Pulp Nonfiction: Low-cost Touch Tracking for Paper. Zhang and Harrison. CHI. 2018.

What are the core research questions addressed by the work?
- How can we enable fully continuous touch tracking on paper at a low cost?

What motivates the work?
- Paper is a passive medium that could benefit from more interactive functionality

How does the work understand the usage, capabilities, and limitations of paper?
- Currently occupies a central role in our everyday lives
- Low cost, convenient, high contrast, durable
- Has enviable social, practical, aesthetic qualities
- Popular and rapid means for writing text and drawing figures
- Paper is a passive medium

What is the target application domain of the work?
- More of a technical work that aims to enhance the medium of paper itself
- Presents example uses for making print media interactive, in education, for digitizing handwritten notes, and for augmenting board games

What are some proposed extensions to paper proposed by the work?
- Enabling greater interactivity via continuous touch input capture

How are the proposed extensions implemented?
- Augmenting paper with a conductive backing that connects to a reusable sensor board
- Machine learning approach to touch tracking

What are the results of the work? What are the implications of the results for future designs and implementations of paper-based technologies?
- Proposed approach enables tracking of both fingers and implements.
- Limitations
  - The biggest encountered obstacle is limited shunting current due to poor grounding, which makes touches challenges to localize
    - Unsolved problem for the system and many others, but it is "likely that with sufficient engineering, this problem can be overcome"
  - Tracking not wholly accurate, particularly for pencils
  - Tracking accuracy decreases with paper size increase