ABSTRACT
The Active Reading Application (ARA) brings the familiar experience of writing on paper to the tablet. The application augments paper-based practices with audio, the ability to review annotations, and sharing. It is designed to make it easier to review, annotate, and comment on documents by individuals and groups. ARA incorporates several patented technologies and draws on several years of research and experimentation.

Categories and Subject Descriptors
H.4 [Information Systems Applications]: Miscellaneous

General Terms
Design, Human Factors

Keywords
Mobile, Reading, Annotation

1. INTRODUCTION

“...The linear, continuous reading of single documents by people on their own is an unrealistic characterization of how people read in the course of their daily work.” [1]

Work-related reading is a misnomer. Most “reading” involves an array of activities, often driven by some well-defined goal, and can include skimming, searching, cross-referencing, or annotating. For example, a lawyer might browse a collection of discovery documents in order to find where a defendant was on the night of October 3, 1999, annotate that document, and cross-reference it with another document describing conflicting information from a witness.

More than that, reading can be collaborative and can involve multiple displays. For example, a designer might skim documents on a phone to find a graphic that supports an...
Figure 2: When mobile it can be difficult or impossible to sketch directly on the tablet. For these situations ARA supports audio-based annotations. Like sketches, audio clips are linked directly to the document and are synchronized with a remote server. After the user clicks an area to annotate, and records their message (a), an audio icon appears on the page (b) and the annotation is uploaded (c). When a user clicks the icon (c) the audio starts playing immediately and an interface appears allowing the user to control playback.

Figure 3: ARA can take advantage of the extra affordances of digital styluses. Here, a user hovers the pen over an annotation, causing ARA to display the annotation’s creation time and owner.

Figure 4: This collaborative Web-based tools such as Wiki [9], and media content displayed in real time, are prevalent, but again such content often follows the many content distribution paradigms. We want here to follow the questions: How can we get people in more easily acquiring multimedia content that is published in public spaces, marking it as important, and sharing the marked-up content back to public places, and how would such public multimedia commenting work?

3. FUTURE WORK
ARA is a work-in-progress. We are currently experimenting with a variety of extensions, including more sophisticated sharing techniques and multi-touch and simultaneous pen-and-touch-interaction. We are also exploring the integration of other types of multimedia content.

4. REFERENCES