Bibliography Review

Kendra Knudtzon
Adam Perer
Project & Goals

- School Reader for ICDL
- Annotations to support reading comprehension questions
- Annotations + note-taking to support book report or essays
Adults & Reading & Annotations Studies

- O’Hara & Sellen (1997)
  - Comparison of reading paper and online documents
  - MPO Ch 4 (Reading from Paper)
  - XLibris in reading group study
- Adler – How to Read a Book (1974)
  - Active Reading (Structural, Interpretative, Critical)
Discussion - Studies

- Inform the technology development
- Inform how people read
- Reading and annotation not necessarily separate activities
- However, all studies college age students and above
Adults & Reading & Annotations Technology

XLibris Various Papers
- Beyond paper: supporting active reading with free form digital ink annotations (Schilit, Golovchinsky, Price, 1998)
  - Active Reading, Algorithms
- Moving markup: repositioning freeform annotations (Golovchinsky, Denoue, 2002)
  - Robustness

Discussion
- Most sophisticated reading/annotation tech
- Expensive, Made for lawyers
- Dedicated special device with stylus
The Intelligent pen – toward a uniform treatment of electronic documents (Gotze, Schlechtweg, Strothotte, 2002)

- Cool virtual pencil case idea
- Discussion:
  - Categories of markings (Different support)
  - Not much of a system (no known implementation)
Adults & Reading & Annotations Technology

Robust annotation positioning in digital documents (Brush, Bargeron, Gupta, Cadiz, 2001)

- Keeping annotations relevant with changing documents (anchors)

Discussion:
- Deals with style changes (font, etc)
- Zooming = solution w/out difficulties of robust annotations
Kids & Reading Studies

Not many about HOW kids read! (Current research at UMD)
- Teaching kids reading (Education publications)

Evaluation of an Automated Reading Tutor that Listens: Comparison to Human Tutoring and Classroom Instruction (Mostow et al., 2003)
- Speech recognition to listen to a child read aloud, and gives spoken and graphical assistance

Discussion:
- Deals with mechanics of reading, not with active reading
Kid’s Reading Abilities

The Development of Children (Cole & Cole, 1993) – Reading Stages

- **Stage 2**: Grades 2-3: Increasing fluency
- **Stage 3**: Grades 4-8: Reading to learn
  - involves relating of print to ideas (generally from one viewpoint)
- **Stage 4**: High school: Reading from multiple viewpoint
Kid’s Motor Abilities

Accuracy, target reentry and Fitts’ law: performance of preschool children using mice (Hourcade, Bederson, Druin & Guimbretiere, in press)

A plot of Kail’s model:

\[ R_{\text{child}} = (1 + be^{-c \times \text{age}}) \times R_{\text{adult}} \]
Kid’s Motor Abilities

Motor skills affect use of GUIs

Keep in mind guidelines for GUIs

Discussion:

- “Special Population” – unique needs
- 4-5 year olds – what happens during middle school?
Design Partnering

- Working with children to create technology for children
  - (Druin, 1999, 2002)
  - critical members of the team who bring their particular strengths and experiences to the research process

Discussion:
  - Design methods
Our contribution

See us
Our contribution

- Extending previous technology research in reading & annotation to support children
- Apply knowledge from reading studies to our system