**Baines Image Quizzer**

**Installation**

* Plug in USB on your PC or laptop (other option may be to download Image Quizzer from GitHub)
  + USB contents:
    - ImageQuizzerProject folder which contains:
      * **Image Quizzer Installation.docx** – this document
      * **ImageQuizzerStartup**.bat – starts the Image Quizzer and does cleanup on close
      * **(ImageQuizzerShutdown**.bat – updated when running the quiz; may not exist on install)
      * **ImageQuizzer** folder – holds the module to run the quiz

**BainesImagingSecurity** - an encrypted volume holding the patient data for this study

* + - **VeraCrypt.exe** – an application to mount the encrypted data volume onto your PC (admin rights required)
* Install 3D Slicer
  + Download Slicer version 4.11.20210226
    - https://download.slicer.org/download?os=win&date=2021-02-26
  + Double click on the downloaded .exe file
    - Accept installation defaults
  + We are using version 4.11.20210226; revision 29738
    - Using any other version of Slicer may have unpredictable behavior for this application
* Install SlicerRT, mpReview extensions
  + Open 3D Slicer
  + Select View > Extension Manager
    - In the Search field (upper right-hand corner) input SlicerRT
    - Click Install
    - There will be a message to say the extension was installed
    - Click on Restart (bottom right-hand corner) and OK
  + Repeat for mpReview extension (optional)
    - Can be used as a preprocessor to convert dicom series to nrrd (or nifti) to speed up loading of images when running the quiz
* Connect the Image Quizzer module
  + Open 3D Slicer
  + Select Edit > Application Settings
  + Select Modules in the left-hand panel
  + Click Add in the panel to the right of “Additional module paths:” (may have to click the ‘>>’ button)
  + Search for folder **ImageQuizzer** on this USB
    - (eg. C:\Users\*username*\\Documents\ImageQuizzerProject\ImageQuizzer)
  + Restart 3D Slicer if prompted
* Set Slicer application settings to be compatible with Image Quizzer
  + Open 3D Slicer
  + Select Edit>Application Settings
  + Select DICOM in the left-hand panel
    - Set Preferred multi-volume import format = volume sequence
    - Set Load referenced series = Always
  + Restart 3D Slicer if prompted
* Update the startup batch file
  + In Notepad edit the file ImageQuizzerStartup.bat located in ImageQuizzerProject folder
    - Update the directory that points to the current installation of Slicer.exe (You may find this in the following dir for a standard installation)
    - C:\Users\*username*\AppData\Local\NA-MIC\Slicer 4.11.20210226\Slicer.exe
* Notes:
  + SlicerRT – required for loading contour (label map) files – (there may be other dependencies)
  + mpReview – required for pre and post-processing functions
    - can be used for preprocessing of dicom series to nrrd format (to speed up read of image volume data) , Quizzer also depends on the mixins functionality that mpReview provides (in DICOMVolumeSequencePlugin.py, UtilsIO)
* To be added:
  + Veracrypt - needs admin privileges to run (UAC)
    - How to mount encrypted folder so that quiz can access image data
  + Install pandas? (>cmd (admin); >python -m pip install pandas ) – for convert RTStruct UIDs to original volume
    - Instructions to do this through Slicer interactor to make sure it is added to the right environment
    - Install numpy and pydicom as well? Or are these already in Slicer?
  + Rules about exporting label maps as RTStruct Dicom file
    - If remapping the exported RTStruct to the original image volume, the directory defined that holds the original series must contain only that series. There needs to be a one-to-one mapping of Slicer’s exported dicom series to the original dicom series
  + How to run preprocessor to convert DICOM to nrrd (using mpReview)
  + How to run from startup batch file