**HuBMAP CCF Registration User Interface Prototype**

This Registration User Interface (RUI) supports the registration of three-dimensional (3D) tissue samples within 3D reference organs. Surgeons and others involved in the tissue procurement process can use the interface to

* Enter their name and select a reference organ (kidney, heart, lung, or spleen).
* Size the tissue sample in three dimensions.
* Position and rotate the 3D tissue sample within a 3D reference organ so its placement correctly mirrors the tissue extraction site.
* Save all registration information into a clipboard for easy pasting into custom templates in REDCap (or other systems) used to keep track of tissue and tissue registration data.

A first prototype of the CCF RUI became available in September 2019. The CCF UI specification is available [here](https://drive.google.com/drive/folders/1K8vEcxLLOjho4zD2V4S1WFP1CX4_e30P) and code is available on [GitHub](https://github.com/hubmapconsortium/ccf-ui). A demo video is on YouTube [here](https://www.youtube.com/watch?v=rWMqKQc_00w&feature=youtu.be).

The registration data will be used in forthcoming versions of the CCF and CCF EUI developed within HuBMAP, see below for more information.

**The Human Biomolecular Atlas Project (HuBMAP)**

The Human Biomolecular Atlas Project (HuBMAP) will develop the next generation of molecular analysis technologies, computational tools, and to generate foundational tissue maps in order to accelerate the construction of an atlas of the human body for the understanding the relationship between tissue organization and function.   
<https://hubmapconsortium.org>

**Common Coordinate Framework (CCF)**

The HuBMAP common coordinate (reference) framework is under active development. It aims to spatially annotate and index HuBMAP data so this data can be spatially registered and explored efficiently. The CCF v0.5.0 became available in March 2019. CCF Ontology documentation is available [here](https://docs.google.com/document/d/1X21O5DgGkq9ngPOsBZa-qy1-6Y2MiohJD7Bt-JFyysY/edit) and OWL file is available on [GitHub.](https://github.com/hubmapconsortium/hubmap-ontology)

**CCF Exploration User Interface (EUI)**

The CCF UI represents data across multiple scales, supporting navigation by multiple coordinate systems, including spatial, physiologic, and organ-based browsing. The proof-of-concept user interface for the CCF v0.5.0 became available in June 2019 and will evolve as more data becomes available. CCF UI specification is available [here](https://drive.google.com/drive/folders/1K8vEcxLLOjho4zD2V4S1WFP1CX4_e30P) and code is available on [GitHub](https://github.com/hubmapconsortium/ccf-ui). A demo video is on YouTube [here](https://www.youtube.com/watch?v=rWMqKQc_00w&feature=youtu.be).

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