decimal3D User Guide

Overview

The primary purpose and intended use of this device is to improve the efficiency of designing patient specific radiotherapy devices through the use of optical (laser) scanning technology. This device will serve as a direct replacement to the current processes for designing such patient-specific radiotherapy devices. One such common current process is for electron therapy clinical setups, which involves hand drawing of the patient-specific aperture shape onto a semi-transparent “template” block, using the treatment light field to verify accuracy against the treatment area that has been outlined directly on a patient by the treating physician. This now flattened and projected aperture shape can then be scanned and digitized allowing for computer controlled fabrication. This new decimal3D device will replace this process by providing a means to accurately scan and digitize the treatment area. After the surface scan is obtained, this device also provides a means for designing and ordering the required devices (e.g. digitization of the field for electron apertures), analogous to the current digitization process in the existing clinical workflow.

Purpose

The purpose of this document is to provide guidance on the setup, access, and usage of the decimal3D App.

Getting Started

Proper use of this software is critical to safe and effective treatment of patients using devices generated by this application. Users are expected to read and understand this complete User Guide including the Instructions for Use, which outlines the general usage principles and limitations of the decimal3D App. Users must read and understand these instructions before operating the system for clinical use. Refer to each section below for complete details:

- **Instructions for Use**
  - Overview and Indications for Use
  - User Responsibilities
  - Warning
  - Intended Use
  - User Profile
  - Product Features
  - Data Model

Precautions

It is the responsibility of those utilizing this application to ensure all that all usages of this product relating to patient treatments are performed by trained and qualified personnel only and that such personnel is aware that the quality of any generated treatment plans is highly dependent on the quality and correctness of the input data; therefore if any questions or uncertainties exist regarding the quality, units, or identification of input data arise, they must be investigated and resolved before the data are used.

Initial Setup

Once Astroid has been purchased, Astroid staff will assist with beam model creation, software installation, and user training. Users will be generally be trained at two separate levels, system administrators and end users. System administrators will be setup with appropriate access and tools for managing software including both the local and cloud resources. End users will be primarily trained on the details of generating high-quality treatment plans using the local client portion of the application suite. The beam modeling and equipment setup processes are explained more fully in the Dosimetry App Commissioning Guide.

Installation

The Astroid Planning App includes both a local User Client and a cloud-based calculation provider, therefore, there are specific requirements on computers in which the local client application can be installed. Please see the System Requirements page for details.

Tutorials

The following task descriptions are thorough guides providing complete information about each task within the Astroid Planning Application.

- Launching the Astroid Planning App
- TBD
    - TBD

System Usage

Improper System Usage

When using the Astroid Planning App, as with any complex program, there is the potential for misuse. The various Astroid Apps comprise a suite of radiotherapy treatment planning tools that are intended to

be used by experienced and knowledgeable professionals working in the field of radiation therapy.

Known Application Limitations

Below are listed the known application limitations, defects, or inconsistencies.

1. Treatment position information (e.g. isocenter, gantry angle, couch angle, collimator angle) is not available at this time as there is no sufficient link between the scanner coordinate and treatment machine coordinate systems
2. Site information including Machine and Address Settings cannot be edited from decimal3D (these can be edited using .decimal's p.d software available on Windows computers)
3. User passwords cannot be changed within the decimal3D App (please log in to direct.dotdecimal.com to change your password or contact .decimal customer service to request a password reset)

General

1. TBD

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