

















# **GPS** Usage

- Navigation
- Tracking
- Position Finding

### Mountain Compliance

- Reliable in critical situations
- Energy efficient
- Map compatible
- Display quality
- Haptic efficiency
- Usability











### Visual Object Recognition

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### Selective Perception

- Views and proposed actions have an affect on what we perceive
- Perception is always selective
- Not all objects that are within the visual field are perceived equally
- Directed attention can lead to controlled action

"Hey, there's a yellow one





## Cognitive (over)load

- Cognitive Load
- refers to the load on working memory during problem solving, thinking and reasoning
- Magical Number Seven plus or minus Two
  Retention of discrete units of information before information loss occurs
- Chunks and Chunking
  - Structures that can be used as units of perception and meaning
  - Strategy for efficient use of Chunks















### Symmetry

- A property of visual equivalence among elements in a form.
- Most basic and enduring aspect of beauty
- Conveying balance, harmony and stability
- Tends to be seen as figure images rather than ground images (Figure-Ground Relationship)

## Symmetry

- Combination creates harmonious, interesting and memorable design.
- Rotation
- Translation

Reflection











#### **Ockham's Razor**

- Given a choice between functionally equivalent designs, the simplest design should be selected.
- Decrease unnecessary elements
- Everything should be as simple as possible, but not simpler (Albert Einstein)







#### Performance versus Preference

- Design that helps perform optimally is often not the same as design that is found most desirable.
- Accurate performance and preference requirements by means of observation in real context
- Balanced performance and preference through determination of relative importance
- Usability issues

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### [Carto]Graphicacy

- Embraces design, cognition and communication
- Deals with space and time to achieve new insight
- Addresses problem identification, specification and formalization
- Stimulates interaction, interpretation and reaction



