Astroid Patient Data Model

The following page describes the hierarchy of data used to manage patient data records within the Astroid planning environment.

Hierarchy

- Patient
    - Course [0,1,...,N]
        - Course data stuff here Fix Me!
        - Intent [0,1,...,N]
            - Intent data stuff here Fix Me!
            - Directive [0,1,...,N]
                - Clinical Goals
                    - Clinical Goals data stuff here Fix Me!
                - Phase
                    - Prescription
                        - Prescription data stuff here Fix Me!
                - Conceptual Structure List [0,1,...,N]
                - Conceptual Point List [0,1,...,N]
                - Snapshot [0,1,...,N]
                    - Imaging Data
                    - Structure Data [0,1,...,N]
                        - Active Variant
                            - The user has the ability to modify a DICOM structure in the contouring software, keeping the same original name, and bring it into ASTROID. This new structure will be a variant of the original structure. It will be given a label a, b, c, etc depending on the number of modifications.The user may also choose to give it a new color to distinguish from a previous variable.
                            - The user has the ability to choose which variation they want to calculate to or they may choose a variant to visualize; such as in the case of a tumor shrinkage- i.e. the original tumor and tumor (variant a) is the tumor after “X”Gy. This allows the user to have multiple structures to easily switch between different variables for visualizations. This also for simplification of regarding the nomenclature of the specific volumes.
                        - Variant List [0,1,...,N]

- Request [0,1,...,N]
  - Plans [0,1,...,N]
    - Image Calibration
    - Points [0,1,...,N]
    - Structures [0,1,...,N]
    - Calculation Grid
    - Treatment Room
    - Beams [1,...,N]
      - Snout
      - Devices & Spot Options
      - DRRs
    - Fraction Groups [1,...,N]
      - Target
      - Constraint [0,1,...,N]
      - Target Dose Constraints [1,...,N]
        - Target
        - Constraint [0,1,...,N]
        - Beamset [1,...,N]
          - Constraint [0,1,...,N]
          - Beam [1,...,N]
    - Constraints [0,1,...,N]
    - Objectives [0,1,...,N]
    - Dose Results

Descriptions

- Patient
  - A person receiving medical treatment.
- Course:
  - A prescribed regimen to be followed for a specific period of time.
- Intent:
  - The purpose of the treatment.
- Directive:
  - The prescription for the course of treatment.
- Snapshot:
  - Overview of targets and organs at risk.
- Request:
  - The date of implementation of the number of fractions. Can be all fractions or a specific number of fractions.
- Plan:
  - All aspects of the patient planning take place here. Such as patient geometry, calcualtion grid, beams and optimization.