Neuropsychological Impairment Diagnostic Tool

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Outline

• Why
• Clinical background
• Solution
• Project parameters
Why

- Improving the diagnosis of the early onset of brain damage.
- Interest personal / professional
- Types of impairment
- Description of "diagnosis of the early onset"
Clinical background

- 1947 Halstead published
  - Brain and Intelligence: A quantitative study of the frontal lobes.
  - 7 of 10 tests have withstood scientific scrutiny
- Current clinical assessment tool
  - Example, Alzheimer's
  - Mini-Cog demonstration
Mini-Cog Assessment
Consider implications

- What 'failure' of assessment means
- Gross vs Subtle changes
- Testing progression
- Diagnosis timeline
Solution

- Tool for the early identification (Change the dx. Timeline)
- Use existing Halstead-Reitan Neuropsychological Test Battery
  - Finger Tapping Test
- Enhance current technology
  - Accessible and easy to use
  - FTR (Finger Touch Recognition)
Project Parameters

• FTR

• Given:
  • Only data provided from touch device is:
    • relative position and tap area.
  • Identify
    • Which finger is tapping (simultaneous tapping events)
    • Frequency of taps