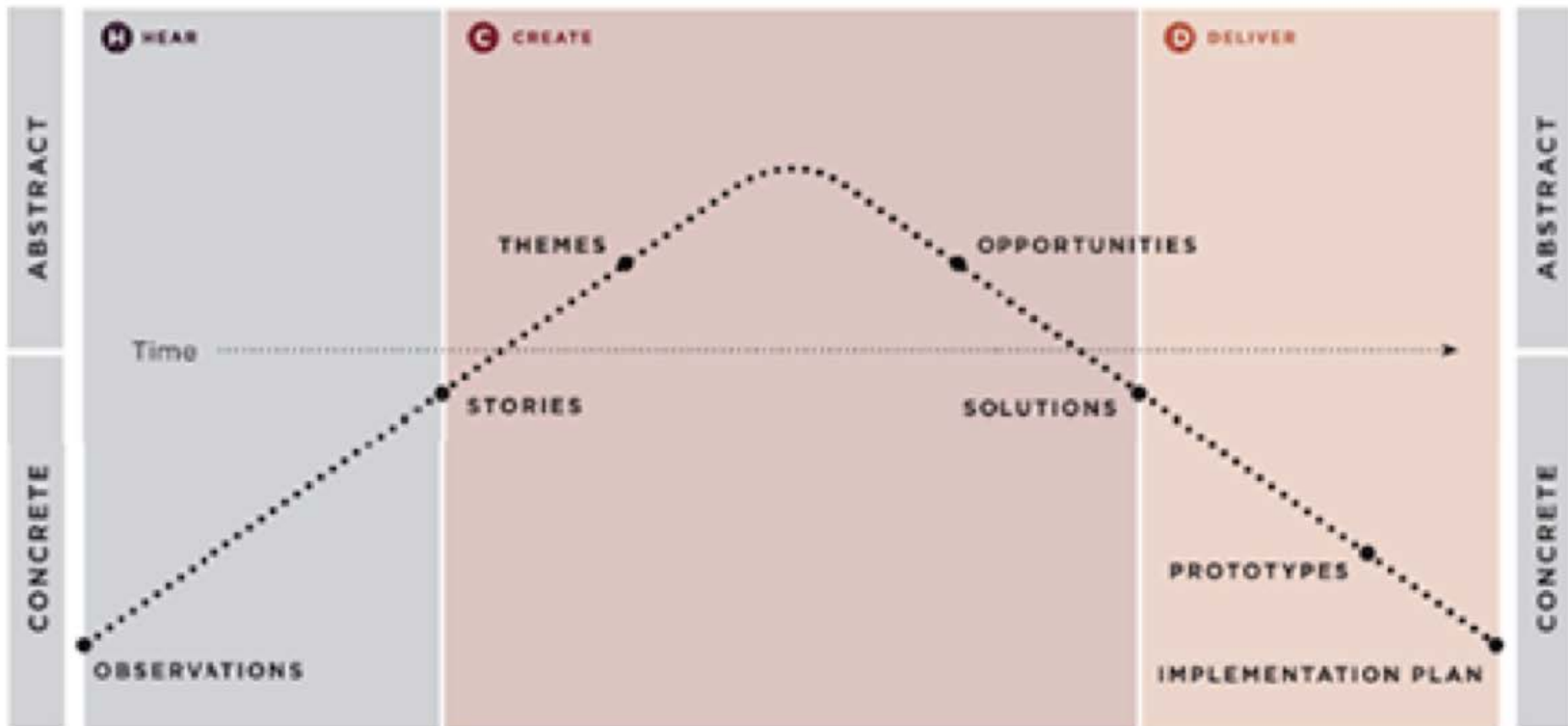
Evaluate

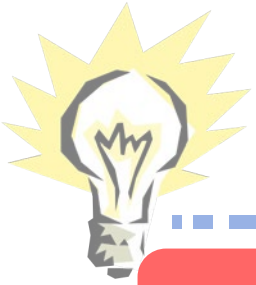
Iterate

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Execution





# Design Flows

Discover

Ideate

Evaluate

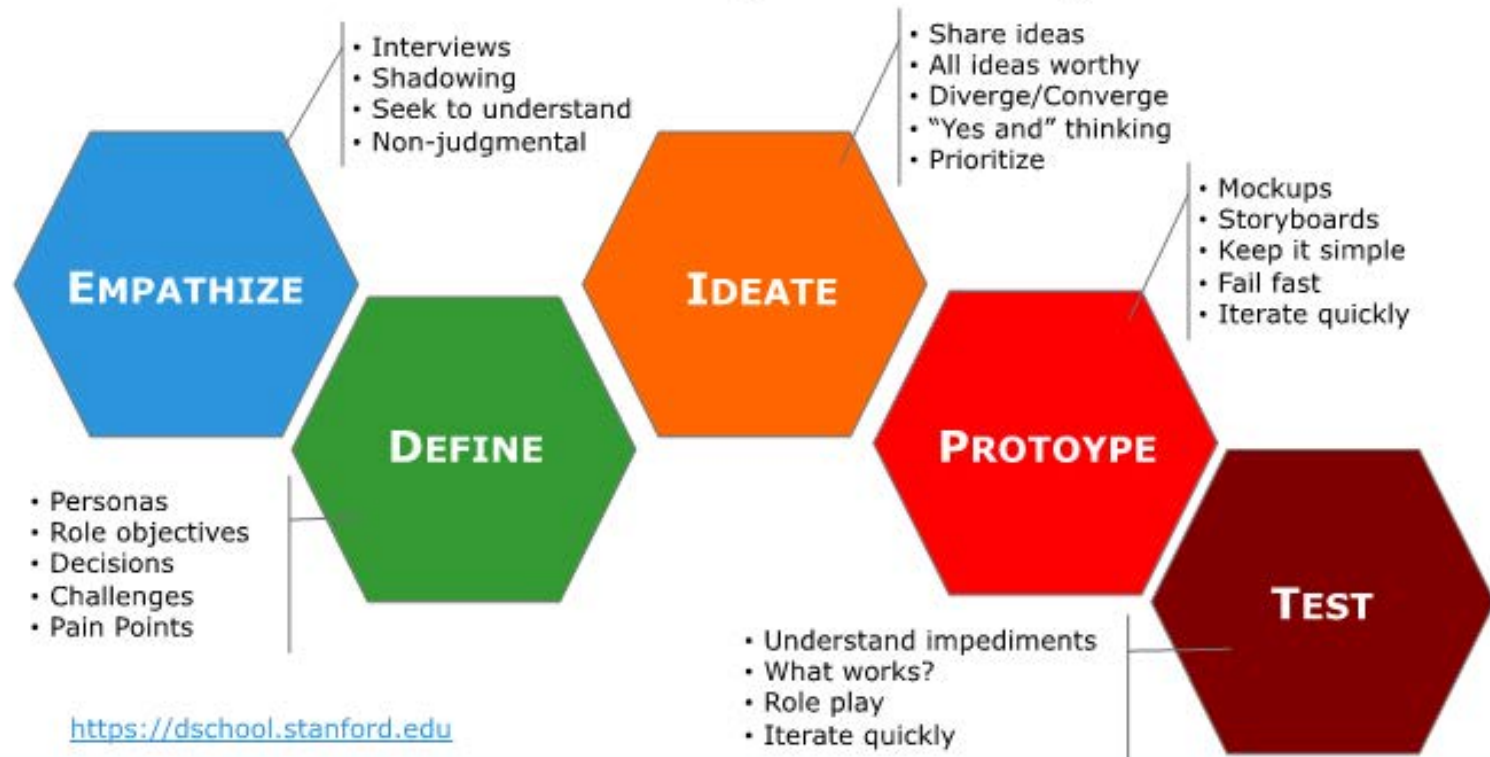
Iterate

Empathy

Creativity

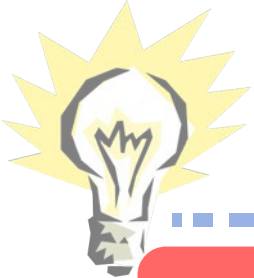
Execution

## Stanford d.school Design Thinking Process

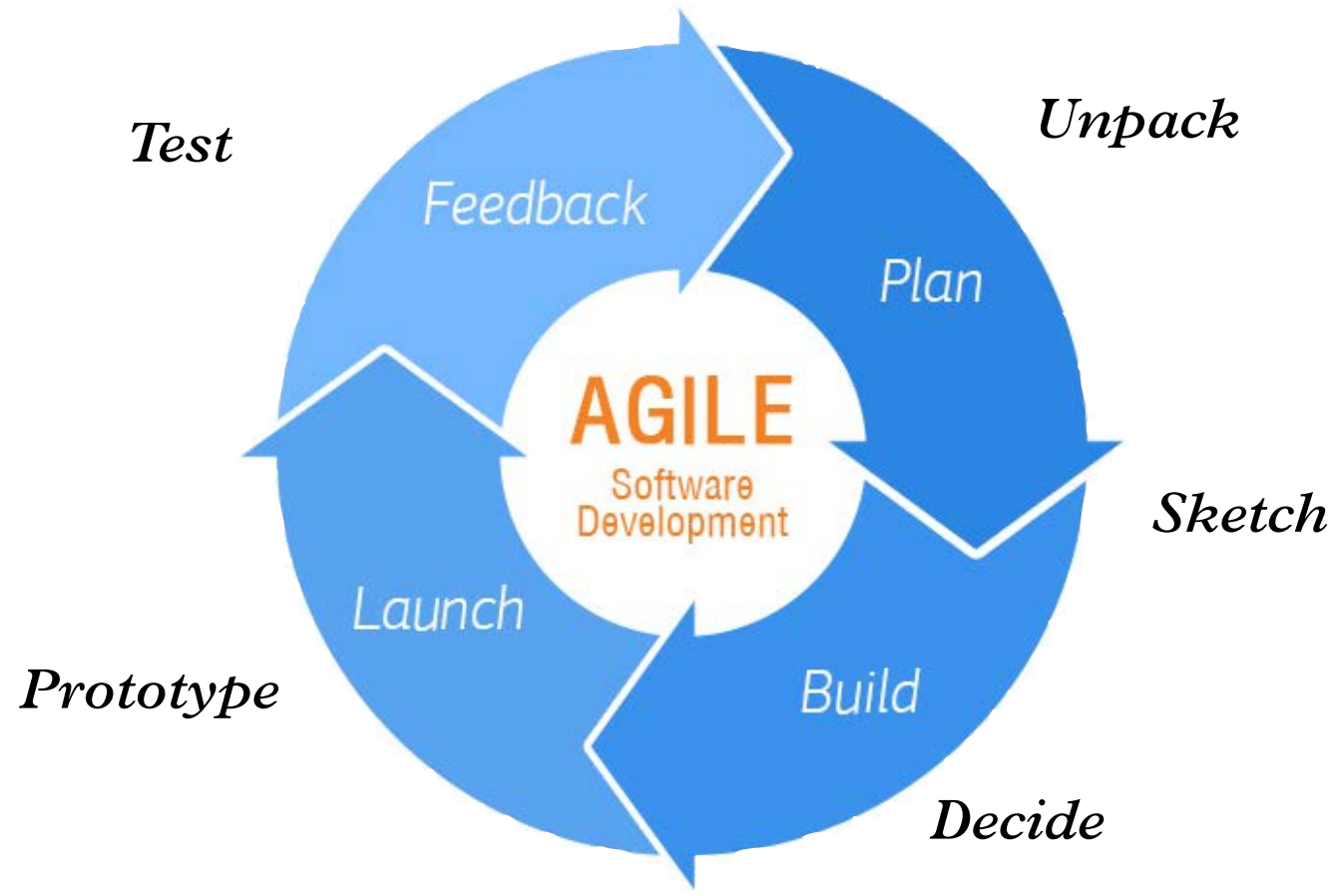
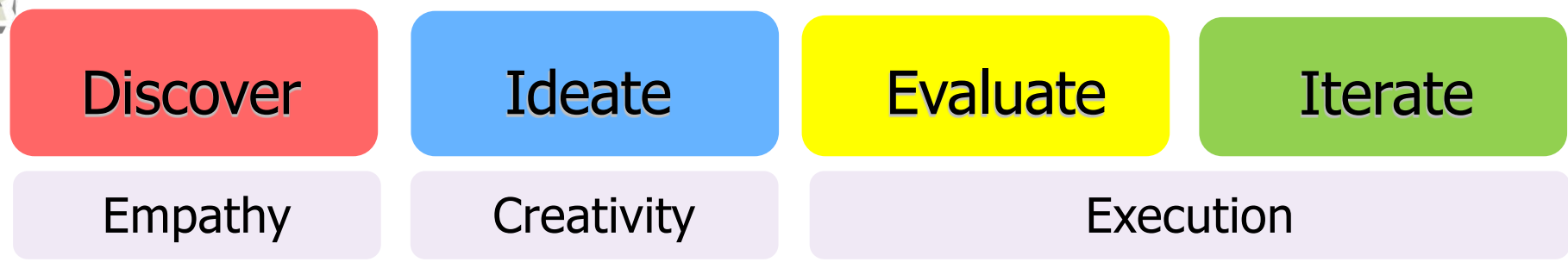


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<https://dschool.stanford.edu>



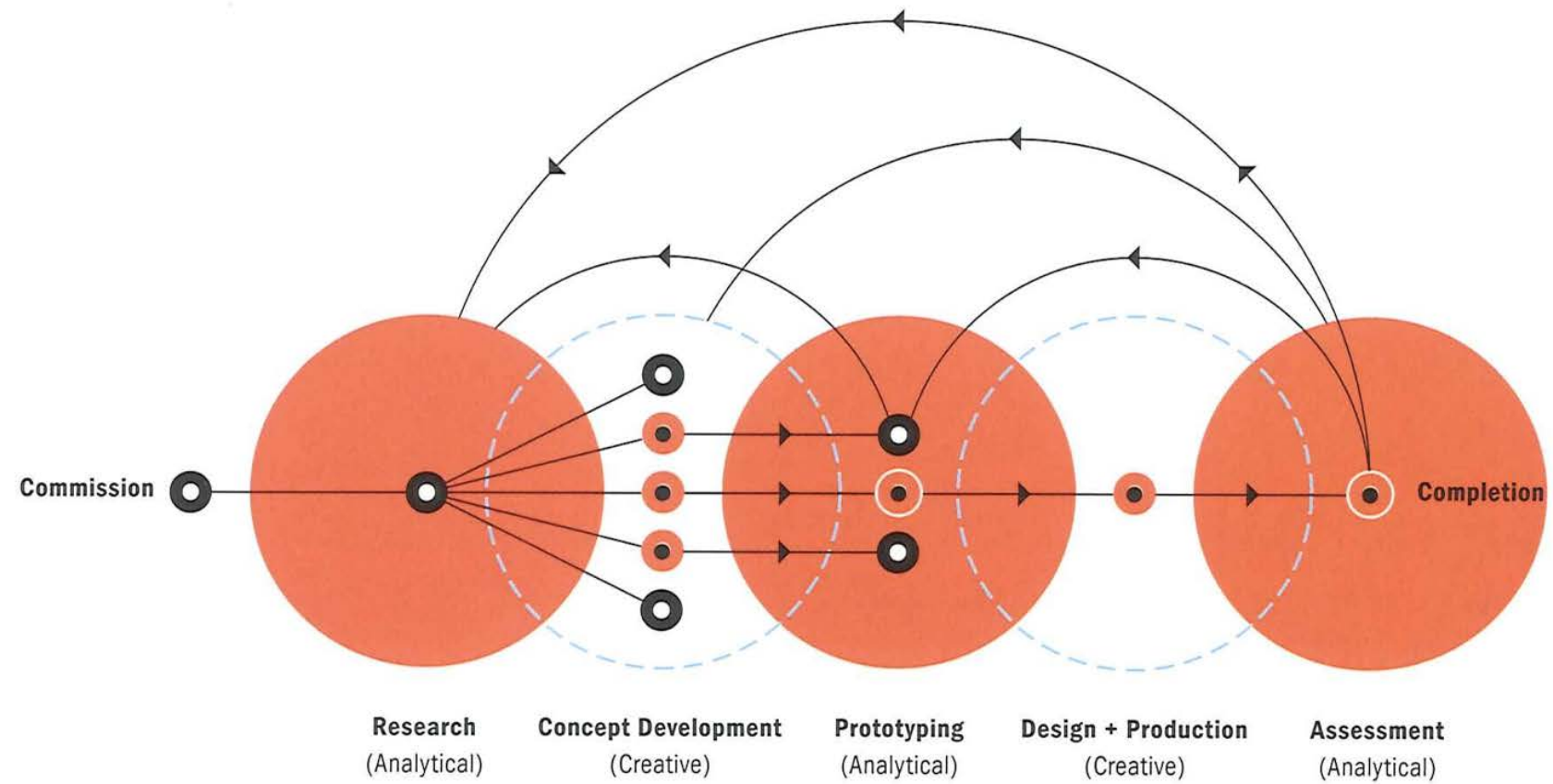
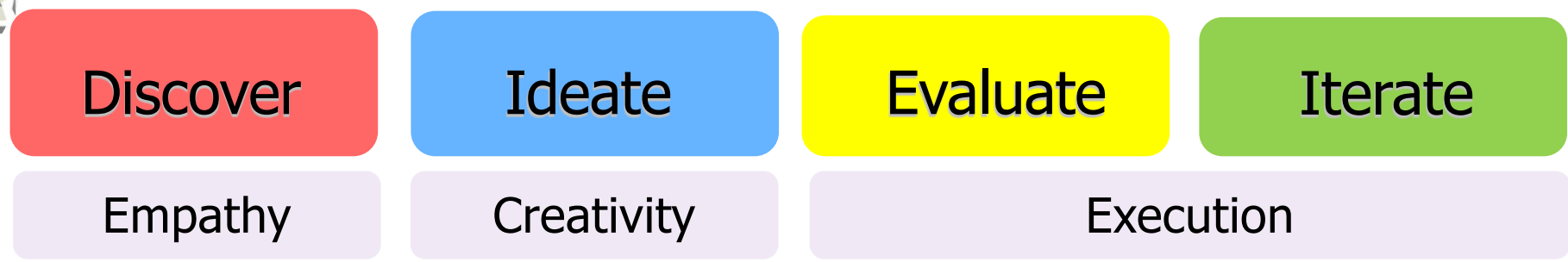
# Design Flows







# Design Flows





# What to Discover...?

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- Wants
- Needs
- Challenges
  
- Anxieties



# Design Mission?

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- Evolutionary design
- Revolutionary design



# Upcoming

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- User Centered Design Process
- Usability Principles
  
- Know Your User!
- Know Your User!!
- Know Your User!!!
  
- *TEAM CONTRACT TODAY*