TAP & PLAY: An End-user Toolkit for Authoring Interactive Pen and Paper Language Activities. Piper, et al. CHI. 2012.

What are the core research questions addressed by the work?

- How to enable non-technical users to create custom interactive paper documents to support early language learning?

What motivates the work?

- Hybrid paper-digital interfaces are a promising approach for supporting language activities, but they are difficult to create without programming expertise and access to complex software development toolkits
- Flexibility of interactive paper applications outstrips user capacity to generate original material

How does the work understand the usage, capabilities, and limitations of paper?

- Pen and paper is a familiar, flexible, and pervasive interface
- Paper can be manipulated and shaped in many ways
    - Can be cut up, glued, taped together, or to other objects
- Language learning activities are tactile & paper-based from childhood
- Audio feedback useful to learning pronunciation & other language skills not provided by normal paper

What is the target application domain of the work?

- Language activities & education
- Not specifically explored but stated: Therapy
    - Wide range of domains, thought to be fairly generalizable

What are some proposed extensions to paper proposed by the work?

- Enable creation of multimodal interactive regions
    - Audio playback on touch: Linking audio to paper, integration of physical objects
    - Recognition of handwriting

How are the proposed extensions implemented?

- Livescribe dot pattern with Anoto digital pen

What findings have been obtained from either the implementation process or an evaluation of the proposed system?

- Limitation with the proposed system: Sharing of content between pens currently unavailable
- Practitioners, particularly user groups that have already specialized practices involving paper-based content, appreciate when the technology does not change their existing workflow, rather builds on their current practices and supplements existing materials by adding audio content