Wales
Data Nation
Accelerator

LImBuS+: Extending Libre Biobank Management System for Enhanced Metadata Handling

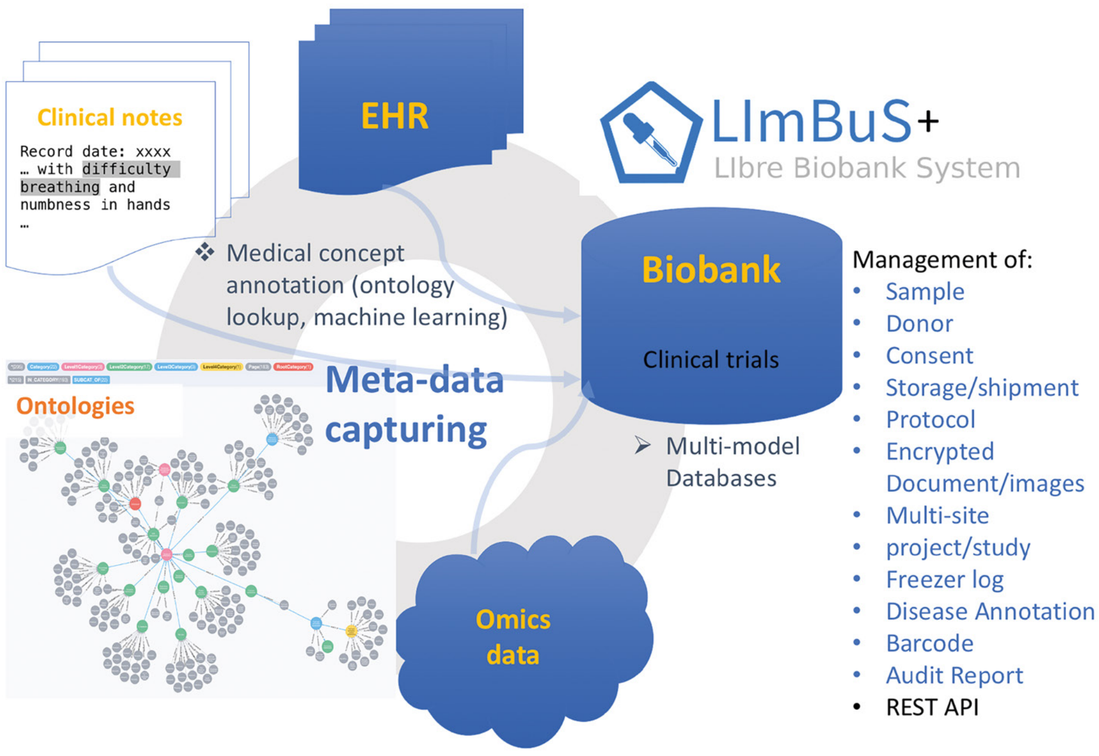
Summary

Challenge

Biobanks, particularly well-annotated repositories of biospecimens, provide an increasingly vital role in facilitating clinical and biomedical research. Much work exists on Biobank Information Management Systems (BIMS), but a great challenge remains to manage the metadata associated with samples and donors, concerning the collection and processing of such data.

Solution

Based on the seminal open source web-based BIMS LImBuS, purposefully developed by AU in support of the biobank run by Hywel Dda's Clinical Research Centre (CRC), this project consolidates the capacity of LImBuS in capturing and tracking samples. The work aims to apply MATILDA, an ontology-based clinical data integration framework to the annotation and storage of metadata regarding the donors, scientific investigations and clinical trials, thereby facilitating the handling and retrieval of relevant data with an extended system, named LImBuS+.



Benefits

- A reinforced, cost effective, bespoke, standard compliant information management system for biobank run by Hywel Dda, streamlining metadata collection and processing.
- A meta-data capturing tool to entail semi-automated data entry, supported with ontology fuzzy lookup and clinical note annotation.
- An open-source tool for enhanced queries on domain knowledge augmented data.

Further exploitation

- Refined context-aware medical concept recognition models.
- Improved UI (such as mobile applications) and integration with LImBuS.
- APIs for connecting LImBuS systems with the UK biobank.

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