

Automatic numbering of vertebral bodies

OsiriX Foundation

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1 General Conditions

Please refer to <http://www.osirixfoundation.com/awards.html> for General Conditions.

2 Category

This document describes a **Category 1** Plugin Award Project.

3 Description

MRI studies of the spine can be acquired in different orientations along the spine. Commonly, images are acquired in sagittal planes where the spine is displayed longitudinally. These views allow the user to identify the level of each vertebra. However the process of counting the vertebra and identifying which level is a given one is tedious and prone to errors. Many systems today will allow to automatically (or semi-automatically) identify the vertebrae and label them appropriately. This makes the task of image interpretation much easier for the radiologists. Also in programs like OsiriX that allow to cross-correlate between sagittal planes and axial planes, this helps to identify the level of the axial images as well.

4 Requirements

Several existing models of software programs can be used to generate a simple and interactive tool to automatically identify the vertebra and label them. The tool should allow in a few clicks to automatically label the vertebra in all the planes of images series.

The plugin should perform the following tasks:

- Automatic (or semi-automatic with the user helping identifying the first vertebra and its level) identification of vertebra and locating the center of the vertebra and the limits between each pairs of vertebra.

- Automatic labeling of all the all the images appropriately (using the OsiriX annotations that are part of the sets of ROIs tools)
- Allow the user to correct errors in a simple way

5 Deliverable

1. A fully functional plugin that requires minimal user interactions to identify the vertebra
2. A simple dialog that would allow the user to correct errors
3. Display the results as simple annotation objects (ROI) in all the series that the users selects

6 Contact

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