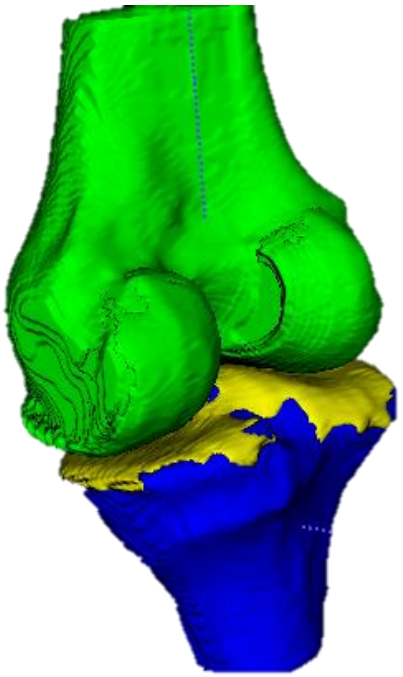

E-Health: Lab2
Software Tools

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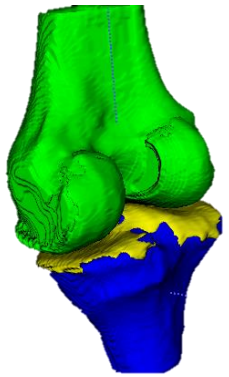
Aim

- Understand the use of software tools for annotation and visualization.
- Install and use Slicer 3D, and ITK-Snap
- With ITK-Snap
  - View 3D volume (Knee MRI) and ground truth (GT)
  - Perform semi-automatic segmentation.
- With Slicer 3D
  - Evaluate the similarity of the two segmentations using Dice similarity.
- Software:
  - ITK Snap. http://www.itksnap.org
  - Slicer 3D. https://www.slicer.org/

Itk-Snap

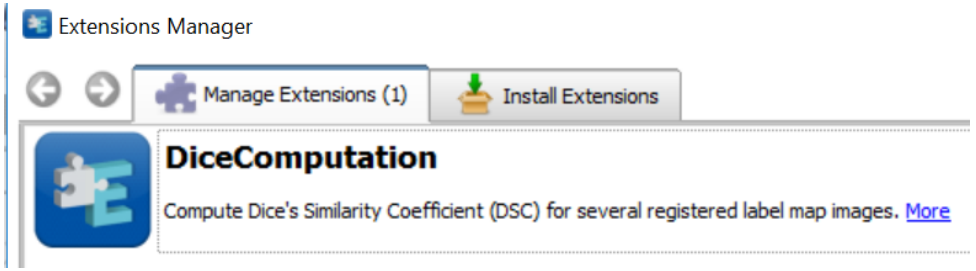
1. Install Itk-Snap & download the 2 knee MRIs.
2. Load the MRI image and segmentation (labels) for image-80.
3. Show the 3D rendering of the labels.



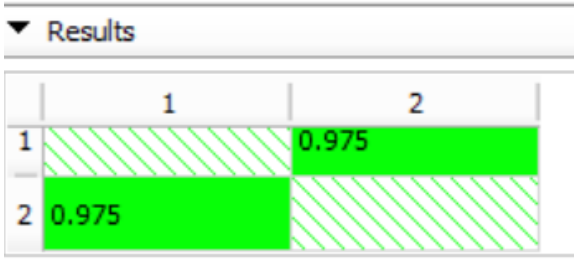
4. Segment the image-81 (only the tibia) with two semi-automatic methods using active contours (clustering, classification or edge attraction).
    1. Save the segmentations into separate files (seg1 & seg2) (use *mha* format).

Slicer

5. Install Slicer
6. Donwload the extension *DiceComputation* (View-ExtensionsManager)



7. Load (*Add-Data*) the previous segmentations done with Snap. S1 & S2.
8. Using *Volumes*, convert them to labels (*convert to scalar value*)
9. Use the *DiceComputation* to compute the Dice similarity.



What to submit

- Write down a short summary (5 pages aprox) of your work, including:
  - Problems encountered and snapshots of the correct execution of points 3 (rendering), 4 (segmentation) & 9 (Dice coefficient).
  - Files of the manual segmentations performed