Developing an Immersive Virtual Simulator for Mandibular Surgery

Clinical Context

Surgical simulators are increasingly used to augment training for surgeons and help with pre-operative planning.
Clinical Context

Virtual Reality for Synergistic Surgical Training and Data Generation


Developing an Immersive Virtual Simulator for Mandibular Surgery

- **Goal:** Expand an existing in-house virtual surgical simulator (AMBF+) to realistically model virtual mandibular surgery.
- **What Students Will Do:**
  - Build a 3D model of the surgical drill used for mandibular osteotomies
  - Extend the code base of AMBF+ to manipulate different pieces of a mandibular 3D model
- **Deliverables:**
  - Minimum: Importable 3D surgical drill model for virtual mandibular surgery
  - Expected: Documentation of new AMBF+ functionality involving manipulation of a virtual mandible after surgical cuts
  - Maximum: Submitted manuscript/conference paper
- **Group Size:** 1-2
- **Skills:** Experience in CAD modeling, Python, C++, and Unity.
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