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MERODA – THE MEDICAL ROBOTICS DATABASE

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Purpose

The development of medical robotics is a dynamically growing discipline between the medical application and the technical challenge. Survey articles in paper form seem not to be able to provide up-to-date information. The aim of this work is to provide an electronic database of almost all medical robotic systems worldwide. Such a database could provide easy and quick access to relevant data. Furthermore the database should be updated easily regarding the progress of known or new projects. Methods

To identify the projects dealing with medical robots, an internet and literature research was conducted (see also [1]). The projects were analysed considering 30 criteria and the results are presented in a table form. The criteria were organised as follows: "general" (project name, description, responsible institute, contact address, project period, funding, etc.), "medical aspects" (medical discipline, availability, function, etc.), "technical aspects" (robotic set-up, kinematics, operation, trajectory planning, etc.). The table was converted into an electronic database. It will be made accessible by the internet. Additionally an user-registration had to be included for legal reasons. Results

The internet-database MERODA (MEdical RObotics DAtabase) will be accessible via the URL <http://www.ma.uni-heidelberg.de/apps/ortho/meroda>. For more than 200 projects in the field of medical robotics technical data, figures, illustrations and literature are provided. The database can be browsed using several sorting criteria (discipline, country, institute, status, kinematics type, project name). After selecting a specific project additional information -if existent- is provided in a list. To keep the database up-to-date, users are encouraged to add information to or to modify the content. To do so, a form is provided. New or revised data-sets are entered in the database after being reviewed by the administrator. To access the database a registration is necessary. To obtain a username and password, the user has to send an e-mail to the administrator stating that he or she will not violate copyright regulations and not copy any of the content. Additionally the site provides a glossary of common terms and expressions related to robotics and the medical context. Conclusion

We set up an electronic database which allows quick and easy search of medical robotics projects by sorting to different criteria. Enabling the collaboration of researchers, developers and enterprises the data-sets will be permanently emended and enhanced. All this will lead to a complete description of the state-of-the-art of medical robotics. In

contrast to a publication in paper form an electronic database can be updated easily. MERODA is based on Pott et al. [1] where 159 system were described in april 2005. Now MERODA contains 211 systems. Thus, the up-to-dateness of the database has been realised. An administrator is needed due to copyright reasons. It seems to be virtually impossible to receive a permission to publish protected material from every project. So by registering every user of MERODA the database is not a publication but a private collection of information and the copyright is protected. The modification of data-sets is verified by the administrator. This approach was chosen to preserve and the integrity of the whole database and to make sure, that all projects are described correctly. MERODA represents the base for an international presentation of projects and results in the field of medical robotics and a platform for a self-portrayal of medical robotics projects. [1] Pott PP, Scharf H-P, MLR Schwarz. Today's State of the Art of Surgical Robotics. Journal of Computer Aided Surgery, 2005, 10 (2): 101-32