SERUMS

SHARING PATIENT DATA IN A SAFE AND SECURE WAY ACROSS EUROPE

Development of the User Interface

The team at the University of St Andrews has recently been further developing the user interface for the Serums This is where the 'client application' is developed and tested and integrations such as the creation of a novel secure picture password is established and showcased to volunteer members of the public to test the usability and security of the process. The SHCS proxy server (Smart Health Centre System) consists of a data lake, combining fabricated patient data from examples provided by our partner hospital sites. Aspects of the system such as blockchain based filters to control which data is accessible to whom and when are devised from here. Other aspects, such as the user verification process are also tested and improved within this system.

The team at the University of St Andrews have recently been further developing the user interface for the Serums Project. This is where the 'client application' is developed and tested and integrations such as the novel secure picture password is showcased to volunteer members of the public to test the usability and security of the process. Once the Serums pilot project is completed, real patient data will be used in place of fabricated data. Aspects of the system such as blockchain based filters to control which data is accessible to whom and when are devised from here. Other aspects, such as the user verification process are also tested and improved within this system.

A major novelty of the Serums system is the patient led creation of a 'picture password' authentication system, developed by the University of Cyprus – where patients create their own authentication by recording a series of ([read more](#)). . .

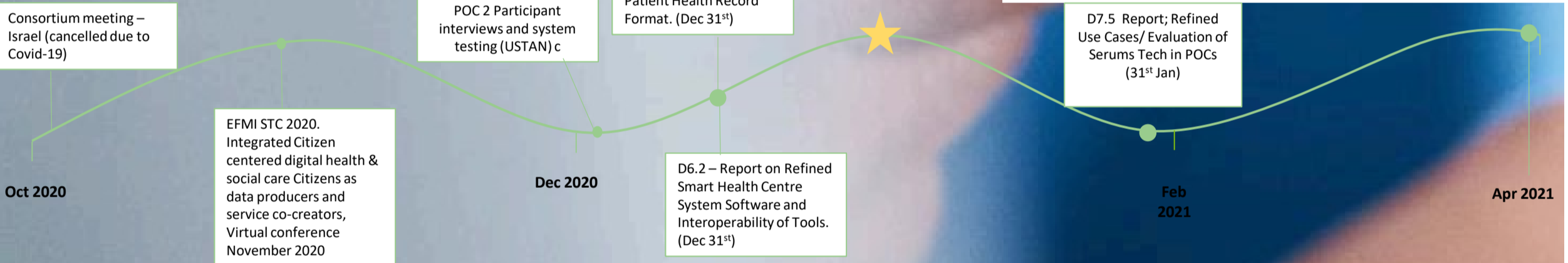## Update on the Integrated solution – IBM

During the second year of the SERUMS project IBM's Data Fabrication Platform technology has been significantly enhanced to enable improved user experience and fabrication of more complex synthetic data. The major enhancements of the tool include:

- New Graphical User Interface (GUI) to enable improved user experience and typo-free rules modelling,
- PRB Solver Parallel Edition to considerably improve the tool performance and enable creation of synthetic big data,
- Support for new operators to support modelling of new fabrication rules.

The updated data fabrication tool version includes a new implementation of a web-based graphical user interface. The new GUI provides a table-based view of the modelled data fields/columns. A set of fabrication rules is virtually associated with each field/column. Besides new interface design and look-and-feel, the new GUI includes a new component called Rule Editor. The new component enables graphical form-based definition of the data fabrication rules/constraints instead of textual definition of the constraints using the ([read more](#))

Previous & Upcoming Events

Consortium meeting – Israel (cancelled due to Covid-19)

Oct 2020

EFMI STC 2020. Integrated Citizen centered digital health & social care Citizens as data producers and service co-creators, Virtual conference November 2020

POC 2 Participant interviews and system testing (USTAN) c

Dec 2020

D2.5 – Report on Final Specification of Smart Patient Health Record Format. (Dec 31st)

D6.2 – Report on Refined Smart Health Centre System Software and Interoperability of Tools. (Dec 31st)

Proof of Concept 2 (M13)

D7.5 Report; Refined Use Cases/ Evaluation of Serums Tech in POCs (31st Jan)

Feb 2021

Apr 2021

News

2nd Proof of Concept Update, ZMC.

Serums is reaching one of its major milestones at the end of 2020, namely the second pilot of its proof of concept. It has not always been easy because of the major roadblocks Covid-19 has caused for the project. While the team was working from home, in 9 different countries, to develop a system that could be tested at the different hospital sites, the pandemic has made it much more difficult than last year to reach our users and test the system on our target population. Concurrently, it has also been a challenge to reach medical professionals for their input.

Despite the complications of the pandemic, it has also emphasized the value Serums brings in a time when physical hospital visits have become difficult. This 'new normal' requires new solutions and technologies like Serums will enable health systems to function effectively under much changed circumstances. This has not gone unnoticed by medical professionals and is beginning to

become apparent to study participants.
Following a successful second pilot, this phase of the Serums project is reaching conclusion. ([read more](#))

News

2nd Proof of Concept Update, FCRB.

Covid 19 has changed the way we have operated this year, and the preparations for the second SERUMS Proof of Concept has not been an exception. During the first Covid wave at the start of the year, the entrance and activities in hospital were restructured to ensure strictly sanitary conditions.

Our carefully planned patient interaction, in which participants were to be recruited by the health professionals at the Hospital site and interviewed in an adjacent consultation room, were disrupted entirely and left only the virtual, online alternative as a 100% secure path to perform interviews with patients. This outcome resulted in a short notice rework of the whole process of patient recruitment and interaction, together with adherence to the resulting requirements of the Ethical Committee. This ensured that any modifications to our processes fitted the ethical framework of both our

organization and the EU, and has been a new, unexpected and major workload of the study. ([read more](#))

News

2nd Proof of Concept Update, ECC

The system and the password creation process has been showcased to a group of 25 volunteers. The original aim within the project was to perform system testing by interviewing members of the public in person at the Edinburgh site, however due to Covid restrictions, this proved to be impossible.

The Serums team at the University of St Andrews devised a 'covid compliant' series of Teams based test days, where volunteers were given access to the system, supported by members of the Serums team in real time, should they need assistance. They were able to create their own picture password by choosing an image relevant to them and performed a series of tasks to test the usability of the system. Volunteers were recruited via social media in local Facebook groups across Fife, Tayside and Edinburgh, using online posters featuring a QR code to ensure only local patients were interviewed.

Interested applicants were asked to confirm their location and were interviewed in real time by video link on Teams. This allowed a high degree of confidence in the participants locality.