

A digital pen-based tool for instant digitisation and digitalisation of biopsy protocols

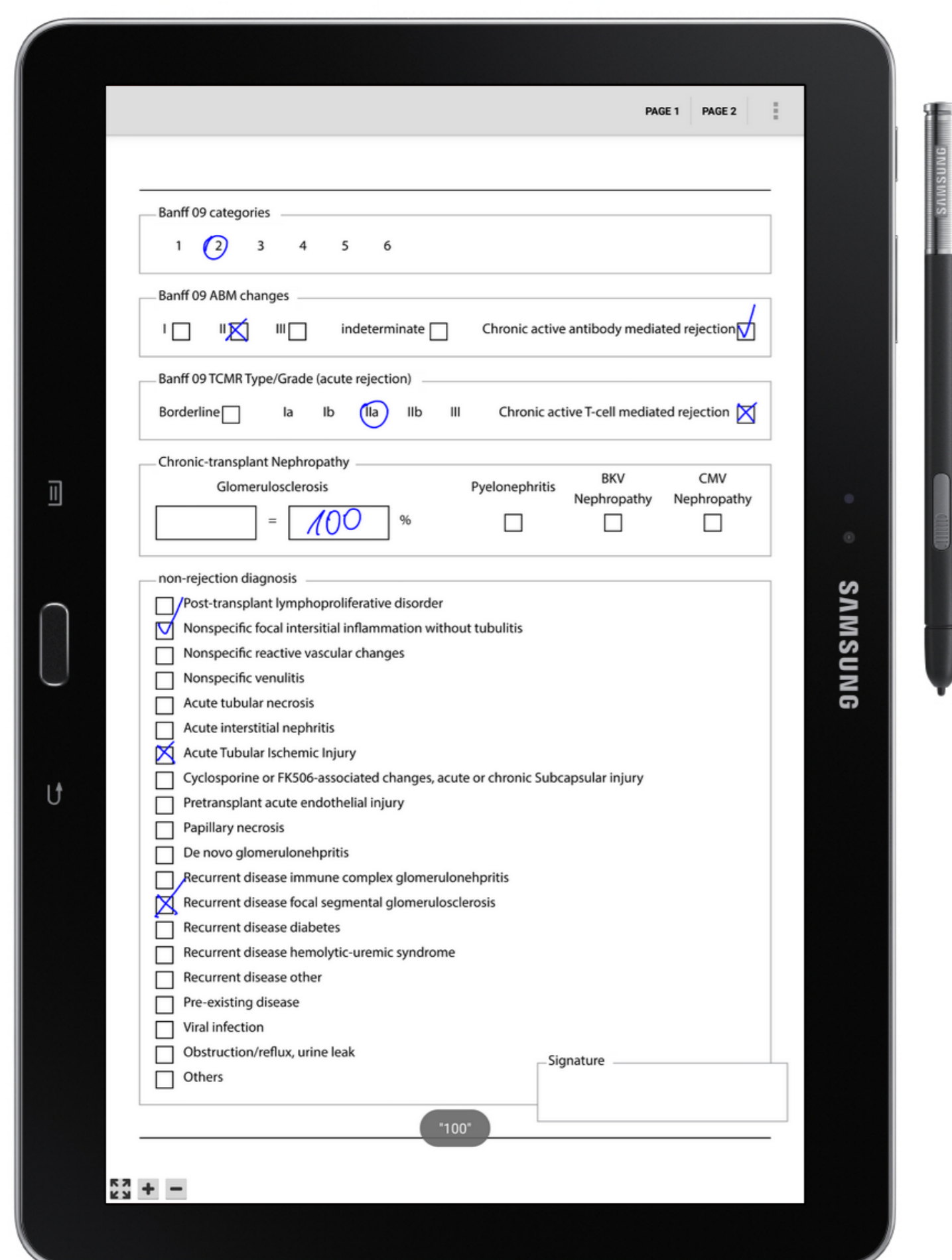
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Background

- Patients who received a kidney transplant undergo a lifelong treatment with routine check ups every 3 months.
- Biopsies can exclude or confirm a organ rejection: a small tissue sample is removed from the kidney and preserved.
- Pathologists examine the tissue under a microscope and assess the results using the Banff classification.
- Until now biopsy protocols are created using pen & paper with manual transcription.

Our approach

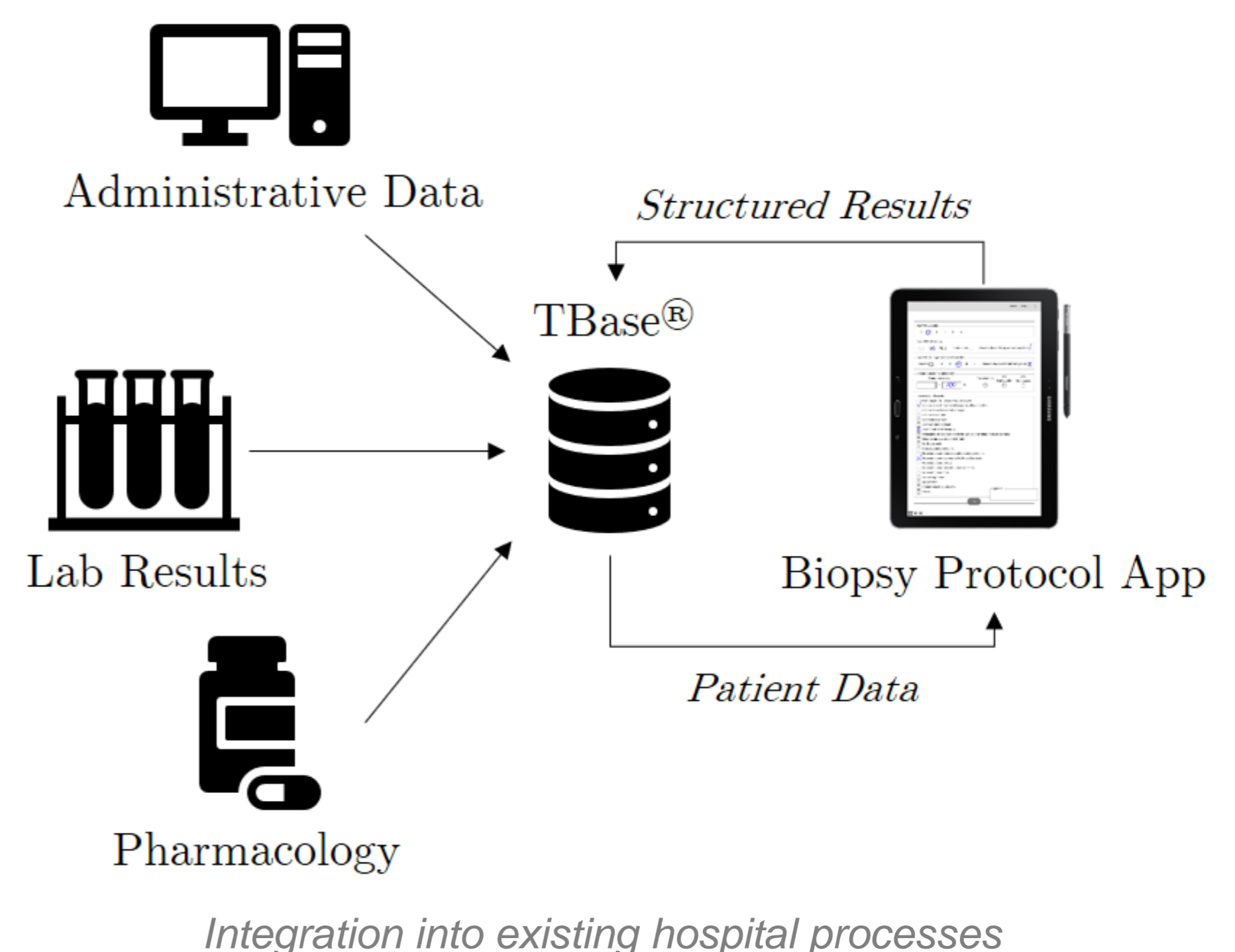
- Improve medical processes in nephrology.
- Allow doctors to create biopsy protocols by using a digital pen on a tablet.
- Real-time hand-writing/gesture recognition & real-time feedback on recognition results.
- Direct digitisation into structured data and PDF.
- Mapping of transcribed content into concepts of the Banff classification.
- Fully digital solution enables seamless integration into existing hospital processes.



Pen-based tablet application

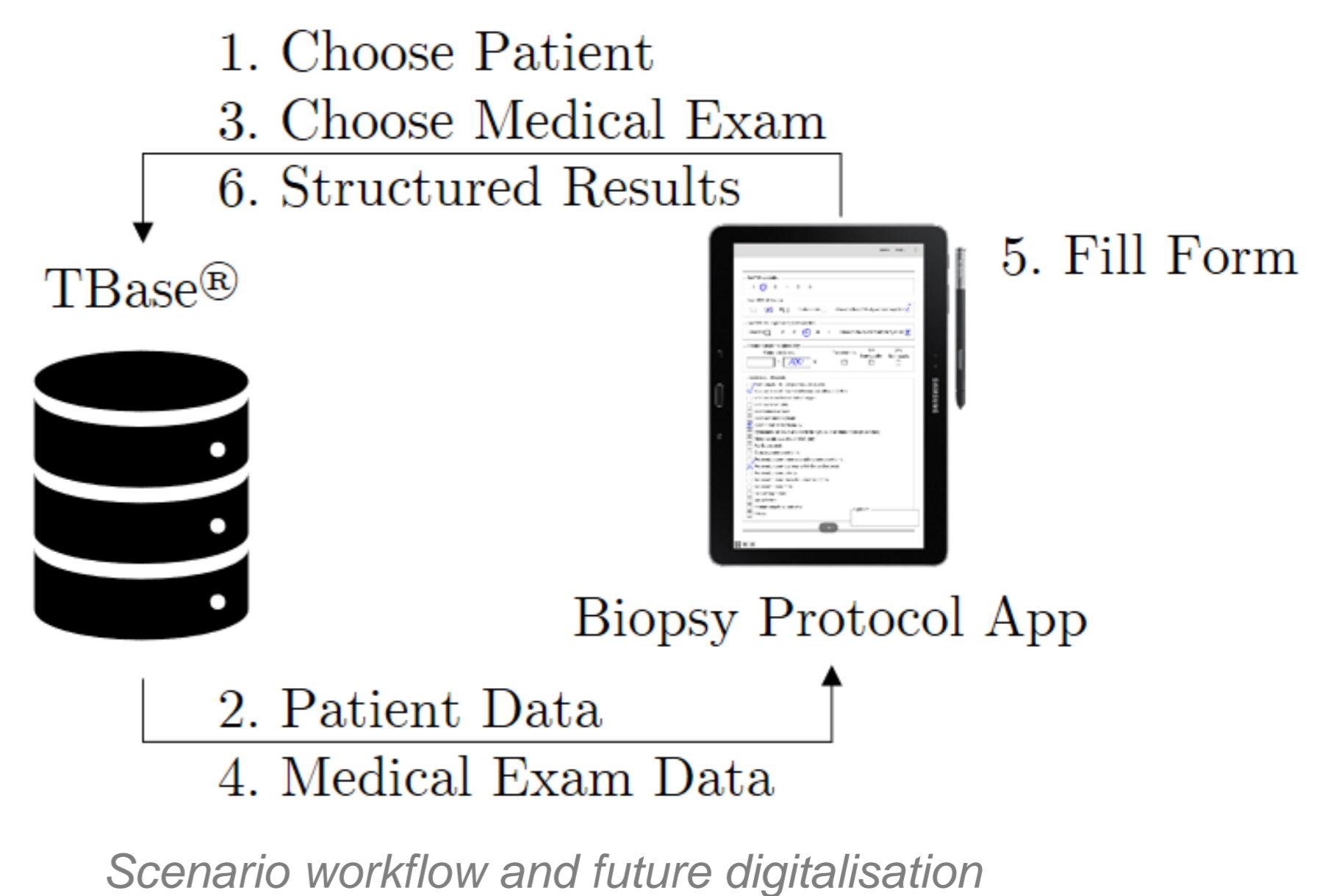
TBase®

- Medical database for patients with kidney transplants.
- Created 1999 by Charité in cooperation with Humboldt University of Berlin.
- Supports not only routine check ups but also gathers and provides data for scientific research.
- TBase® contains 3.945 patients, 550.000 laboratory cases, 146.000 examination findings and 237.000 medication plans.
- Our application directly connects to TBase® by getting patient data and writing back the structured results.

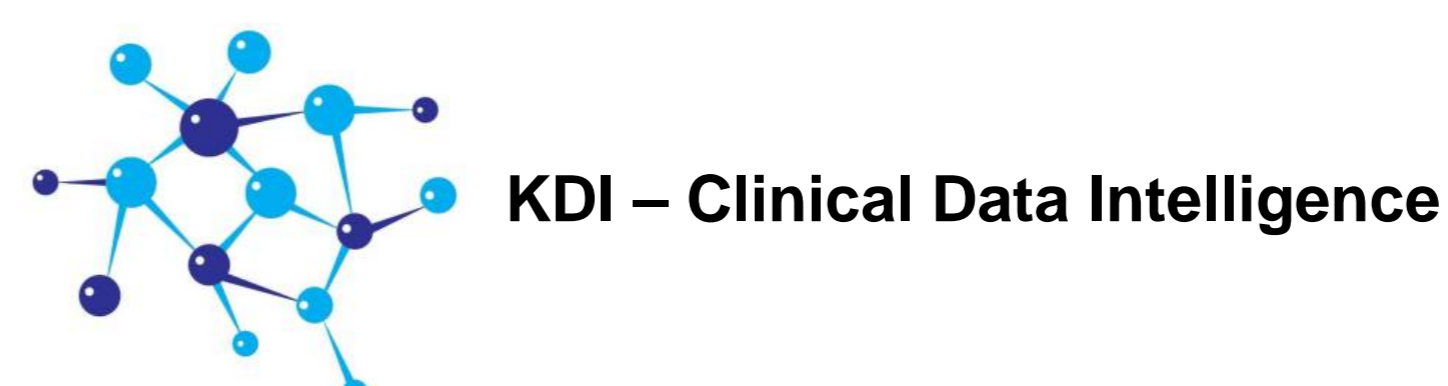


Implementation

- Samsung Android Tablet with integrated Wacom Stylus (pressure etc.)
- MyScript® handwriting and shape recognition engine
- Gesture recognition and information extraction using Artificial Intelligence techniques
- Digitisation into structured data (XML, JSON etc.) and PDF documents



Project:



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