SI 688 Concept List for Term Paper

GROUP 1

Week 2
Motor performance (Fitts' Law, typing speed)
Sensory Perception (capabilities of different senses, thresholds, etc.)
Thumb/Finger input constraints
Visual Perception (feature detection, gestalt principles, ...)

Week 3
The Searchlight Metaphor (selective, focused, divided attention, UFOV, channels)
Visual Scanning (pursuit, saccadic, top down, bottom up, supervisory, target search)
Visual Search (variation across tasks: known target search, unknown target search)
Multi-tasking/divided attention (multiple resource theory, data vs resource limits, automaticity)

GROUP 2

Week 4
Working memory (capacity, decay, audio/visual buffers, short term memory)
Long term memory (associativity, strength, forgetting, procedural, episodic, explicit)
Learning (conditioning, learning task studies (e.g., serial list learning), schema, transfer)
Learning curves (skill acquisition [week 6], power law of practice, performance/learning tradeoffs)

Week 5
Mental models (affordances, schema, metaphor, design/system/user models)
Seven Stages of Action (role of feedback, gulfs of execution and evaluation)
Problem Solving (characteristics of problem solving, impediments to effective problem solving)
Decision Making (low level decision making & Hick-Hyman Law, high level decision making biases)

GROUP 3

Week 6
Cognitive abilities (Intelligence, Catell-Horn-Carroll framework)
Personality & Cognitive Styles (5 personality dimensions, 8 cog. style dimensions)
Demographics (age, gender, nationality, skill)
Disability (types of disability, prevalence of disability, universal design)

Week 7
As synthetic models meant to boil down a broad range of knowledge, MHP, GOMS, and KLM can be used to frame, support, or synthesize your arguments, but CANNOT be used in place of the more specific concepts covered on other weeks.

**Week 8**

As a synthetic framework meant to boil down a broad range of knowledge, Cognitive Dimensions can be used to frame, support, or synthesize your arguments, but CANNOT be used in place of the more specific concepts covered on other weeks.

**Week 10**

Three levels of emotion (visceral, behavioral, reflective)

Factors impacting visceral reaction

**Week 11**

Impacts on cognition from

- mere presence of others (social facilitations, social loafing, crowding, group composition)
- social roles, positions, identities
- mental representations (role-taking, reference groups/individuals, social comparison, anticipated interactions)
- social interaction (conflict, majority and minority influence, group decision making)

The media equation

Grice's Maxims

CSCW findings

- Limited rational actor model (link to Information Processing)
- Social activity is fluid and nuanced
- Members of organizations have differing goals
- Exceptions are normal
- Awareness is important
- Visibility of exchanges and information leads to efficiency, harms privacy
- Norms of use are actively negotiated
- Critical mass is (generally) required
- People and systems co-adapt
- Incentives are critical