ProofRite: A Paper-Augmented Word Processor

Kevin Conroy, Dave Levin, François Guimbretière

Human-Computer Interaction Lab, Department of Computer Science, University of Maryland
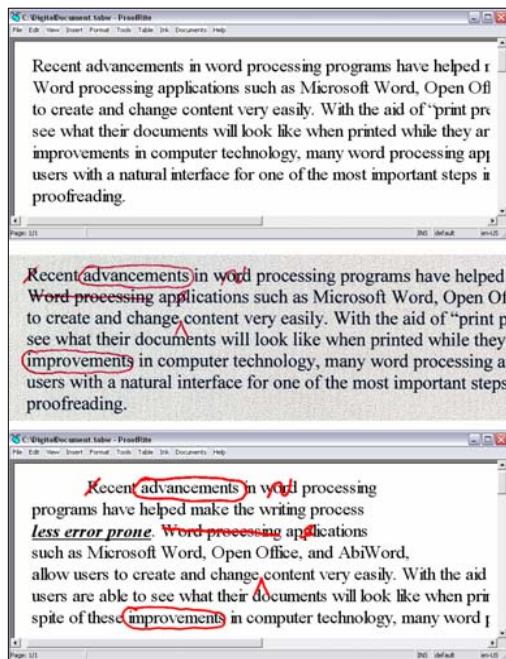
http://www.cs.umd.edu/hcil/proofrite/

Problem: People proofread on paper but computer print outs have no link back to the digital source

Solution: Augment paper interfaces while preserving the flexibility of digital documents by copying annotations made on paper with digital pen back to digital document

Ultimate Goal: Seamless integration of paper and computers
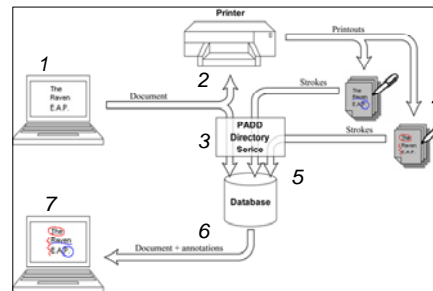
Features

- Word processor with focus on proofreading
- Users annotate digital or physical copy
- Full implementation of PADD

Document Annotation

- Annotation anchor position calculated by stroke properties
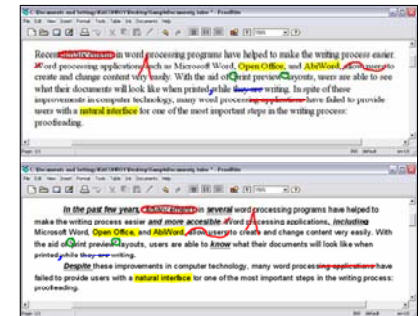- Annotations reflow as document's content, structure, or layout changes

System Architecture

1. Create/open document in word processor
2. Print on Anoto paper
3. Document sent to PADD service
4. Annotate paper copy with digital pen
5. Digital pen uploads annotations
6. Word processor retrieves strokes and incorporates them into document
7. Annotations reflow as user continues writing process

Results

- Cohabitation of digital and paper documents
- Paper and digital documents synchronized transparently
- Collaborative writing supported; Easily integrate comments written on multiple physical copies with a single digital source
- Physical document is a proxy for the digital source; filing cabinet is file system

Future Work

- "Auto-correct" feature for annotations
- Revision/Version management
- Annotation notification framework
- Paper Service Providers