

HIGH  
MID  
LOW

- MANY TASK TAXONOMIES ARE HIERARCHICAL
- BOTTOM-UP VS. TOP-DOWN

GOALS  
INTENTIONS  
ACTION SEQUENCES / INTERACTIONS  
NORMAN (1988)

TEMPORAL  
ATEMPORAL

CHI & RIEDL (1998)

- STAGES AND TRANSFORMATIONS  
CARD, MACKINLAY, SHNEIDERMAN (1999), PIROLI & CARD (2005)
- KNOWLEDGE CRYSTALLIZATION
- FORAGING AND SENSEMAKING LOOPS

OBJECTIVE  
OPERATOR  
OPERAND

R. E. ROTH (2012)

- USER **OBJECTIVE** / INTENTION
- **OPERATOR** (TOOLS)
- **OPERAND** (DATA AND STATES)

BASED ON NORMAN (1988)'S  
SEVEN STAGES OF ACTION

SEMANTIC  
SYNTACTIC  
LEXICAL

CHUAH & ROTH (1996)

- **SEMANTIC** - INTENT OR MEANING OF A SEQUENCE OF LOW-LEVEL INTERACTIONS
- **SYNTACTIC** - SEQUENCES OF LOW-LEVEL INTERACTION WITHOUT REGARD TO THEIR SEMANTIC MEANING
- **LEXICAL** - HARDWARE INPUT AND OUTPUT

DESCRIPTIVE  
EVALUATIVE  
GENERATIVE

BEAUDOUIN-LAFON (2004)

- **DESCRIPTIVE**: ABILITY TO DESCRIBE A RANGE OF EXISTING INTERFACES
- **EVALUATIVE**: ABILITY TO HELP ASSESS MULTIPLE DESIGN ALTERNATIVES
- **GENERATIVE**: ABILITY TO HELP DESIGNERS CREATE NEW DESIGNS

PRAGMATIC  
EPISTEMIC

KIRSH & MAGLIO (1994)

- DISTRIBUTED COGNITION FRAMEWORK
- **PRAGMATIC**: EXPLICIT, OBJECTIVE GOAL-DIRECTED ACTIONS
- **EPISTEMIC**: COORDINATION TASKS: BRINGING INTERNAL AND EXTERNAL REPRESENTATIONS CLOSER TOGETHER, PROSPECTIVE TASKS