

MEMDroid – an Android tablet frontend for MEMDoc

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As in almost every field of modern science, the collection, aggregation and interpretation of data has become crucial in the domain of medical studies too. While clinics usually keep their records in closed, customized systems the MEMDoc Project of the University of Berne and its partners provides a web based and standardised platform. In a medical practice environment the PC browser based, solution works well, in a hospital however medical staff is much more mobile and such a solution is suboptimal. Therefore MEMDroid brings all the platforms functionality to an Android tablet device.

MEMDroid

MEMDroid brings the functionality of the MEMDoc platform to Android tablet devices. Before a user can do anything meaningful with the application it must be logged in to the underlying webservers and thus to the application. The MEMDroid application allows users to add new patients to a study or to search for already existing ones. Once a patient is selected the different questionnaires of a certain study are available to the user. The user can choose which questionnaire should be filled out and the application exposes the questions according to their nature as either simple text fields or more elaborate alternatives like drop down lists, radio button groups or even value range sliders. When the

user has finished filling out the questionnaire, the answers can be saved to the server.

MEMDoc

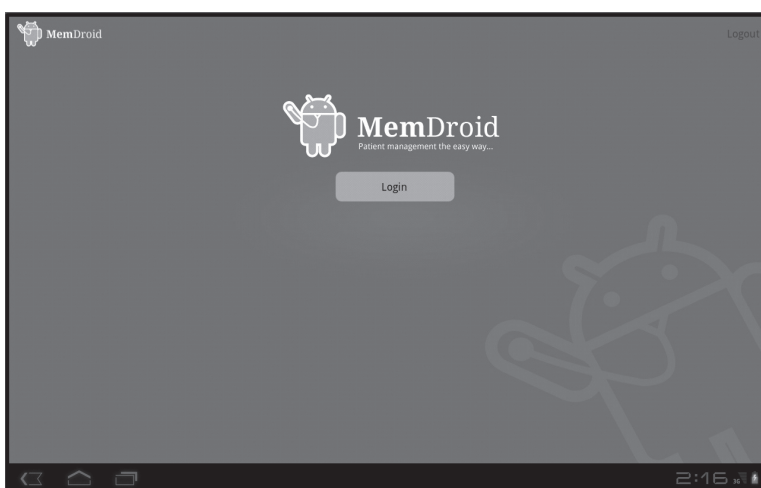
MEMDoc is a platform that standardises and facilitates the collection and handling of data for medical studies. The application is web based and is built up on two different web services, the so called «module» for personal patient data, which is usually offshored to the study conducting medical society. And the so called «server», which is centralised and contains the medically relevant and anonymised user data. For instance MEMDoc is accessed and used by the means of a web browser usually running on a desktop pc or a laptop.

Details

Both the «module» and the «server» expose SOAP-based web services. To log a user in to the system first a session id must be obtained by the server, which is then sent to the module containing the user name and password which in return sends back the module number, the module session id and a signature. By sending these with the original server session id to the server the login process can be completed. After logging in the user data has to be received, to be able to determine the department in which the user works. This is very important for all the following steps as the department affiliation determines which patients can be found and what patient data can be entered into the system. Before a questionnaire can be displayed a patient must either be found and selected or a new one must be entered and selected. Each of these steps comprises one or more SOAP web service calls to either the «module» or the «server» or even both servers. The questions are displayed with Androids native display elements to facilitate the process of entering the data. By hitting the save button the data will be sent to the «server» server and is instantly available for analysis purposes or other users treating the same patient.



Christoph Isch



Startscreen of the MEMDroid application