CIS II project 9: Data Integration during Robotic Ultrasound-Guided Surgery

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Objective: Our goal is to develop a new enhanced reality interface for data integration with the Da Vinci surgical robot. We seek to determine whether surgeons are comfortable with using our new interface and how they believe it compares with other interfaces.

Materials: We plan to perform the studies using an OR at the hospital equipped with a Da Vinci console. Surgeons will perform surgeries on actual patients using the new interface. We hope for a sample size of 10-20 surgeons, preferably with varied surgical backgrounds and levels of experience.

Questionnaires :

All surgeons will be asked to state the type of surgical procedure performed and to list and explain any particular aspects of the interface that they found particularly useful or hindering during the surgery (e.g. volume renderings of anatomical structures and blood vessels were helpful to extracting a tumor, overlays got in the way when the surgeon just wanted to view the raw camera footage, etc.). Depending on each individual surgeon's background with the Da Vinci and other interfaces, they will fill out applicable parts of the following questionnaire.

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|   | Hopkins GUI (1-5) | TilePro (1-5) | None (1-5) |
| reliability |   |   |   |
| probe positioning |   |   |   |
| lesion localization |   |   |   |
| comfort |   |   |   |
| image quality |   |   |   |
| overall |   |   |   |
| comments? |   |   |   |
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