Paving the way for safer e-prescription: Presentation of the PrescIT platform

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Abstract. In the course of the PrescIT project, an e-prescription platform that supports clinical decisions was developed, with emphasis on the end-users, to ameliorate the provided healthcare services. During this panel discussion, we will be shedding light on the technological aspect of the platform development and present the final system by examining the information flow scenarios, namely, Prescription Check, Prescription Suggestion and Therapeutic Prescription Protocol Monitoring. Furthermore, healthcare professionals' views on the applicability of the platform in everyday clinical practice will be discussed.

Keywords. Electronic prescription system, knowledge engineering, knowledge graphs, ontologies, system evaluation

1. Introduction

Electronic prescription (e-prescription) and Computerized Physician Order Entry (CPOE) systems are increasingly being adopted by healthcare organizations, containing features to reinforce quality and safety of care. The PrescIT project aimed to develop and

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evaluate an e-prescription platform for more efficient and safe e-prescription that supports and facilitates clinical decisions.

The PrescIT platform focused on the integration of Knowledge Graphs in the form of OWL/RDF. Moreover, the established Galinos knowledge base was utilized and extended to include additional elements like open drug databases, reasoning, rule-based components, in one interoperable web service. The system consists of three information flow scenarios, namely, Prescription Check, Prescription Suggestion and Therapeutic Prescription Protocol Monitoring. By providing information on Adverse Drug Reactions and Drug-to-Drug interactions, pointing to existing literature and available directions on dosing, the system aims to support healthcare professionals in their everyday clinical practice. Additionally, the implementation of Therapeutic Prescription Protocols in a manner that allows flexible interaction, promotes good clinical practice.

The PrescIT platform and its available information flow scenarios will be presented in this session through various examples / case studies, to exhibit the potential of the system and show the rationale followed to promote safe e-prescription.

An important benefit of the followed approach was the close collaboration of technology partners with clinical partners to ensure that the developed system tends to the healthcare professionals' needs and constitutes a useful tool that can be easily incorporated in their clinical practice. For this, healthcare professionals were asked to provide feedback on existing e-prescription systems and test the developed platform.

2. Panel Discussion Contributions

In the beginning of the panel discussion, the presenters will provide the outline of the PrescIT project to introduce to the audience the course of actions followed, the partners of the consortium and their different roles.

Afterwards, the presenters will discuss the various components designed to facilitate safe e-prescription. The technological assets developed will be described, followed by a detailed presentation of the PrescIT platform by testing all three available information flow scenarios.

Furthermore, to exhibit the usability and acceptability of the platform, the presenters will address healthcare professionals' views and perceptions as collected during the evaluation phases of the project.

2.1. Panel Discussion Agenda

An overview of the panel discussion items and the corresponding presenters can be found in **Table 1**.

Table 1. PrescIT Panel Discussion Agenda

Topic	Presenter	Duration
- Project Outline	Margarita Grammatikopoulou	5 min
- Development of the platform's components / technological aspect	Achilleas Chytas, Giorgos Giannios	10-15 min
- Presentation of the PrescIT platform	Martha Zachariadou	15-20 min
- Clinician's views and acceptability	Margarita Grammatikopoulou	5 min
- Q&A		10-15 min

3. Acknowledgements