Klinisches Anwendungsprojekt
Project Proposal Template

General Info: The Department of Dermatology and Allergy is part of the "Klinikum rechts der Isar" and the Medical Faculty of the Technical University of Munich with about 50,000 patient treatments per year and a large study center.

Project Title: Automation of laboratory processes and appointment scheduling

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Project Abstract: Create intelligent contemporary IT based solutions for appointment scheduling and laboratory processes in a clinical study.

Background and Motivation:
Allergic diseases affect approximately one billion people worldwide and represent one of the most common chronic diseases with high healthcare costs and an increasing prevalence. Despite recent advances the pathophysiology of allergic diseases remains largely unclear. To study the role of the environment and microbiome on the onset of allergies and atopic dermatitis, a longitudinal clinical birth cohort of 300 children born in Munich was designed and patients are followed up for 4 years. Of these, about 50 children – statistically – will develop atopic dermatitis and allergies and will then be compared to the other children without atopic dermatitis and allergies. By meticulously analysing differences, individual risk factors and biomarkers together with several laboratory assessments are hoped to be identified for the prediction of allergy development. A modern and contemporary scheduling of appointments and laboratory assessments is needed and asked for by included families.

Student’s Tasks Description:
Design and implement a digital solution (e.g. web-based App) for appointment scheduling in clinical studies with the following requirements:

- Data-safety and data security
- Overview of available appointments from which patient chooses slot
- Once an appointment has been made, all interfaces (physicians, nurses, laboratory personnel etc.) are informed about scheduled visit incl. respective to do’s
- Automated reminders for patient prior to appointment
- Automated information (and reminder) of filling out online based study questionnaires prior to clinical study visits
- Possibility to upload clinical pictures in case of abnormal findings between scheduled visits for quick assessment of a potential need of a timely (additional) dermatologic treatment

Technical Prerequisites: Interest in clinical studies

References: