

MODELING IN RECONSTRUCTIVE FACIAL SURGERY

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There is a possibility to obtain a 3-d model of the facial skull bones and a vector counter file of damaged bones based on a set of output files from an X-ray computed tomography to manufacture an individual implants.

The scientific and practical interest is in the development of technology for producing 3D models of thin, small bones and complex shaped bones of the front skull parts, based on the output files of X-ray computed tomography. The aim of research were to develop a technology to handle a large amounts of information for reconstructive facial surgery, as well as working out the technology of forming a drawing of the individual implant for bones of the eye socket.

The technology of producing 3D models of the facial bones of the skull, based on the output files of X-ray computed tomography and manufacturing implants for these lesions consists of the following blocks of operations (Figure 1).

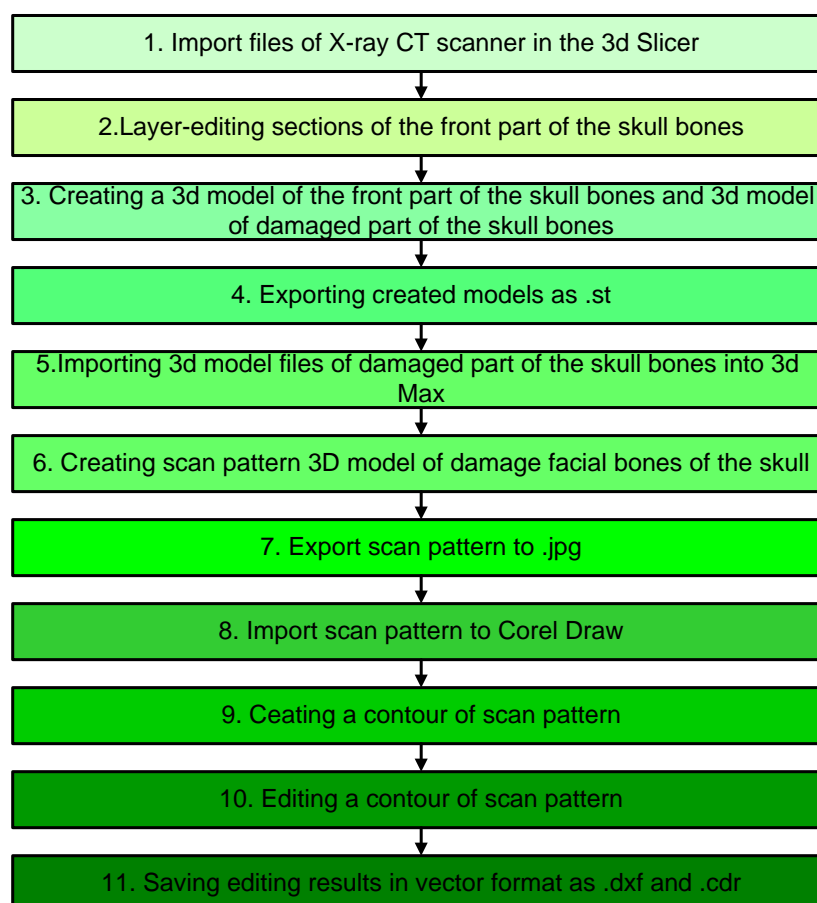


Figure 1. Technology of receiving 3d model of the front part of the skull bones

[1] V. Osipovich, K. Yashin, et al. BIG DATA Advanced Analytics. Optimising Buisness and IT.: Minsk, Republic of Belarus, 15 – 17 june 2016. – P. 89–97.