



# SERUMS

SHARING PATIENT DATA IN A SAFE AND SECURE WAY ACROSS EUROPE

## Newsletter EU Serums – June 2020



[www.serums-h2020.org/](http://www.serums-h2020.org/)



[https://www.youtube.com/channel/UC-Cwk8RvJ4Q\\_atLsSDBL0vA](https://www.youtube.com/channel/UC-Cwk8RvJ4Q_atLsSDBL0vA)



[https://mobile.twitter.com/serums\\_h2020](https://mobile.twitter.com/serums_h2020)

## APPS2020

**The Second International Workshop on Adaptive and Personalized Privacy and Security (APPS 2020) –**  
<http://appsworkshop.cs.ucv.ac.cy>

The Second International Workshop on Adaptive and Personalized Privacy and Security (APPS 2020) aims to bring together researchers and practitioners working on diverse topics related to understanding and improving the usability of privacy and security software and systems, by applying user modeling, adaptation and personalization principles. The special focus in 2020 is healthcare systems, specifically on ensuring security and privacy of medical data in smart patient-centric healthcare systems.

The second edition of the workshop includes interdisciplinary contributions from Austria, Canada, China, Cyprus, Denmark, Germany, Greece, Israel, the Netherlands, Turkey and the UK

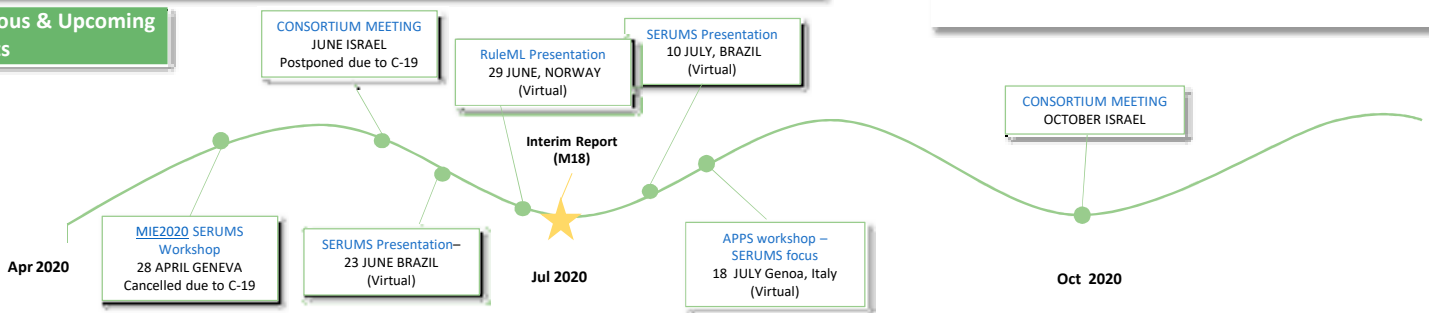
### EU Serums – Introduction

There is a recognised move towards more personalised health management, with citizens at the centre of healthcare provision. In particular, there is an emphasis on the right of citizens to decide who, why and when, should have access to their medical records. The EU project SERUMS is developing a tool-chain for the secure access of distributed medical information preserving the privacy levels imposed by GDPR, national and / organisational regulations. Serums proposes a user-centred approach to demonstrate how technologies can converge to enable doctors and patients to interact with integrated healthcare records. In addition, it will allow evaluation and evolution of the tool-chain.

SERUMS integrates a variety of technologies into a coherent Smart Health Centre System (SHCS) with a centralised front-end to allow: (i) patients to have more control over their personal medical data and (ii) professionals to make better-informed decisions based on a more holistic view of patient records.

In the near future we will be placing our system in a real context by engaging our hospital partners in the design and implementation of experiments regarding user experience. In this way, we will be able to evaluate aspects of usability and integration.

### Previous & Upcoming Events



### Flexpass Patient Evaluation Overview

Evaluation was carried out during early 2020 and focused on the Flexpass Authentication System proposed by the University of Cyprus. The Proof of Concept (PoC) took place in the two hospitals participating in the Serums project; Zuyderland Medisch Centrum ZMC and Hospital Clinic de Barcelona, represented by the research foundation FCRB. Both were led by the team from Accenture, who helped with the coordination and methodology of the interviews.

The events at both locations were undertaken under similar conditions, with similarly set up meetings with patients, IT personnel and assistance personnel. The interviews with IT personnel and assistance personnel, although including some interaction with the Flexpass system, focused on their knowledge and experience on how the patients normally use similar technology.

Interviews across both sites focused on mainly trust, perceived security and usability of the whole process of registering and logging in the Flexpass. Results and feedback exceeded

### Barcelona Patient Evaluation

The evaluation process in Barcelona on began on 20th January. Accenture met the local team at the Hospital Clinic de Barcelona to exchange ideas and plan the evaluation process. Dr. Jesus Blanco, resident endocrinologist, arranged meetings with colleagues and patients with appointments scheduled during the visit.

Patients were asked for their consent and were shown how the UCY Flexpass system worked. They were given the opportunity to interact with it. Interactions with the tool were guided, with close communication with the interviewer only provided if requested by the patient. This minimized any potential influence on patient opinion over the evaluation of the Flexpass system. Patients evaluated their interaction with the system via a questionnaire.

Concurrent interviews took place with hospital IT and assistance personnel. The Accenture and FCRB teams discussed data security and the servers that hold the patient data. Feedback was very positive and validated the decision

### The FlexPass System

The Serums user authentication system, coined FlexPass, goes beyond the traditional “one-size-fits-all” practices and adopts a personalized and adaptable multi-factor authentication scheme, based on a memorable and flexible authentication paradigm. The new user authentication paradigm leverages upon theories in Cognitive Psychology, which suggest that human episodic and semantic memories, represented as verbal and visual information, can be transformed into memorable and personal authentication secrets.



The first proof-of-concept (PoC) user authentication system (Figure 1) has been designed and developed, aiming to get feedback about patients’ preference and opinions