A Demonstration of 4D Digital Avatar Infrastructure for Access of Complete Patient Information

Project acronym: MyHealthAvatar

Deliverable No. 9.4
Demonstration of MyHealthAvatar

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PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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ABSTRACT:
This document presents the main MyHealthAvatar demonstration activities and actions. We are proud to mention that this task has been successfully and widely extended in order to satisfy the needs and requirements in advanced and enhanced demonstration actions of the implemented MHA demo platform, tools, scenarios and services.

KEYWORD LIST:
MHA, MyHealthAvatar, demonstration, presentation, demos

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[1] **R**=Report, **P**=Prototype, **D**=Demonstrator, **O**=Other

[2] **PU**=Public, **PP**=Restricted to other programme participants (including the Commission Services), **RE**=Restricted to a group specified by the consortium (including the Commission Services), **CO**=Confidential, only for members of the consortium (including the Commission Services)

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Contents

1 Executive Summary

This document presents the main MyHealthAvatar (MHA) demonstration activities and actions implemented in special at the end of the project. We are proud to mention from the very beginning that the Task 9.3 from Description of Work (DoW) document has been successful and widely extended in order to satisfy the needs and requirements in advanced and enhanced demonstration actions of the implemented MHA demo platform, tools, scenarios and services.

MHA has been successfully demonstrated in the frames of not only one public conference but in a wide range of international, European and national events and conferences. A special attention has been paid to 'face-to-face' meetings, it allowed us not only to demonstrate the platform but to gather as well important evaluation insights and results.

This document is extended by presenting in addition the main developed demos (high end-scenarios), all developed on top of MHA platform.

Top stakeholders from patient groups, clinical societies, basic research, legal and ethical communities, industry and politics have been successfully enrolled in demonstration activities. For a detailed overview a dedicated chapter (**2. Conferences and Events Demonstrations**) is presenting in details the main events and top demonstration actions performed by all projects partners. We are proud to accentuate that all project partners have been activity enrolled and actively shared their contribution by demonstrating MHA platform to the public.

This document has been compiled to cover three main topics:

- Presentation of the demonstration actions implemented by all project partners in the frames of international, European, national or local events;
- Presentation of the main demonstration scenarios with step-by-step guidance and screenshots;
- Conclusion section with coverage of other demonstration actions and activities.

2 Conferences and Events Demonstrations

2.1 Introduction

We are very proud to mention the top International, European events where MHA platform has been successfully demonstrated.

2.1.1 ICT 2015

ICT 2015 took place from 20 to 22 October in Lisbon, Portugal. It offered to more than 6000 visitors the possibility to "Innovate, Connect, Transform" our digital world.

- ICT 2015 event offered several parallel activities:
- A policy conference;
- An interactive exhibition;
- Many networking opportunities;
- Horizon 2020 Work Programme 2016-2017 thematic sessions;
- Startup Europe Forum.

ICT 2015 had 2 European Commissioners attending, 127 speakers in 4 plenary and 15 parallel sessions, 140 exhibition booths and 120 networking sessions. The event also had over 6000 participants, 23 videos, 23000 tweets with #ICT2015and 5200 Twitter users that actively joined the online debate.

MyHealthAvatar was involved in the conference exhibition in ICT 2015.

2.1.2 IoTBDH-2015

IoTBDH-2015 was held on 26-28 October 2015 in Liverpool, UK. The goal of IoTBDH workshop is to bring together researchers and practitioners from both academia and industry into a forum, to present the state-of-the-art research and applications in utilizing IoT and big data technology for healthcare by presenting efficient scientific and engineering solutions, addressing the needs and challenges for integration with new technologies, and providing visions for future research and development.Dissemination activities. This year the workshop ran together with MyHealthAvatar.

MyHealthAvatar was demonstrated during the keynote speech delivered by Feng Dong.

2.1.3 International Semantic Web Conference 2015

The International Semantic Web Conference (ISWC) took place from 11 to 15 October 2015. ISWC is the premier international forum for Intelligent Processing of Data on the Web. In the conference, over 500 participants had the chance to see two technological MyHealthAvatar demonstrators, one

for summarizing linked data[3] and one for searching within textual sources using semantic technologies[4].

2.1.4 Mobihealth 2015 – APHS Worksop 2015

The International Workshop on "Advances in Personalized Healthcare Services, Wearable Mobile Monitoring, and Social Media Pervasive Technologies”**, with special focus on** The Digital Patient concept: Vision and Demonstrations. In the conference about 200 participants had the chance to see two technological demonstrators: one about the “Web based visual analytics of lifestyle”[5] and another related with the OA use case for a a “supportive environment for the long term management of knee osteoarthritis condition”[6]

MyHealthAvatar was demonstrated during the introduction speech for the APHS workshop by Emmanouil G. Spanakis (FORTH).

2.1.5 VPH Workshop on Clinical Data Management and Sustainability

The Virtual Physiological Human Institute for Integrative Biomedical Research, in short VPH Institute, is an international non-profit organisation incorporated in Belgium, whose mission is to ensure that the Virtual Physiological Human is fully realised, universally adopted, and effectively used both in research and clinic. During the yearly meeting, on March 2015, Haridimos Kondylakis presented the MyHealthAvatar and discussed the data management and the architectural choices made.

[3] Haridimos Kondylakis,Lefteris Koumakis, Maria Psaraki, Georgia Troullinou, Maria Chatzimina, Eleni Kazantzaki, Konstantinos Marias, Manolis Tsiknakis, Semantically-enabled Personal Medical Information Recommender, International Semantic Web Conference (ISWC), 2015, Bethlehem, Pennsylvania

[4] Georgia Troullinou, Haridimos Kondylakis, Evangelia Daskalaki, Dimitris Plexousakis, RDF Digest: Ontology Exploration Using Summaries, International Semantic Web Conference (ISWC), 2015, Bethlehem, Pennsylvania

[5] Web-based Visual Analytics of Lifestyle Data in MyHealthAvatar, Zhao, Youbing (University of Bedfordshire); Parvinzamir, Farzad (Unviersity of Bedfordshire); Zhao, Xia (Unviersity of Bedfordshire); Deng, Zhikun (Unviersity of Bedfordshire); Dong, Fengfeng.dong@beds.ac.uk (Unviersity of Bedfordshire); Ersotelos, Nikolaos (Unviersity of Bedfordshire); Clapworthy, Gordon (Unviersity of Bedfordshire), 5th EAI International Conference on Wireless Mobile Communication and Healthcare - "Transforming healthcare through innovations in mobile and wireless technologies"

[6] A supportive environment for the long term management of knee osteoarthritis condition, Maniadi, Evangelia (Software Engineer, ICS, FORTH); Spanakis, EmmanouilG. (Collaborating Researcher, Computational Medicine Laboratory, Institute of Computer Science, Foundation for Research and Technology - HELLAS.); Karantanas, Apostolos (Professor of Radiology, School of Medicine, University of Crete); Marias, Konstantinos (Head of Computational BioMedicine Laboratory, ICS, FORTH), 5th EAI International Conference on Wireless Mobile Communication and Healthcare - "Transforming healthcare through innovations in mobile and wireless technologies"

2.1.6 EMBC 2015

The IEEE Engineering in Medicine and Biology Society (EMBS) took place in Milano, Italy, in the period August 25th-29th, 2015. The focus of the conference was the improvement and innovation of health care (with a direct impact on the quality of life) but also focuses on how to reach and maintain a "wellness" through proper and advanced technologies, devices and protocols.

In the conference, over 1000 participants had the chance to see the data management technologies developed within MyHealthAvatar demonstrated during the speech delivered by Vaggelis Sakkalis[7].

[7] Haridimos Kondylakis, Manolis Spanakis, Stelios Sfakianakis, Vangelis Sakkalis, Manolis Tsiknakis, Kostas Marias, Zhao Xia, Hong Qing Yu, Feng Dong, Digital Patient: Personalized and Translational Data Management through the MyHealthAvatar EU Project, International Conference of the IEEE Engineering in Medicine and Biology Society of the IEEE Engineering in Medicine and Biology Society (EMBC), 2015, Milan, Italy

2.2 Main Demonstration Events and Activities by Project Partners

Main demonstration events and activities performed by MHA project partners are proudly presented below.

2.2.1 BED – University of Bedfordshire

2.2.1.1 Demonstration to students with computer graphics background

Date:	Nov 2015.
Location:	University of Bedfordshire, UK
Audience:	14 second and third year students with computer graphics and computer game background
Demonstrator:	Stephen Wilson

2.2.1.2 Demonstration to students in sport sciences

Date:	1st Dec 2015
Location:	University of Bedfordshire, Bedford campus
Audience:	20 MSc students in sport science
Demonstrator:	Stephen Wilson

2.2.1.3 Demonstration to students in computer network and mobile applications

Date:	15th Feb – 22nd Feb 2016
Location:	University of Bedfordshire, Luton campus
Audience:	70 BSc and MSc students in computer network and mobile applications
Demonstrator:	Stephen Wilson

2.2.1.4 Demonstration to students in public health

Date:	9th Dec 2015
Location:	University of Bedfordshire, Luton campus
Audience:	20 MSc students in public health

Demonstrator:	Stephen Wilson, Djibril Kaba, Xu Zhang and Feng Dong

2.2.1.5 Demonstration to Care Home

Date:	10th Feb and 1st March 2016
Location:	University of Bedfordshire, Putteridge Bury campus
Audience:	Mr. Sanjeev Kanoria of Advinia Care Home, Mr. Len Merton (CEO) Advinia is a network of care homes providing the full spectrum of care services. The senior management team has been involved in care since 1999 and works in partnership with staff, residents, family and social workers. It provides homely facilities without an institutional feel.
Demonstrator:	Feng Dong

2.2.1.6 Demonstration to Ice-login

Date:	19th Nov 2015
Location:	University of Bedfordshire, Luton campus
Audience:	Aiden Hunt – owner of Ice-Login Ltd (a UK based SME)
Demonstrator:	Feng Dong

2.2.1.7 Demonstration to Vitalograph

Date:	9th Feb 2016
Location:	University of Bedfordshire, Luton campus
Audience:	owner of Vitalograph (a UK based family run SME)
Demonstrator:	Feng Dong

2.2.1.8 Demonstration to Pharmacy

Date:	6th January 2016
Location:	University of Bedfordshire, Luton campus
Audience:	Pankaj (Pharmacist)

Demonstrator:	Stephen Wilson

2.2.1.9 Demonstration to dementia research group

Date:	18th August 2015
Location:	University of Bedfordshire, Putteridge Bury campus
Audience:	dementia research group
Demonstrator:	Stephen Wilson

2.2.1.10 Demonstration to the psychology and memory research group in the University of Hertfordshire

Date:	10th Dec 2015
Location:	University of Hertfordshire
Audience:	Psychology and memory research group
Demonstrator:	Feng Dong

2.2.1.11 Demonstration at the University of Warwick

Date:	26th June 2015
Location:	University of Warwick
Audience:	Cyber security research group at WMG
Demonstrator:	Feng Dong

2.2.1.12 Demonstration to Tickerfit

Date:	26th June 2015
Location:	Skype
Audience:	Avril Copeland, from Tickerfit.com
Demonstrator:	Feng Dong

2.2.1.13 Demonstration to Moorfields Eye Hospital

Date:	15th Jan, 19th Jan, 26th Feb 2016
Location:	Moorfields Eye Hospital
Audience:	Eye doctors and nurses
Demonstrator:	Stephen Wilson, Djibril Kaba, Feng Dong

2.2.2 FORTH – Foundation for Research and Technology Hellas

2.2.2.1 Demonstration to University of Crete

Date:	18 February 2016
Location:	Computer Science Department, University of Crete
Audience:	Post-graduate students of the lesson "CS-562 Advanced Topics in Databases"
Demonstrator:	Haridimos Kondylakis

2.2.2.2 Demonstration to University of Crete

Date:	17 March 2015
Location:	Computer Science Department, University of Crete
Audience:	Post-graduate and graduate students of the lesson "CS-435 Network Technology & Programming "
Demonstrator:	Emmanouil G. Spanakis

2.2.2.1 Demonstration to FORTH-ICS of the platform

Date:	15 January 2016
Location:	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS
Audience:	Computational Medicine Biomedical Laboratory and FORTH-ICS members
Demonstrator:	Emmanouil G. Spanakis

2.2.2.2 Demonstration to medical experts of the CHF and OAcare use cases

Date:	18 January 2016
Location:	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS
Audience:	Medical doctors from the University Hospital of Crete, Greece
Demonstrator:	Emmanouil G. Spanakis

2.2.2.3 Demonstration to medical experts of the CHF and OAcare use cases for expert evaluation

Date:	11 September 2015
Location:	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS
Audience:	Medical doctors from the University Hospital of Crete, Greece
Demonstrator:	Emmanouil G. Spanakis, Vangelio Maniadi, Psaraki Maria and Haridimos Kondylakis

2.2.3 USAAR – Saarland University

2.2.3.1 Demonstration to University of Saarland Research Team

Date:	1-3 February 2016
Location:	Homburg, Germany
Audience:	Saarland University Medical Center Research Team enrolled in evaluation activities
Demonstrator:	Norbert Graf, Ruslan David

2.2.3.2 p-medicine Project Final Review Meeting

Date:	21-23 September 2015
Location:	Homburg, Germany
Audience:	p-medicine consortium and invited eHealth professionals and journalists. Event hosted by Saarland University with the support of Eurice.

Demonstrator:	Norbert Graf

2.2.3.3 eHealth Week 2015

Date:	11-13 May 2015
Location:	Riga, Latvia
Audience:	eHealth Week 2015 Conference and Exhibition, HIMSS Europe 2015 Online Matchmaking
Demonstrator:	Ruslan David, Holger Stenzhorn

2.2.3.1 conhIT Business Meetings 2015

Date:	15-16 April 2015
Location:	conhIT 2015, Berlin, Germany
Audience:	Enterprise Europe Network Berlin-Brandenburg 30+ face-to-face Meetings and presentations with interested eHealth professionals and stakeholders
Demonstrator:	Ruslan David

2.2.3.1 Med-e-Tel 2015

Date:	22 - 24 April 2015
Location:	Luxembourg
Audience:	International audience of eHealth researchers and Industry representatives attending Med-e-Tel 2015 conference and exhibition
Demonstrator:	Ruslan David

2.2.4 ICCS – Institute of Communication and Computer Systems

2.2.4.1 Demonstration of IAPETUS

Date:	25/2/2016
Location:	INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS, NATIONAL

	TECHNICAL UNIVERSITY OF ATHENS
Audience:	Interested students that attended the course "Multiscale Cancer Modelling and *In – Silico* Medicine"
Demonstrator:	Georgios Stamatakos

2.2.4.2 Demonstration of IAPETUS

Date:	26/2/2016
Location:	INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS, NATIONAL TECHNICAL UNIVERSITY OF ATHENS
Audience:	ICCS – NTUA members
Demonstrator:	Georgios Stamatakos

2.2.5 LUH – Gottfried Wilhelm Leibniz University Hannover

2.2.5.1 Die Nacht die Wissen schafft (A Night Out With Science in Scientific November)

Date:	15.11.2014
Location:	University of Hanover
Audience:	University visitors
Demonstrator:	Alan Dahi, Sarah Jensen

2.2.5.1 Health Privacy Summit 2015

Date:	03.06.2015
Location:	Washington, USA
Audience:	Academics, media, industry, government
Demonstrator:	Alan Dahi

2.2.5.1 Insitu (International Summer School in IT law at Leibniz Universität Hannover)

Date:	28.07.2015
Location:	University of Hanover
Audience:	Students who participated in the summer school
Demonstrator:	Stefanie Hänold, Sarah Jensen

2.2.5.1 ALLDATA 2016

Date:	21-25.02.2016
Location:	Lisbon. Portugal
Audience:	Academics, Industry
Demonstrator:	Iryna Lishchuk

2.2.5.1 Japanese Delegation of the partner university Kyushu

Date:	29.02.2016
Location:	University of Hanover
Audience:	Japanese students from Kyushu
Demonstrator:	Sarah Jensen

2.2.5.1 Dissemination Activities

Article intern 12/15 (internal magazine of Leibniz Universität Hannover): “Neue Perspektiven für die Verwaltung von Gesundheitsdaten. L3S und Institut für Rechtsinformatik sind an EU-Project MyHealthAvatar beteiligt“

Date: December 2015

Author: Ilka Mönkemeyer

Press Release “Neue Perspektiven für die Verwaltung von Gesundheitsdaten. L3S und Institut für Rechtsinformatik sind an EU-Project MyHealthAvatar beteiligt“

Date: 11.01.2016

Author: Ilka Mönkemeyer

Article "Using Patient Avatars to Promote Health Data Sharing Applications: Perspectives and Regulatory Challenges"

Date: December 2015

Journal: European Journal of Health Law

Authors: Alan Dahi, Nikolaus Forgo, Sarah Jensen, Marc Stauch

Title: "IPR Issues in Data Sharing via Linkage of Platforms and Apps"

Date: post February 2016

Conference Proceedings: ALLDATA 2016, Published by IARIA XPS Press, Archived in the free access ThinkMindTM Digital Library, Prints available at Curran Associates, Inc.

Author: Iryna Lishchuk, Marc Stauch, Nikolaus Forgó

Title: „MyHealthAvatar: Europäisches Forschungsprojekt zur zentralen Speicherung von Gesundheitsdaten"

Date: 24.02.2016

Journal: ZD-Aktuell 2016; 05014

Author: Sarah Jensen

2.2.6 LARKBIO – Larkbio Ltd.

2.2.6.1 Demonstration to Szinapszis Ltd.

Date	5 February 2016
Location	Local meeting
Company / institution	Szinapszis is the largest healthcare research company in Hungary. Other then providing market research services, they are also promoting Hungarian public health awareness by improving health education and disease prevention of the population.
Audience	Balazs Kertesz, Gabor Gyarmati – company owners
Demonstrator	Ziggy Kovacs, Zoltan Kovacs

2.2.6.2 Demonstration to the IT Faculty at the University of Debrecen

Date	8 September 2015

Location	Larkbio office
Company / institution	The Faculty of Informatics fulfils an important role with regard to higher education and scientific research in the region. They consider it a key priority to cooperate with local industry and service providers.
Audience	Andras Hajdu PhD
Demonstrator	Balint Domokos, Zoltan Kovacs

2.2.6.3 Demonstration to a General Practice

Date	11 January 2016
Location	Larkbio office
Company / institution	Dr. Borok runs a general practice with over 350 patients.
Audience	Levente Borok Dr.
Demonstrator	Ziggy Kovacs

2.2.6.4 Demonstration to the Debrecen Sports School

Date	11 December 2015
Location	Debrecen Sports Centrum
Company / institution	The Debrecen Sports School is the largest sports training institution of the region with over 1000 children training in 11 different sports clubs.
Audience	Tamas Dekan – CFO; Andras Becsky – CEO
Demonstrator	Zoltan Kovacs

2.2.6.5 Demonstration to Baromed Ltd.

Date	19 January 2016
Location	Baromed office
Company / institution	The company has been distributing and servicing high-quality medical equipment since 1997.

Audience	Andras Barabas Dr. – Managing Director
Demonstrator	Ziggy Kovacs

2.2.6.6 Demonstration to the Cardiology Clinic at the University of Debrecen

Date	24 February 2016
Location	Cardiology Clinic
Company / institution	The Cardiology Clinic is the largest cardiology and rehabilitation center in Eastern Hungary with a staff of 120.
Audience	Istvan Szentkiralyi Dr. , Lehel Palotas Dr. – heart surgeons
Demonstrator	Ziggy Kovacs

2.2.7 ANSMART – Ansmart Ltd.

2.2.7.1 Demonstration 1

Date:	15th January 2016
Location:	Luton
Audience:	Moorfields Eye Hospital Doctors (UK)
Demonstrator:	Deng

2.2.7.1 Demonstration 2

Date:	19th Nov 2015
Location:	Luton
Audience:	Ice-Login Ltd (a UK based SME)
Demonstrator:	Deng

2.2.7.1 Demonstration 3

Date:	21 Nov 2014

Location:	Luton
Audience:	Moorfields Eye Hospital Doctors (UK)
Demonstrator:	Zhao

2.2.7.1 Demonstration 4

Date:	6 Nov 2014
Location:	Moorfeilds Eye Hospital, London,
Audience:	Moorfields Eye Hospital Doctors
Demonstrator:	Ye

2.2.7.1 Demonstration 5

Date:	17 Mar 2014
Location:	Luton
Audience:	ICARE company (from Sweden)
Demonstrator:	Zhao

2.2.8 LIN – University of Lincoln

2.2.8.1 CRUK Workshop

Date:	14th December, 2015
Location:	CRUK early diagnosis innovation workshop, Oxford Belfry Hotel
Audience:	Mix background including GPs, clinicians, scientists, ICT, etc
Demonstrator:	Xujiong Ye

3.2.9.2 Demonstration to Computer Science MSc students

Date:	26th January, 2016
Location:	University of Lincoln, Brayford Campus,

Audience:	Computer Science MSc students
Demonstrator:	Xujiong Ye

2.2.8.3 Research Group Members

Date:	18th November, 2015
Location:	University of Lincoln, Brayford Campus
Audience:	Computer Science Research Group Members
Demonstrator:	Xujiong Ye

2.2.8.4 Local Hospital Demonstration

Date:	10th March, 2015
Location:	United Lincolnshire Hospitals NHS Trust, Lincoln
Audience:	Helen Ayre, Nick Dudley and the team Helen is a research manager at Lincoln hospital, and has a midwife background. Through the demonstration, the possibilities of using MHA for the personalized pregnancy care in term of nutrition, exercises, lifestyles was discussed
Demonstrator:	Xujiong Ye

2.2.8.1 Medical Image Understanding and Analysis Conference

Date:	15th July, 2015
Location:	University of Lincoln, Brayford Campus
Audience:	Medical image understanding and analysis conference
Demonstrator:	Xujiong Ye

3 Demonstration Scenarios

3.1 Introduction

This chapter presents the main MHA demonstration scenarios with step-by-step guidance and screenshots.

3.2 Diabetes and Emergency Demo

In this demo we present how to use the MHA mobile application for monitoring your diabetes care. Also, we will describe how the profile page is generated. The profile pages include the key medical information of the individual, which can be used to provide important information in the case of emergency.

3.2.1 Step by Step Guideline and Screenshots

3.2.1.1 How to self-enter patient profiles

We begin by examining your profile, both the mobile and web platforms offer you access to your personal profile, which are linked. The mobile applications profile can be accessed through the sliding navigation menu. The profile here consists of 5 profile types, Profile picture, General profile, Health profile, Medical profile and other profile. The general profile allows you to enter a wide range of personal information, from basic information such as your name and age, to information more relevant to biochemistries, such as weight, height, cholesterol, blood pressure, and glucose levels. Regularly updating values here will help build up a better historical record. The health profile will allow you to provide an overview of common medical conditions and life style, such as whether or not you have diabetes or if you smoke. The medical profile provides a centralised location to store important medical information, such as existing diagnosis's and medications. The Other profile is simply a place to enter miscellaneous information that you don't feel belongs in any of the other profiles (Figure 1).

Figure 1

3.2.1.2 How to self record and view physical activities

To collect and record activity data on the mobile platform you must either own and link wearable sensor such as a Fit-Bit or Withings, or have installed an activity tracking app such as Moves onto your Android mobile device. To link your device or application you must access the MHA websites' settings. Selecting "My Devices and Apps" will launch a popup window that will link you to each sensor, follow the instructions from each provider to link the sensor. To view your activity data you will first need to ensure that the application is set to display data from your chosen sensor. You can view your active sensor by going to settings and editing the data mode. There are now several ways to view this activity data, the most common way is through the statistics view, open the menu to navigate there. Here you can filter your steps, distance, calories and active minutes. Other places to view your activity data are through the day view inspector and as summary information posted into your journal (Figure 2).

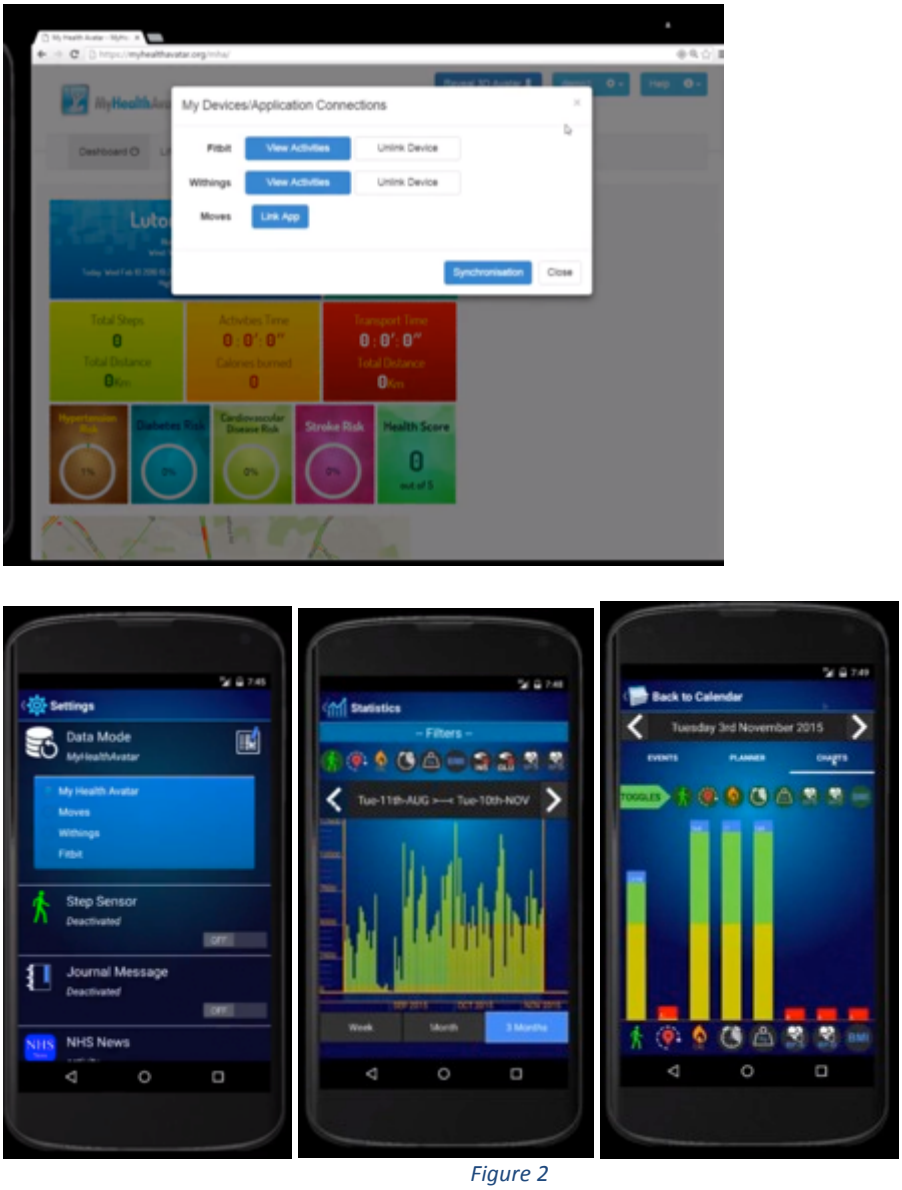


Figure 2

3.2.1.3 How to self record and view food intake and calories calculations

To record and view your dietary information you can make use of the tools within the Journal, open the journal by selecting it from the sliding navigation menu. At the bottom of the Journal you will be able to enter the name of your food item and post it to your journal wall. After posting an item you may tag it with calorie and nutrition information by highlighting it and using the content menu to select what type of calorie event it was. Once the calorie interface is launched you may edit your search term or simply begin the search by clicking the search button. Find a suitable match and then select it to view serving options. You can favourite this food item and serving option by clicking the star icon, if you have already favorited an item swipe left across the screen to expose your favourites. Now you can activate this option by clicking the select button, you may change the quantity before clicking accept to put the nutrition information into your journal (Figure 3).

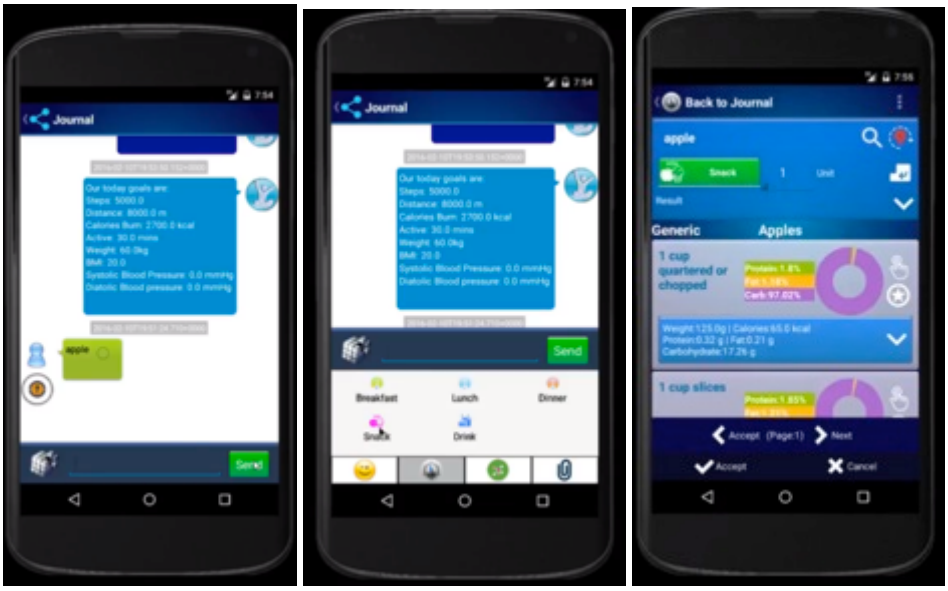


Figure 3

3.2.1.4 How to self record and view biochemistries

With diabetes monitoring in mind we need to record relevant biochemistries data. The MHA app can provide a special diabetes version that unlocks glucose and insulin tracking functionality. If you have not yet done so you must activate the diabetes program from the settings page. To enter a diabetes tracking record go to the Journal page and access the menu at the bottom left of the screen, from here go to the 4th tab and select the diabetes option. Once the diabetes record interface is launched you can add a new record or update an existing record. Once a record exists you may click it to begin data entry, two values may be added, one for a fasting measurement and the other to be entered 2 hours later representing a post meal measurement. Once you have added your measurements click submit, then you can edit other records or submit your results to be recorded. To view the results you entered you can go to the Statistics page and click the glucose or insulin filters, the resulting data shows the average of all glucose or insulin records from an entire day, and the graph joins up days with data with an interpolated line. You can also view your records through the day view available from within the calendar, to access the calendar open the sliding navigation menu and select calendar. From within the calendar select the day you created your record and it will be listed in the events on this day (Figure 4).

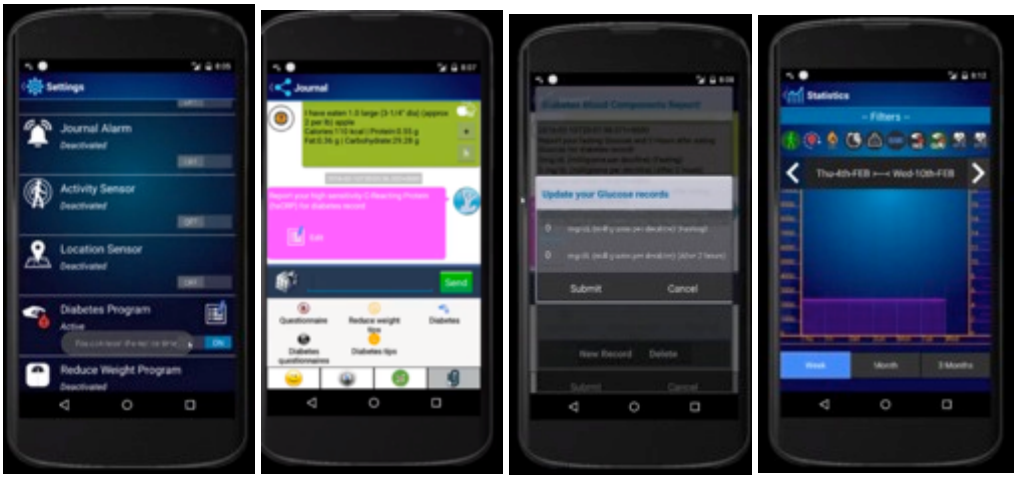


Figure 4

3.2.1.5 How to set up reminders for medication and clinical visits for the patients.

To schedule reminders for medication and clinical visits you may make use of the scheduler available through the calendar page. To access the calendar open the sliding navigation menu and select calendar. Within the calendar there is a plus icon in the impending events section on the lower portion of the screen, select the plus icon to launch the schedule builder interface. A scheduled planner event can take one of two forms, an explicit event that occurs at a specific time on a specific day, or an implicit repeating event that happens multiple times after the start date, either forever or until an end date is specified. For an appointment you may wish to define an explicit event, in this case you will at a minimum have to provide a title and start date. If no start time or duration is set the event will be assumed to be all day long. For a medication or diabetes test reminder then you may wish to add a repeating event, you will still need to provide a title and start date, but will also have to ensure at least 1 day is selected to be repeated on. If you want multiple reminders for the same medication then you must create an individual repeating event for every time of day you need to be reminded. Remember to set the notification setting in order to receive a notification. To edit an entry you can either locate it in the up and coming bar, or select a day which contains it from the calendar and navigate to the planner tab. Either way once you have found the event simply click and hold until the event edit dialog appears. From here you can make changes to the event or remove it entirely with the minus button. Remember that if you remove a repeating event from any day, any other entries it generated will also be removed (Figure 5).

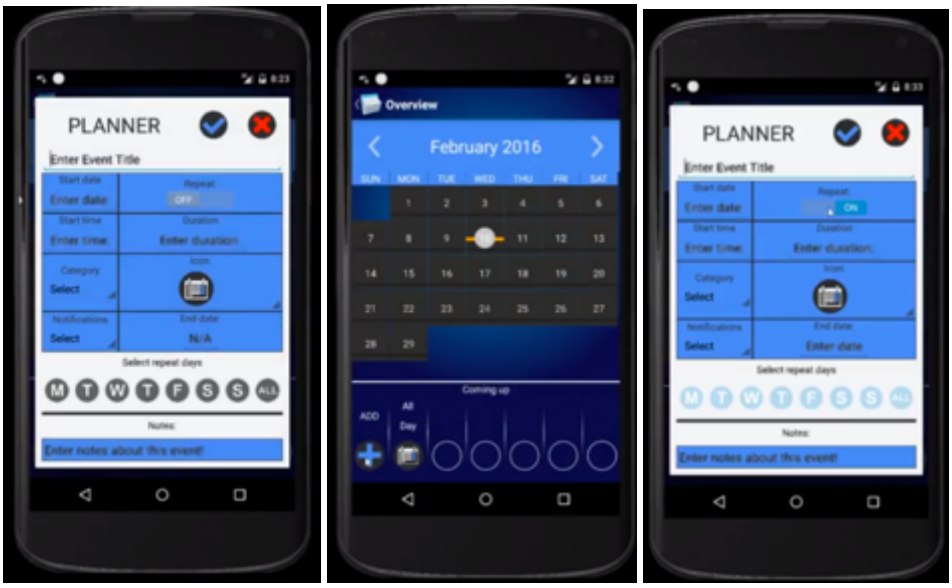


Figure 5

3.2.1.6 How to receive advices about diabetic care (i.e. through the NHS news)

To receive advice and news about diabetes simply activate NHS and diabetes modes from within the settings. Diabetes mode will periodically post helpful information into your journal automatically. you can edit the times these posts happen from within settings. You may also manually create a helpful diabetes tip by selecting the diabetes tip button from the journals menu. The NHS news feature will prompt you in the journal to check the NHS news feed, you may also manually launch the news feed by clicking the NHS button in the journal menu. From within the NHS news menu you can filter the available articles by condition, here you can see articles related to specifically diabetes, selecting an article allows you to view it within the app (Figure 6).

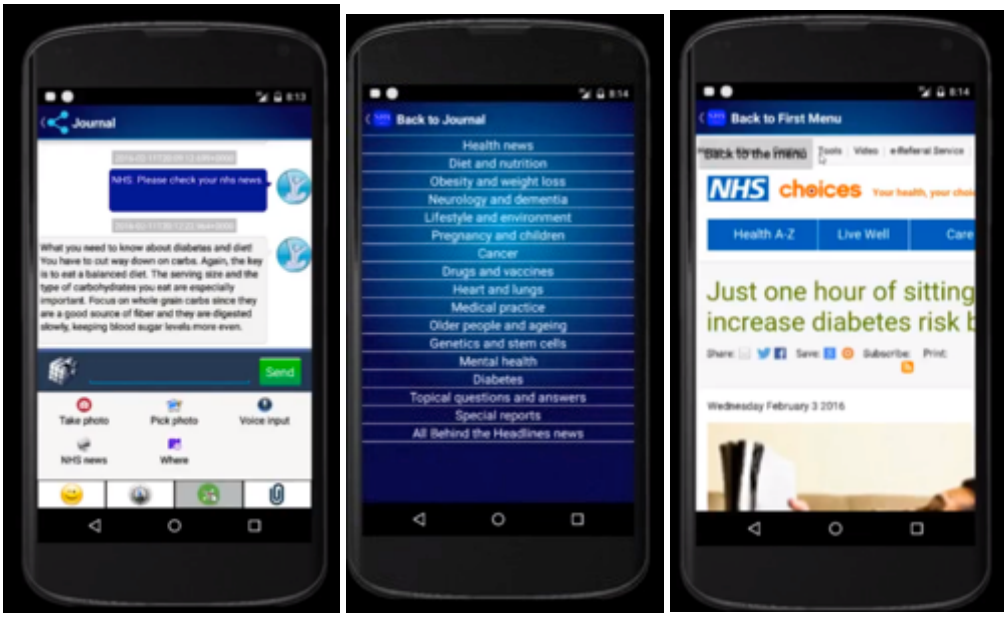
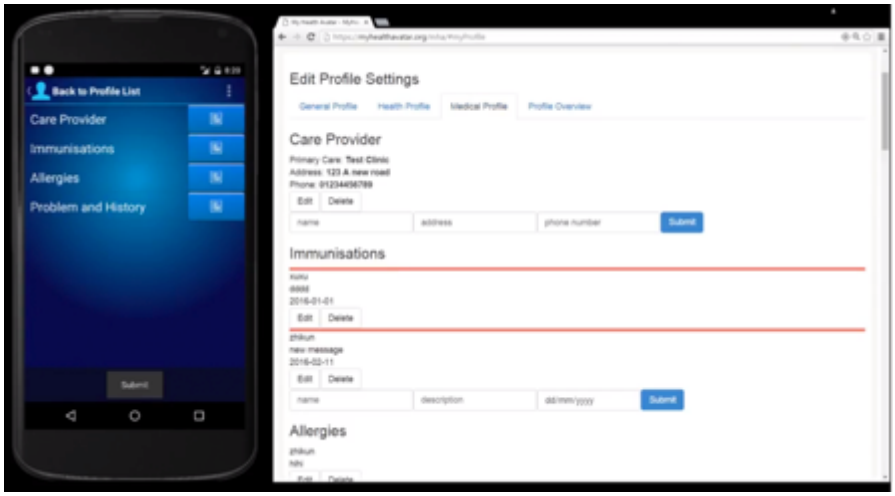


Figure 6

3.2.1.7 How to provide self-information (& the profile page both on the web-platform and on the app) to the medical professionals?

To upload more detailed medical information for use by medical professionals you can use both the mobile application and the web application. Referring back to the medical profile, you may access it on the mobile app by selecting profile from the sliding menu and then selecting medical profile. The same profile can be accessed on the web platform by selecting the “My Profile” tab and then the medical profile sub tab. Both profiles are linked, changes in one are reflected in the other. On the mobile platform new Immunisations or allergies can be added by clicking the add button, this launches a pop out window where you can enter new information. Once you have completed entering your data click submit, then if you are finished editing your profile click the submit button at the bottom of the screen to finalise your changes. The mobile and web app also provide a way of entering more complicated “Problem and History” records. In the mobile app select the new Problem & history button and enter your problem’s details, once the dialog is open you will also have the option to add further information in the form of “involved careers” and “Disease history”. Remember to click submit at the bottom of the page when you are finished. Now you have updated your medical records you will see the changes in your profile overview (Figure 7).



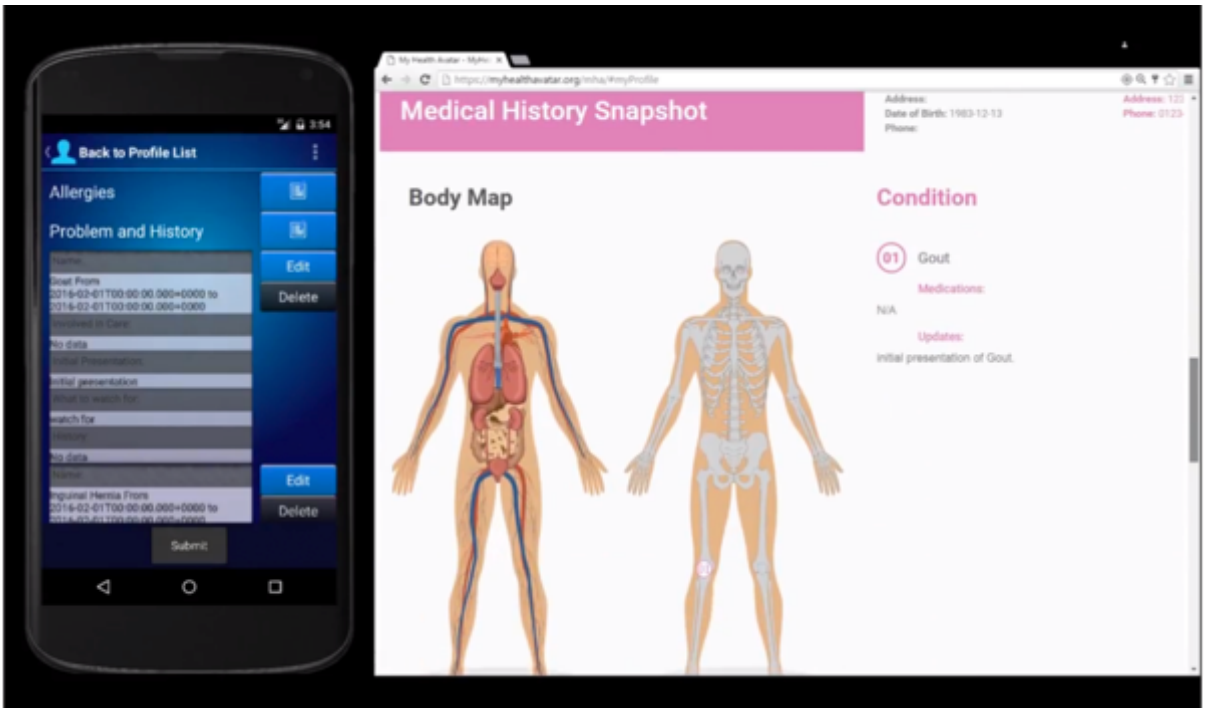

Back to Profile List
Allergies
Problem and History
Edit
Delete
Edit
Delete
Submit
Medical History Snapshot
Body Map
Condition
01
Gout
Medications:
N/A
Updates:
initial presentation of Gout.

Figure 7

3.3 Personalized CHF Related Risk Profiles and "Real-Time Monitoring" Demo

The outcome of this use case in to create a demonstration service able to empower citizens, patients and doctors by providing a supportive environment for the self-management of patients/citizens with cardiovascular disease risks. Generally, cardiovascular disorders as chronic diseases require a continuous everyday record for patient's status. The proposed demonstration use case is implemented on the following two main pillars:

1) CHF Risk Assessment

In order to tailor the proposed system to the patient's profile and assist physicians in selecting people who are predisposed by coronary disease, hypertension, or valvular heart disease; we build a CHF related risk profile based on a risk appraisal function that is based on the diagnostic criteria [i.e. the Framingham Heart Study (486 heart failure cases during 38 years of follow-up)]. The predictors used are based on Age, Coronary heart disease and Valve disease status provided by the patient Electronic Health Record (EHR), as well as on HR, on blood pressure and on Body Mass Index (BMI) provided by the pulse oximeter, the blood pressure monitor and the weight scale, respectively. The calculated risk probability may be used to alter the default threshold values (higher risk probability adds more constraint on the physiological patterns). Furthermore, we present what else data regarding patients' health status could be embed into the platform towards the creation of a profile with necessary information for both patient and treating physicians. To this respect an approach of presenting data regarding demographic, physiology, diagnostic test results and disease management (i.e. prescribed drugs) is provided.

2) Real-time patient monitoring

In addition to the above the dedicated clinical personnel should be contacted immediately and possibly intervene in time before an acute state is reached, by changing medication, or any other interventions, in order to ensure patient safety. There is a need to support real-time remote monitoring of patients diagnosed with congestive heart failure and MHA, enhanced with semantic technologies, may host personalized, accurate and up-to-date clinical information. To this end we implemented a real-time patient/ doctor alarming according to rule-based alarms enabling intelligent alerting of the dedicated physician in case of an emergency. The alarming process is based on vital signs monitoring and specifically Heart Rate (HR), Pulse Oximetry, and Blood Pressure acquisition, adapted according each specific patient's medical history and age, and even risk predictor's outcome.

3.3.1 Step by Step Guideline and Screenshots

Congestive heart failure (CHF) is a state in which the heart cannot provide sufficient cardiac output to satisfy the metabolic needs of the body. It is commonly termed congestive heart failure (CHF) since symptoms of increase venous pressure are often prominent. Its pathogenesis factors include: *Age, Gender, Increased blood pressure, Smoking, Alcohol, Family and medical histor, Genetic predisposition, Diabetes, Diet habits and Atherosclerosis*. It's a pathophysiologic state in which the heart, via an abnormality of cardiac function (detectable or not), fails to pump blood at a rate

commensurate with the requirements of the metabolizing tissues or is able to do so only with an elevated diastolic filling pressure. Common causes of the disease include coronary heart disease, hypertension and valvular heart disease. Diagnosis can be achieved through physical examination (i.e. blood pressure, body mass index, blood tests) and echocardiography. A major challenge related to caring for patients with chronic conditions is the early detection of exacerbations of the disease that may be of great significance.

In this use case and demonstration scenario we focus on methodologies that would facilitate the early detection and monitoring of CHF exacerbation, enabling prevention on a daily basis.

Especially, early detection is of upmost importance; hence remote health monitoring systems are in the research focus so as to provide to a doctor the ability to monitor the progress of a patient on a daily basis and issue alerts in case of potential health risks. The objective thus is to create a service able to empower citizens, patients and doctors by providing a supportive environment for the self-management of patients/ citizens with cardiovascular disease risks. To do so we incorporate a pool of verified risk assessment models for cardiovascular diseases into the MyHealthAvatar platform and an external to MyHealthAvatar mobile application for real time monitoring and intelligent rule-based alerting in case of an eminent CHF episode.

We define the "*CHF Real-time patient monitoring"* and the "*CHF Risk Assessment"* service in order to:

- assist individualized out self-monitoring of their own health-status,
- provide risk analysis for personal risk monitoring for developing a cardiovascular related episode in the future,
- provide comorbidities and drug interaction information in both the treating physicians, but also the patient him/ herself regarding negative drug interactions (optional).

CHF real-time patient monitoring is realized by a mobile application that monitors and records the vital signs (such as heart rate, oxygen saturation, systolic blood pressure and diastolic blood pressure) of patients with CHF or prone to develop CHF. It exploits sensor technologies to obtain data via Bluetooth, and wireless communications to share data with back-end databases. Vital signs are recorded every second locally in SQLite, and in case of an abnormal measurement detection, an alert record is created accompanied by a notification (Figure 8). Moreover, the application provides useful charts for visual display of the vital signs' measurements (Figure). Data are sent to the MyHealthAvatar platform at the request of the user/ patient, and namely the list of alerts including the type of the alert, the value and the time it occurred (10).

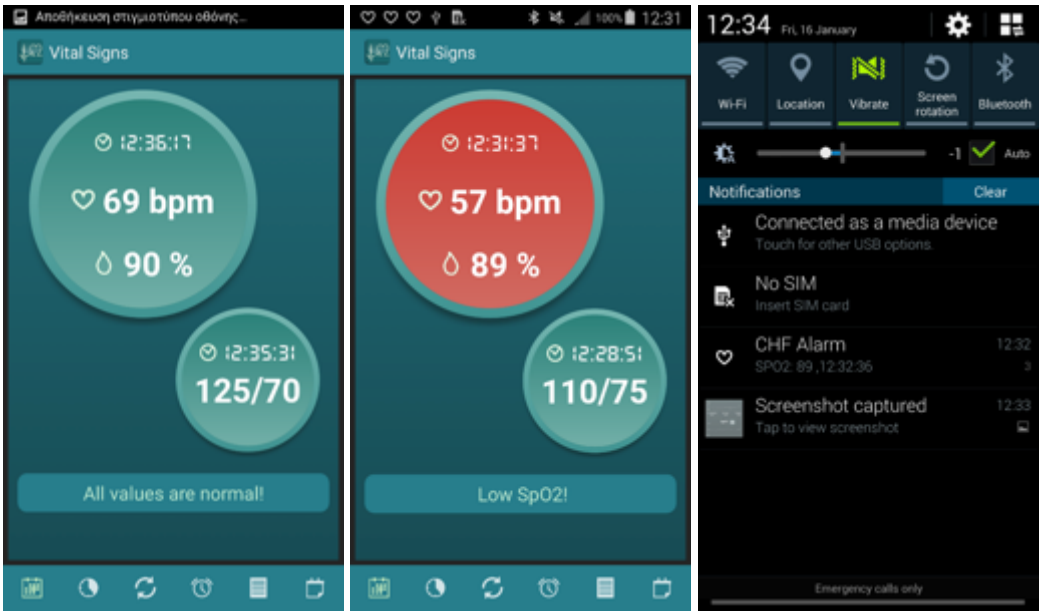


Figure 8

Figure 9

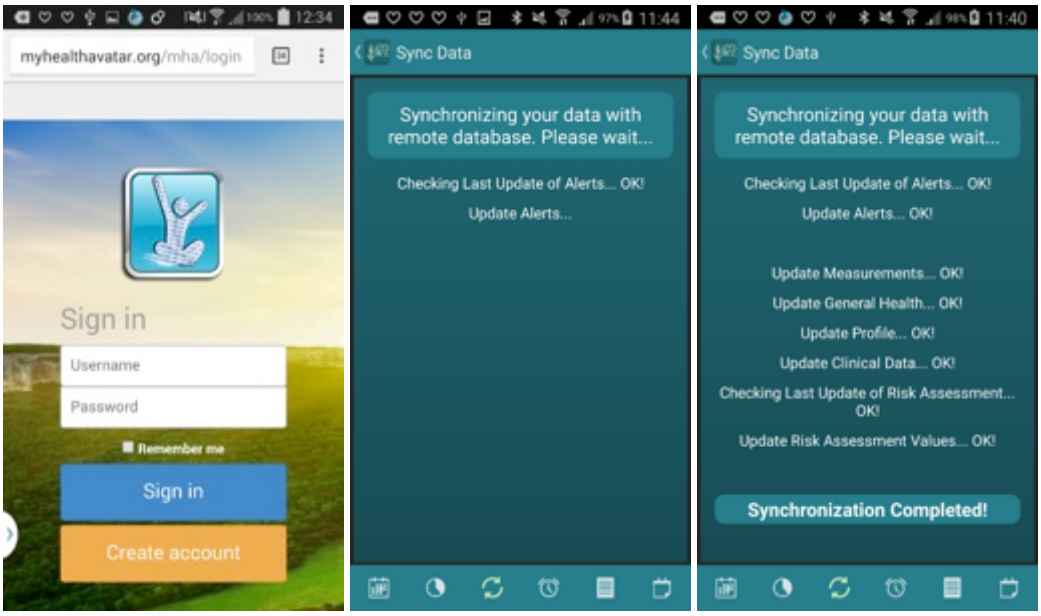


Figure 10

In addition to the real-time monitoring, the *CHF Risk Assessment application* provides to the patient self-health status assessment services based on validated risk evaluation algorithms (Figure 11). In particular, three risk assessment models have been implemented providing longer (3-, 4-year) and shorter (1-, 2- year) heart failure risk assessment. Figure 11 to Figure 13 display the algorithms' questionnaires with the respective results' screens, whereas Figure 14 shows the list of all the calculated risk scores. The bellow color conventions are followed: *green* for "low risk", *yellow* for "slight risk" and *orange* for "considerable risk". Data can be retrieved from the MyHealthAvatar platform upon the request of the user/ patient so as to be used in the algorithms, such as measurements, general health, profile and clinical data. Moreover, the list of risk scores is sent to MyHealthAvatar.

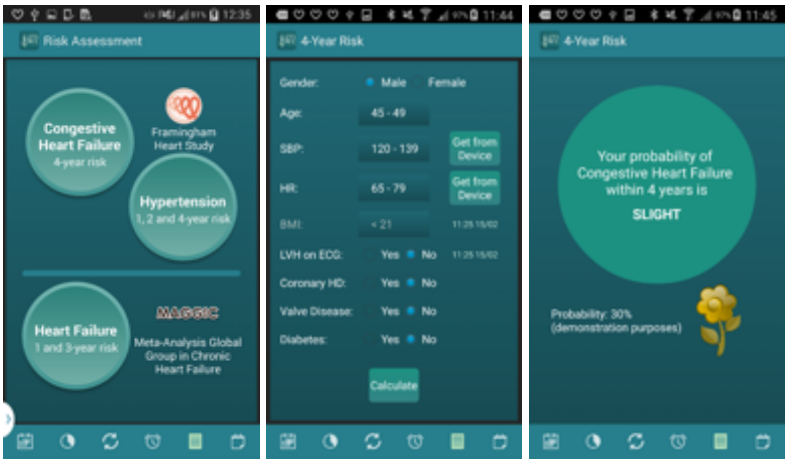


Figure 11

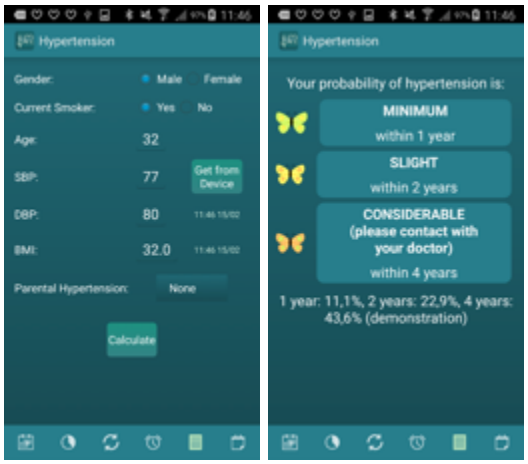


Figure 12

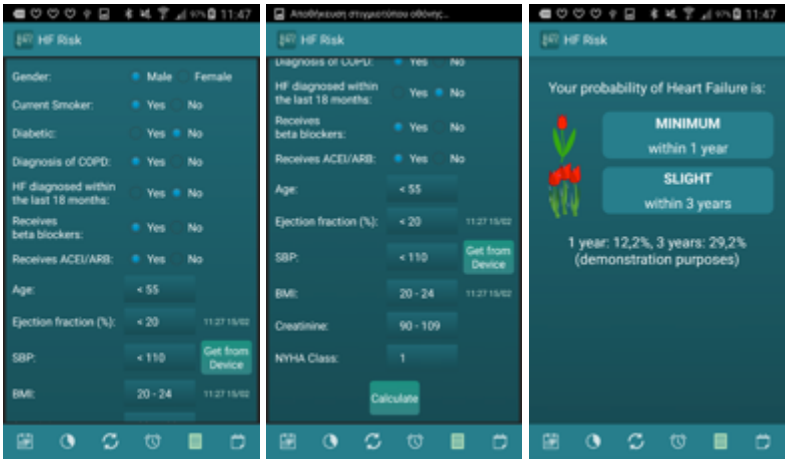


Figure 13

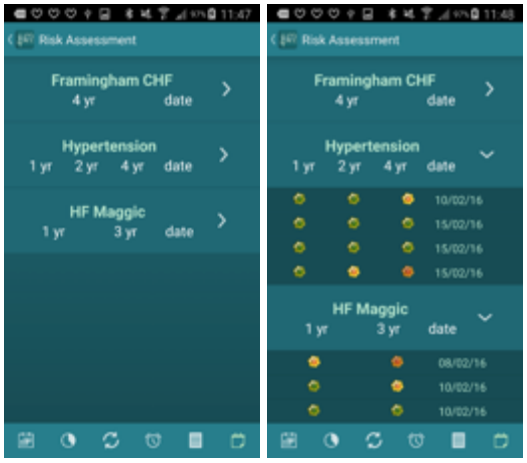


Figure 14

3.4 OAcare - Osteoarthritis Demo

The objective of this demo is two-fold; to empower both patients/citizens and medical professionals by providing a supportive environment for the long-term management of osteoarthritis condition. Medical professionals (such as GPs) will be able to review together with patients a plethora of clinical and personal health information regarding the health status of patients/citizens through MHA platform. The related data (medical history, clinical examination, imaging data, evaluation metrics for measuring knee pain range of motion of the knee joint) will be properly visualized and presented using interactive multi-scale visualization techniques. This blend of medical imaging metrics and personal activity information, will give a better insight of the condition regarding OA diagnosis or progress and will allow the clinician to assess the situation in a more personalised fashion. In case where a GP is reviewing this information, it may also act as a baseline for better assessing if a referral to an expert is needed. In the suggested scenario, advanced personalized healthcare will also be enhanced by genomic predisposition evaluation for developing osteoarthritis. Although this might not be applicable at present, it is important to include it in the scenario in order to emphasise the vision on how MHA can really influence decision support in the future.

Patients/Citizens will be able to access a platform that will monitor their daily dietary and ambulatory activity and warn them, if they do not meet the recommendations that have been given to them (e.g. target activity, supplements etc.). Moreover, semi quantitative metrics, regarding knee pain and range of motion of the knee joint, will be collected periodically. The monitoring will rely on techniques of self-life logging for enhancing the patient engagement. Also, the platform will function as a supportive environment to the patients by means of offering advice and assistance. It is expected that a good knowledge of the condition will lead to enhanced patient behaviour. Thus, the demonstration will focus on how the users can play a key role in monitoring and managing their own health and become co-producers of their OA health management together with their GP.

3.4.1 Step by Step Guideline and Screenshots

Osteoarthritis is the most common form of arthritis, affecting millions of people worldwide. It is a degenerative condition of joints and is characterized by loss of the articular cartilage that acts as a protective cushion between bones within a joint and by growth of a new bone in affected joints, causing stiffness and pain. Osteoarthritis affects mainly the knee, hip, hand, spine and less often, the feet. Its symptoms often develop slowly and worsen over time. Osteoarthritis usually affects more women than men, and tends to turn up as people get older but is also common amongst people of working age. Other common factors that may increase the risk of developing osteoarthritis are obesity, previous joint injuries, certain occupations, genetics, bone deformities and other diseases.

A patient visits Primary Care or GP complaining for knee problems and knee pain symptoms. The clinician proceeds with the diagnosis of the osteoarthritis condition by physical exam in conjunction with imaging test (radiographs and MRIs) and lab tests (blood tests and joint fluid analysis). As there is no known cure for osteoarthritis, clinician advices the patient for lifestyle interventions i.e., mild daily exercise, reduction of body weight and proper medication for reducing the pain and improving the patient's overall condition. If these conservative treatments don't help, other procedures may be applied (e.g. surgical, lubrication injections etc.).

However, these healthy behaviors are difficult to be achieved in practice despite the fact that their value is understood by patients. Moreover, medical professionals cannot usually ascertain if the patients follow their guidelines for a healthier lifestyle, which would be helpful for better follow-up. The OAcare app was designed for empowering both clinicians and patients for the long-term management of the knee osteoarthritis condition utilizing the functionalities of the MyHealthAvatar platform. The design of the app is responsive i.e., it can be seamlessly displayed in different screen resolutions from smartphones to tablets and personal computers. The OAcare app delivers two different versions satisfying the patients and clinicians requirements and needs.

3.4.1.1 OAcare for patients

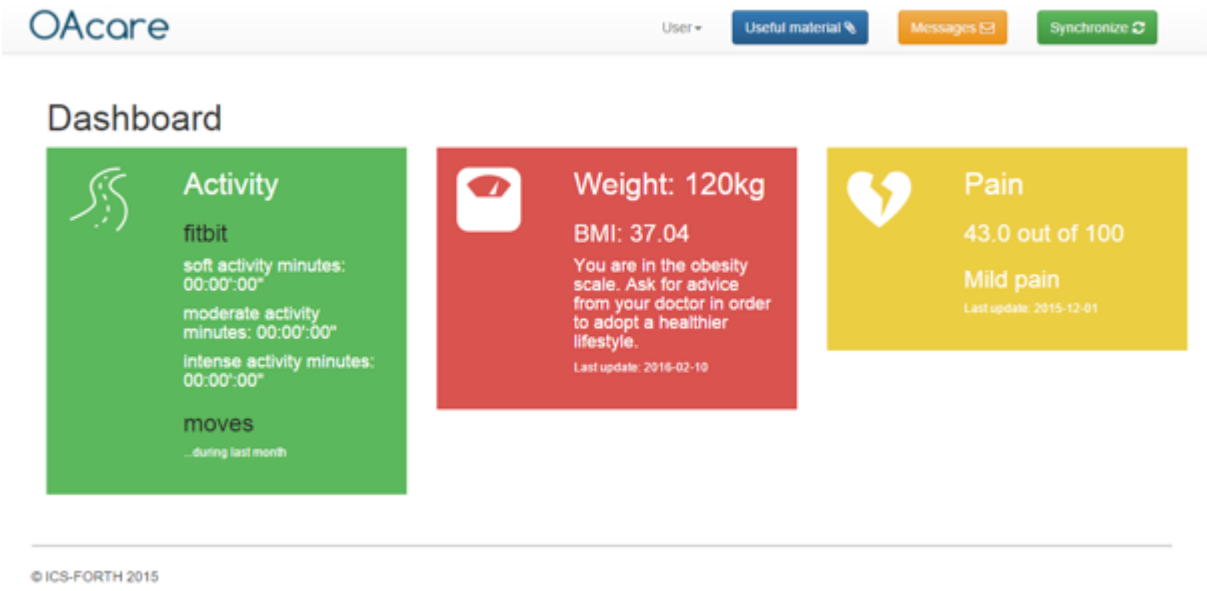


Figure 15

The patients' version offers a supportive environment for empowering patients in looking after their own health, raising their self-awareness of the osteoarthritis risk factors while encouraging for a healthier lifestyle. The app presents (Figure 15) and utilizes activity, weight and pain data and is able to advise the patient properly if he does not manage to meet the special medical guidelines issued by the care plan that was previously set up by his physician. Through the app, the patient can also update his profile data, such as allergies, medications, weight (Figure 16) and fill out questionnaires for extracting pain and quality of life (QoL) information (Figure 17).

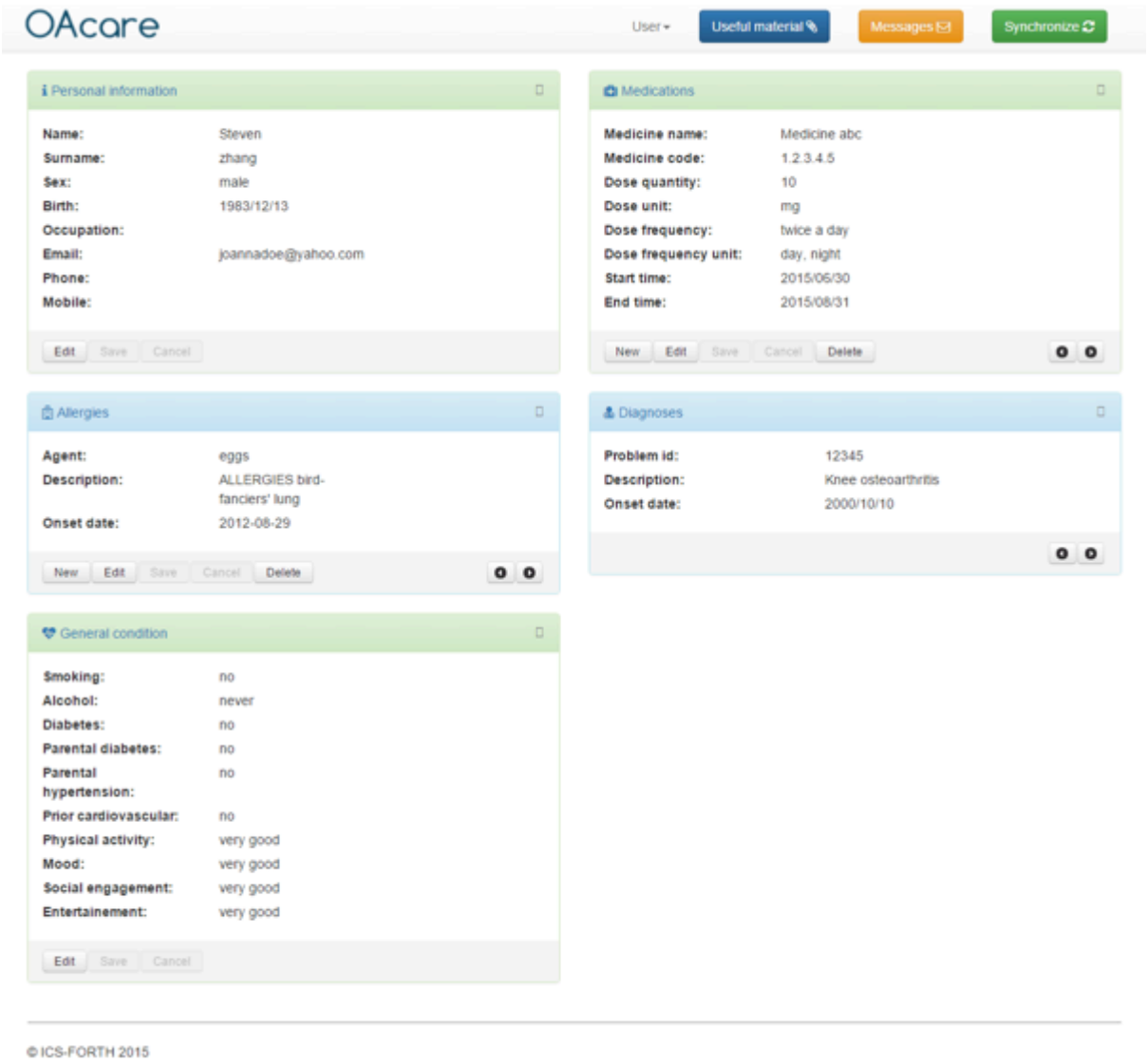

OAcare
User
Useful material
Messages
Synchronize
Personal information
Name: Steven
Surname: zhang
Sex: male
Birth: 1983/12/13
Occupation:
Email: joannadoe@yahoo.com
Phone:
Mobile:
Edit Save Cancel
Medications
Medicine name: Medicine abc
Medicine code: 1.2.3.4.5
Dose quantity: 10
Dose unit: mg
Dose frequency: twice a day
Dose frequency unit: day, night
Start time: 2015/06/30
End time: 2015/08/31
New Edit Save Cancel Delete
Allergies
Agent: eggs
Description: ALLERGIES bird-fanciers' lung
Onset date: 2012-08-29
New Edit Save Cancel Delete
Diagnoses
Problem id: 12345
Description: Knee osteoarthritis
Onset date: 2000/10/10
General condition
Smoking: no
Alcohol: never
Diabetes: no
Parental diabetes: no
Parental hypertension: no
Prior cardiovascular: no
Physical activity: very good
Mood: very good
Social engagement: very good
Entertainement: very good
Edit Save Cancel
© ICS-FORTH 2015

Figure 16

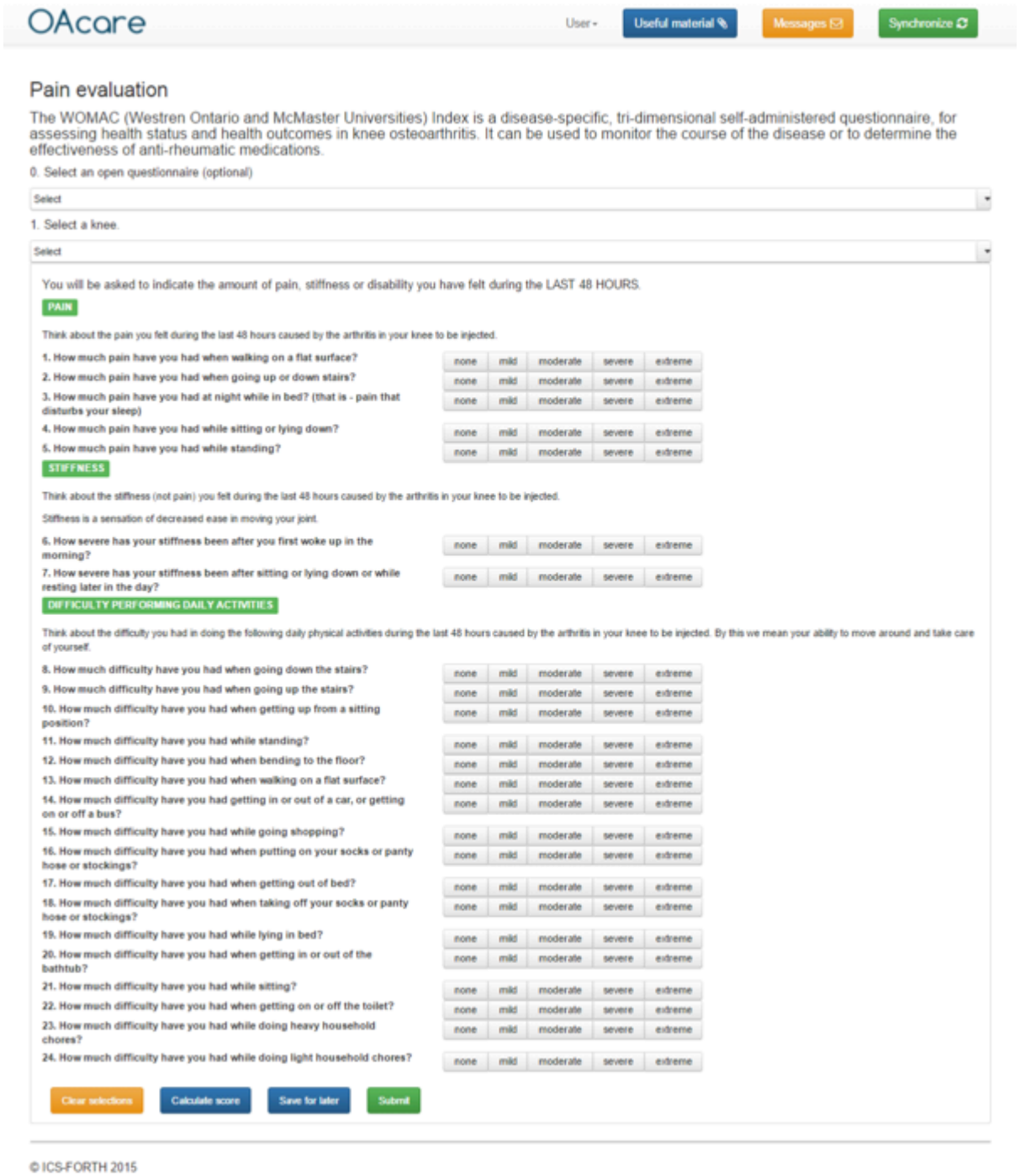

OAcare
User
Useful material
Messages
Synchronize
Pain evaluation
The WOMAC (Westren Ontario and McMaster Universities) Index is a disease-specific, tri-dimensional self-administered questionnaire, for assessing health status and health outcomes in knee osteoarthritis. It can be used to monitor the course of the disease or to determine the effectiveness of anti-rheumatic medications.
0. Select an open questionnaire (optional)
Select
1. Select a knee.
Select
You will be asked to indicate the amount of pain, stiffness or disability you have felt during the LAST 48 HOURS.
PAIN
Think about the pain you felt during the last 48 hours caused by the arthritis in your knee to be injected.
1. How much pain have you had when walking on a flat surface?
2. How much pain have you had when going up or down stairs?
3. How much pain have you had at night while in bed? (that is - pain that disturbs your sleep)
4. How much pain have you had while sitting or lying down?
5. How much pain have you had while standing?
none mild moderate severe extreme
STIFFNESS
Think about the stiffness (not pain) you felt during the last 48 hours caused by the arthritis in your knee to be injected.
Stiffness is a sensation of decreased ease in moving your joint.
6. How severe has your stiffness been after you first woke up in the morning?
7. How severe has your stiffness been after sitting or lying down or while resting later in the day?
none mild moderate severe extreme
DIFFICULTY PERFORMING DAILY ACTIVITIES
Think about the difficulty you had in doing the following daily physical activities during the last 48 hours caused by the arthritis in your knee to be injected. By this we mean your ability to move around and take care of yourself.
8. How much difficulty have you had when going down the stairs?
9. How much difficulty have you had when going up the stairs?
10. How much difficulty have you had when getting up from a sitting position?
11. How much difficulty have you had while standing?
12. How much difficulty have you had when bending to the floor?
13. How much difficulty have you had when walking on a flat surface?
14. How much difficulty have you had getting in or out of a car, or getting on or off a bus?
15. How much difficulty have you had while going shopping?
16. How much difficulty have you had when putting on your socks or panty hose or stockings?
17. How much difficulty have you had when getting out of bed?
18. How much difficulty have you had when taking off your socks or panty hose or stockings?
19. How much difficulty have you had while lying in bed?
20. How much difficulty have you had when getting in or out of the bathtub?
21. How much difficulty have you had while sitting?
22. How much difficulty have you had when getting on or off the toilet?
23. How much difficulty have you had while doing heavy household chores?
24. How much difficulty have you had while doing light household chores?
none mild moderate severe extreme
Clear selections
Calculate score
Save for later
Submit
© ICS-FORTH 2015

Figure 17

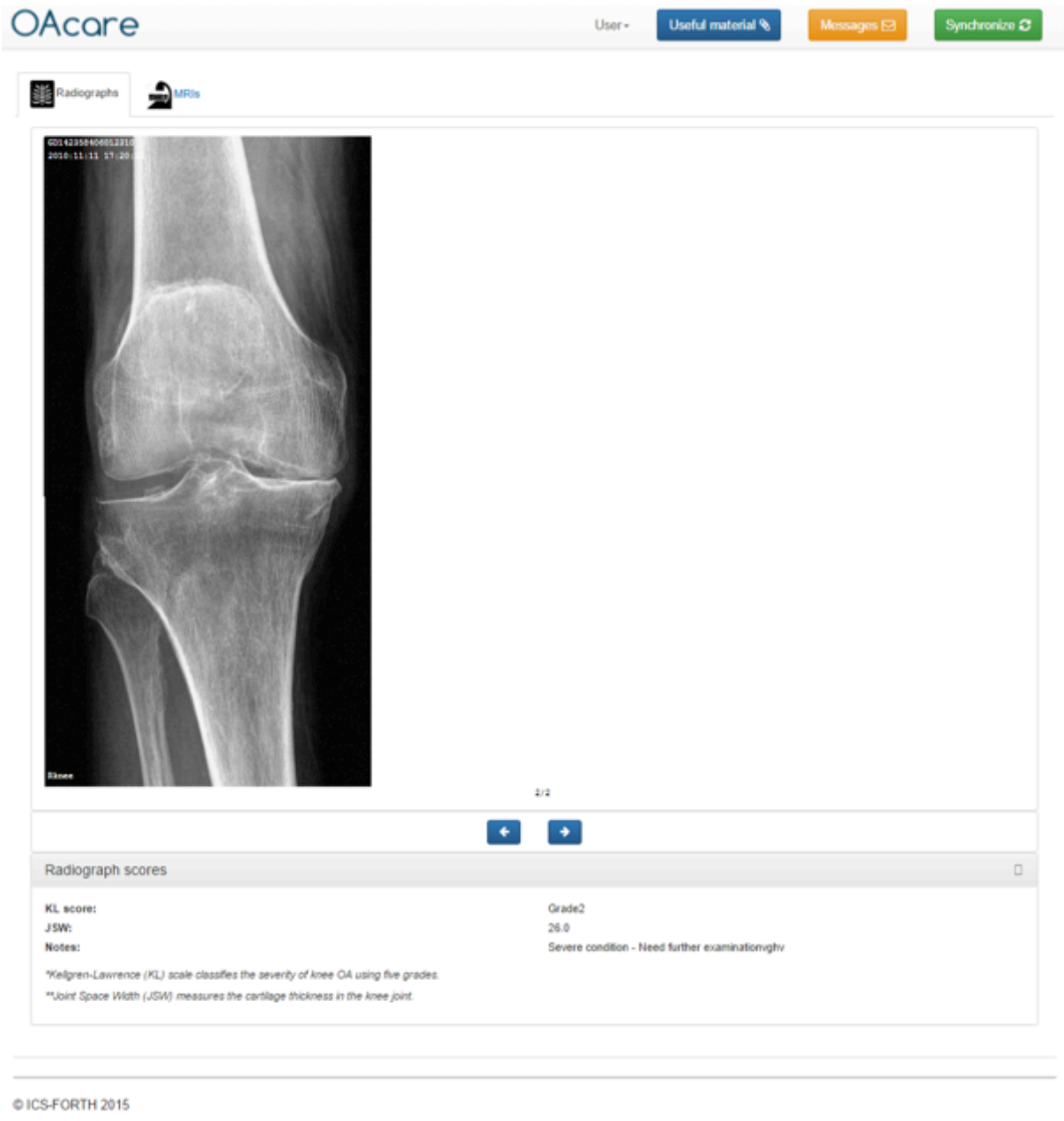


Figure 18

Furthermore, the patient can view his imaging data (ragiographs and MRIs), the radiographic scores entered by the clinician after examining the radiographic data (Figure 18), and some useful charts regarding the variances of activity, weight and pain data over the time (Figure 19). In addition, the patient can view his current care plan that is set up by the physician (Figure 20), as well as view and update his weight and height (Figure 21).

The patient can also use the app in order to directly communicate with his physician (Figure 22). Moreover, the patient can search over the educational material for the osteoarthritis condition and may be informed about the nature of the condition, the symptoms, the causes, the risk factors, the treatments and drugs, the lifestyle remedies etc. (Figure 23). It is expected that a good knowledge of

the condition will lead to enhanced patient behavior, allowing him to play a key role in managing his own health. Finally, OAcare app provides synchronization with MyHealthAvatar platform retrieving data from the patient's account at his request (Figure 24).

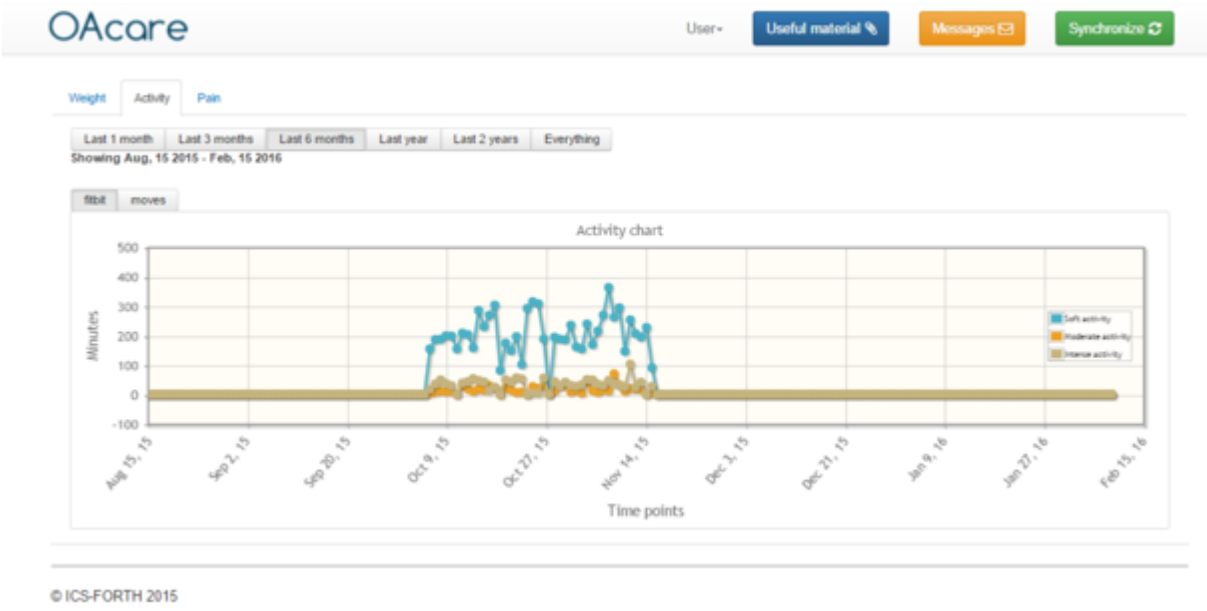


Figure 19

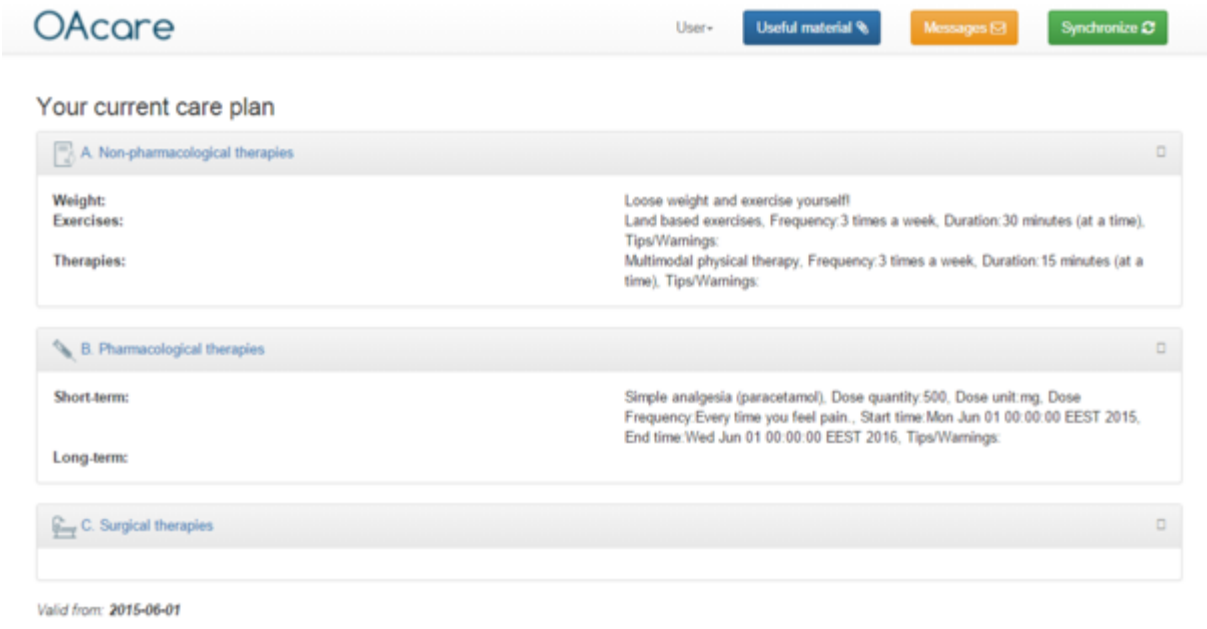


Figure 20

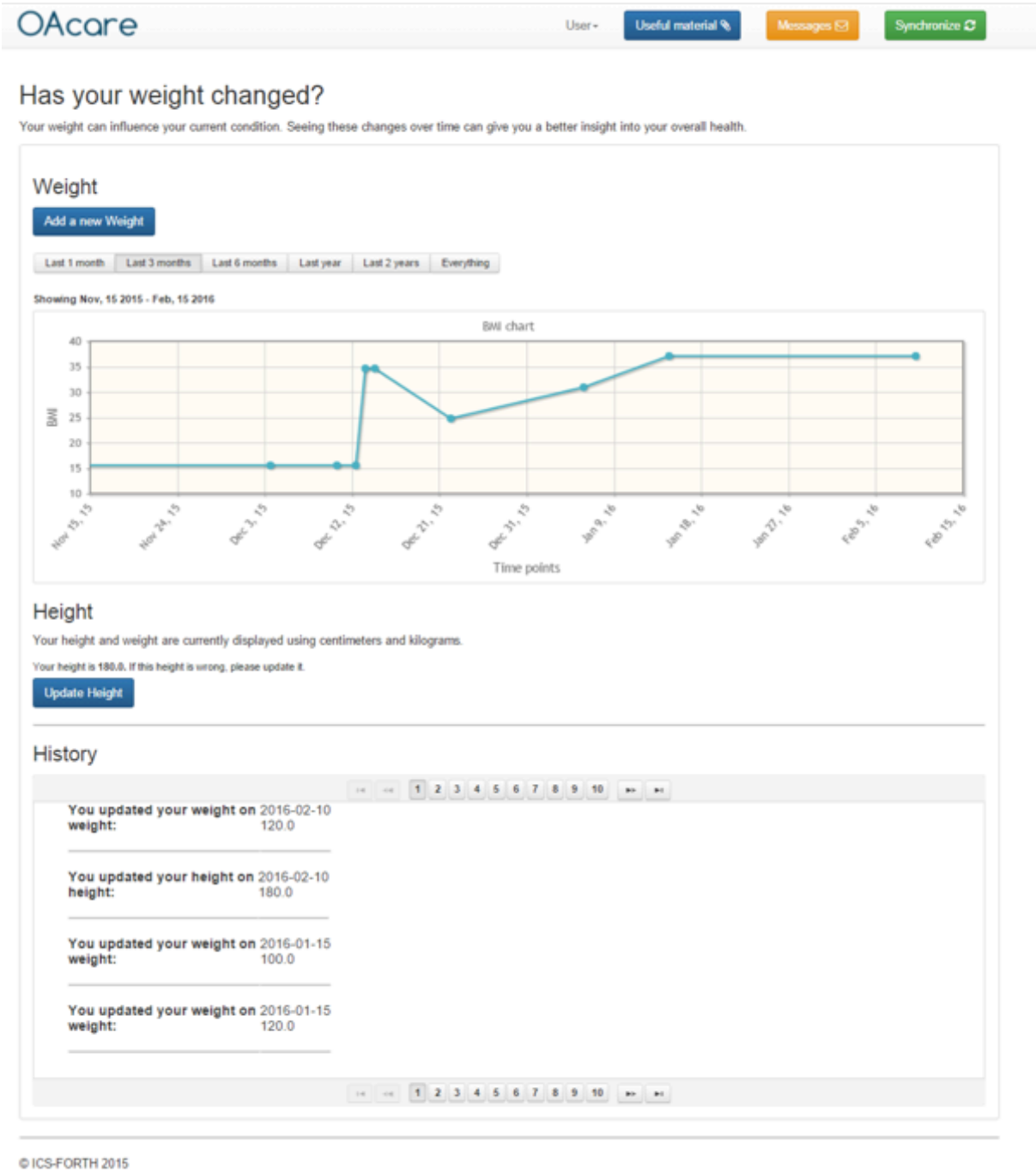

OAcare
User
Useful material
Messages
Synchronize
Has your weight changed?
Your weight can influence your current condition. Seeing these changes over time can give you a better insight into your overall health.
Weight
Add a new Weight
Last 1 month
Last 3 months
Last 6 months
Last year
Last 2 years
Everything
Showing Nov, 15 2015 - Feb, 15 2016
BMI chart
BMI
Time points
Height
Your height and weight are currently displayed using centimeters and kilograms.
Your height is 180.0. If this height is wrong, please update it.
Update Height
History
You updated your weight on 2016-02-10
weight: 120.0
You updated your height on 2016-02-10
height: 180.0
You updated your weight on 2016-01-15
weight: 100.0
You updated your weight on 2016-01-15
weight: 120.0
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Figure 21

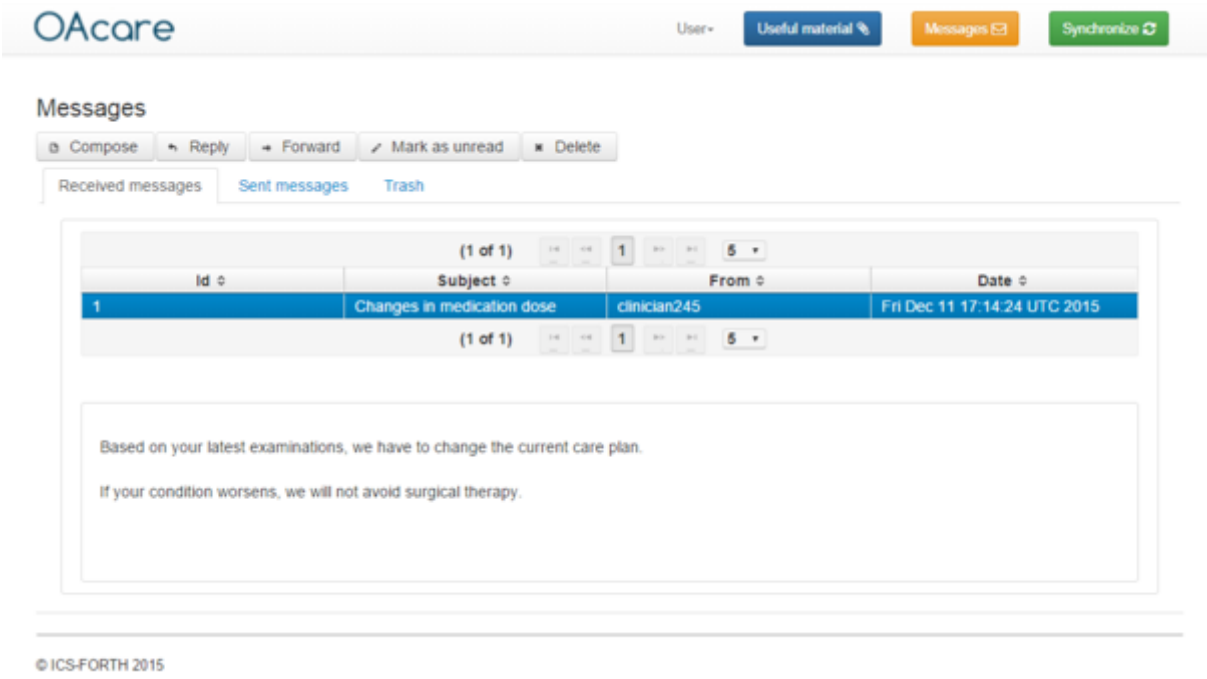

Figure 22

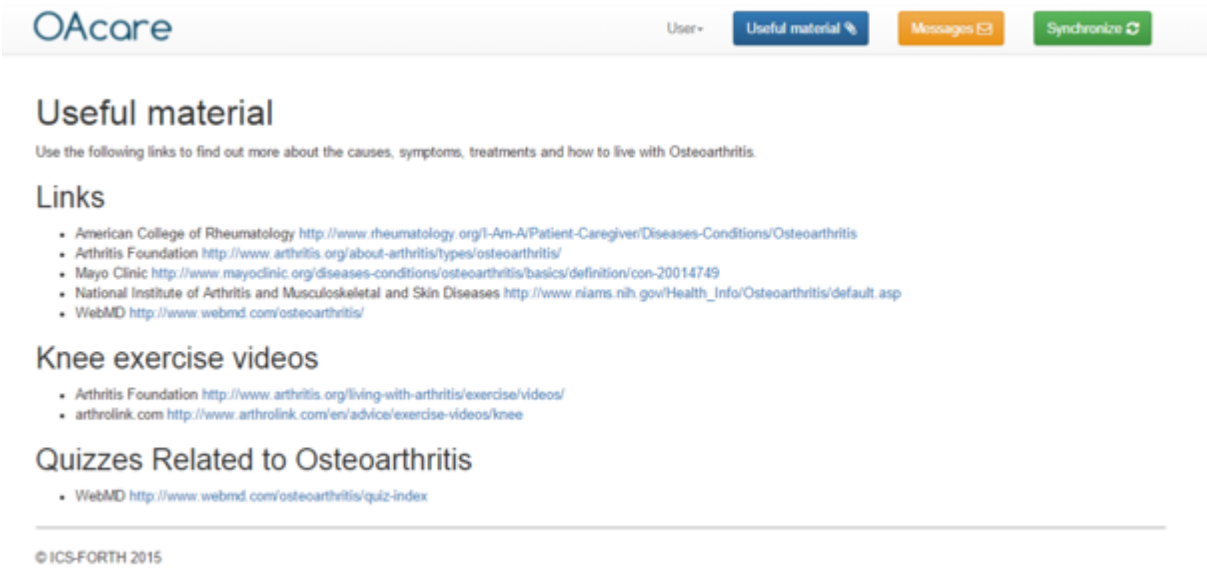

Figure 23

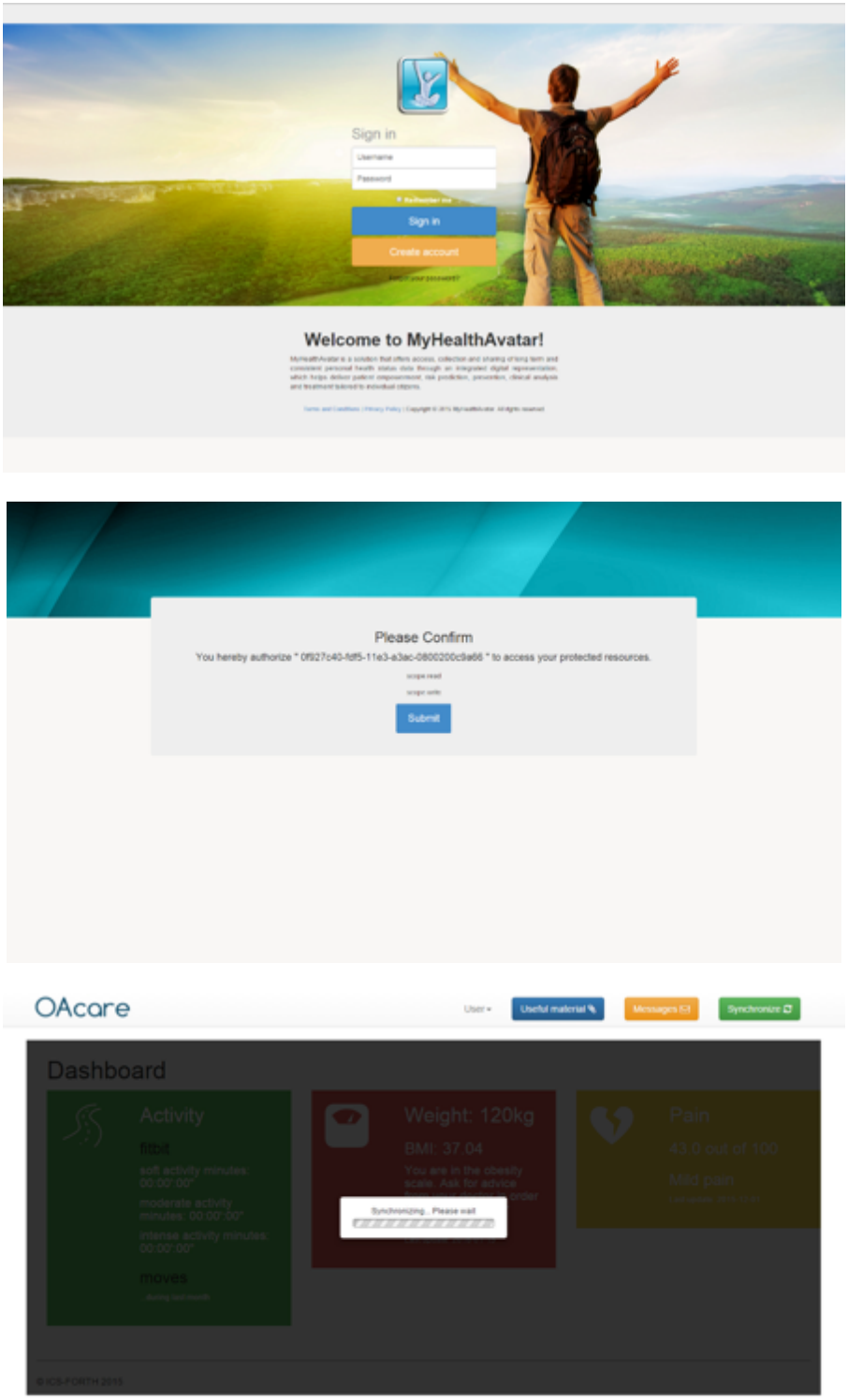

Figure 24

3.4.1.2 OAcare for the clinicians (OAcare+)

The clinicians' view has been developed in order to provide a useful input to clinicians regarding the current patient's health status, as the related data will be properly visualized and presented.

At first, the clinician selects a patient to view their data (Figure 25) and then the app provides the main menu for easy navigation (Figure 26). The clinician can view the patient's imaging data (radiographs and MRIs) and up-date or edit the two radiographic scoring metrics (Figure 27). Moreover, the clinician can examine patient's lifestyle and pain data (Figure 28), as well as their profile (Figure 29) and update or send advice messages to patients (Figure 30).

Furthermore the clinician can set up a new care plan (Figure 31) and view the history of previously set up plans and their level of "success" based on the corresponding pain data. In addition, the clinician can upload educational material (links or files) that may be helpful for patients for better understanding the nature of their condition, or for further learning about recent advances in osteoarthritis management.

To summarize, the scope of the OAcare app is to provide patients an easy-to-use way of managing and monitoring their medical data related to the knee osteoarthritis, from the emerging of the condition until today, with the goal to enhance patients' engagement. On the other side, the OAcare app will benefit clinicians as they will be able to view the patient's medical data over the time, assisting them to better understand the patients' current health status and the progression of the condition. Next releases of the app may contain a genetic evaluation service for examining if an increased risk of developing osteoarthritis exists.

Figure 25

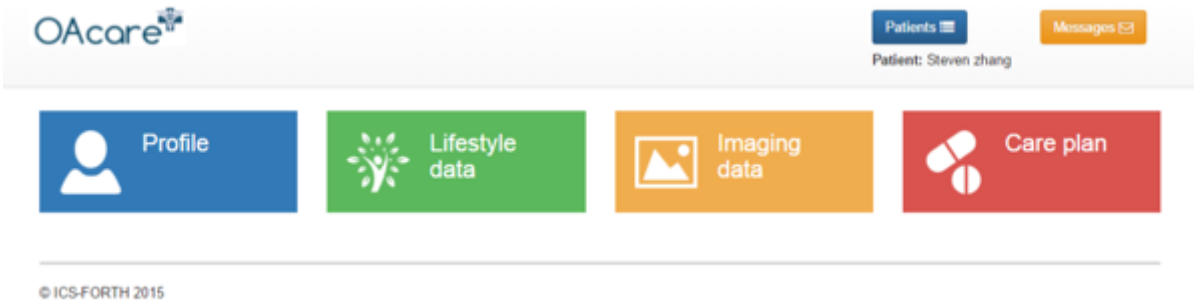

Figure 26

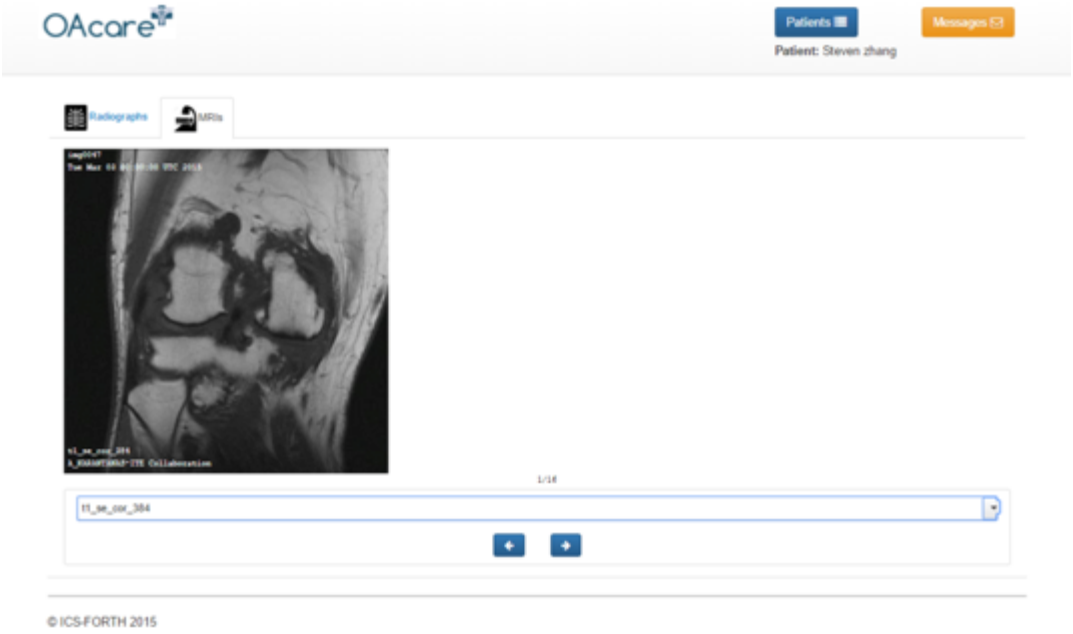

Figure 27

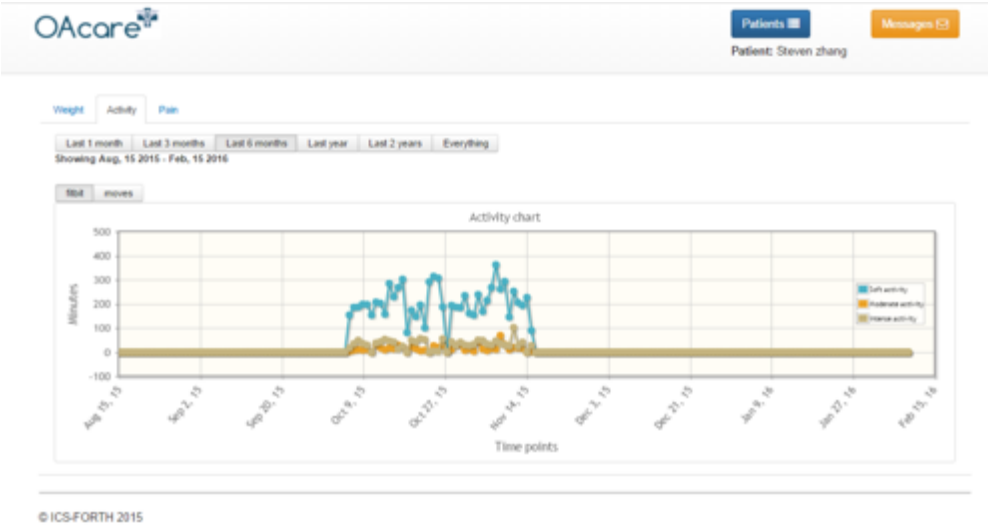

Figure 28

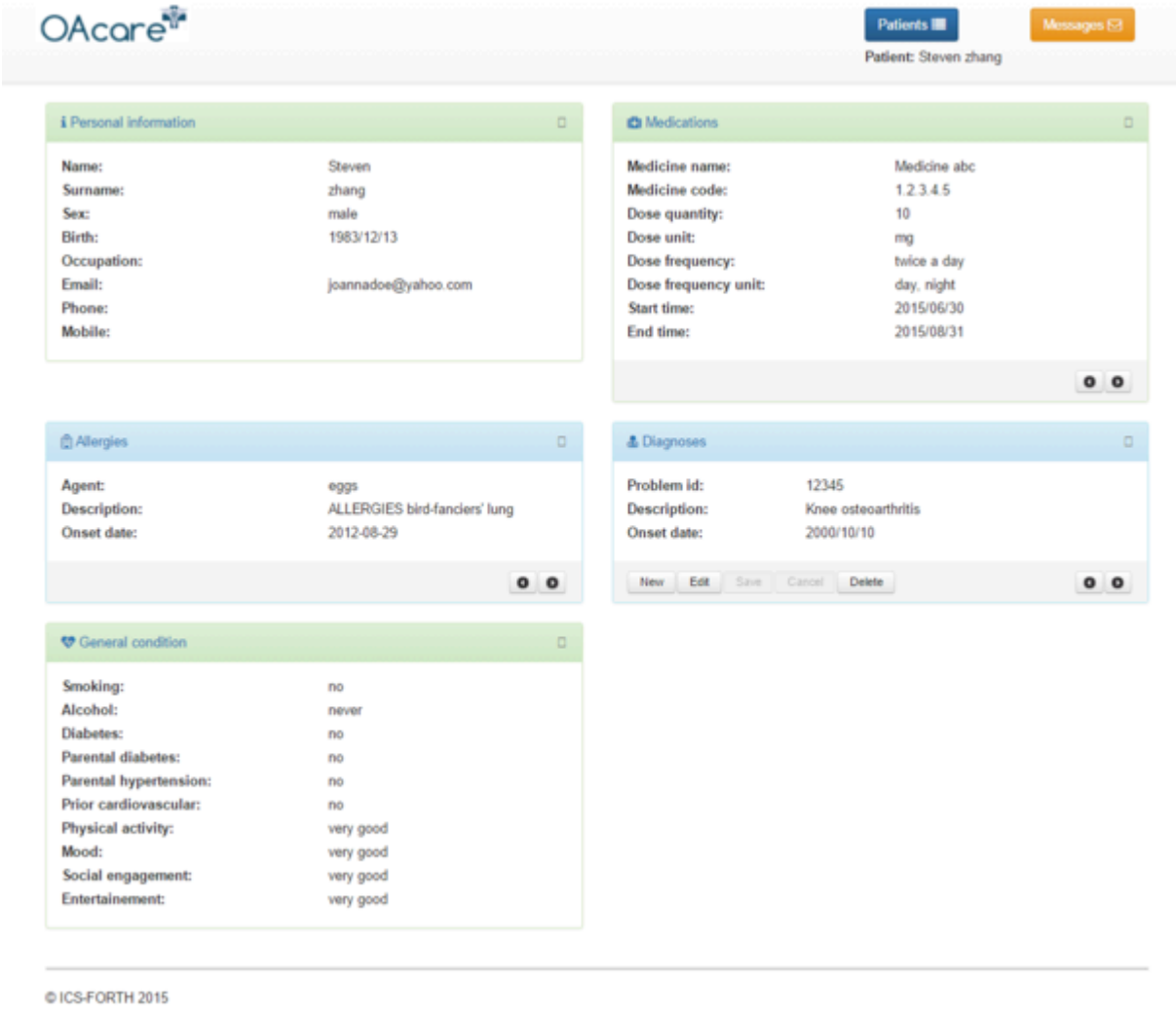

Figure 29

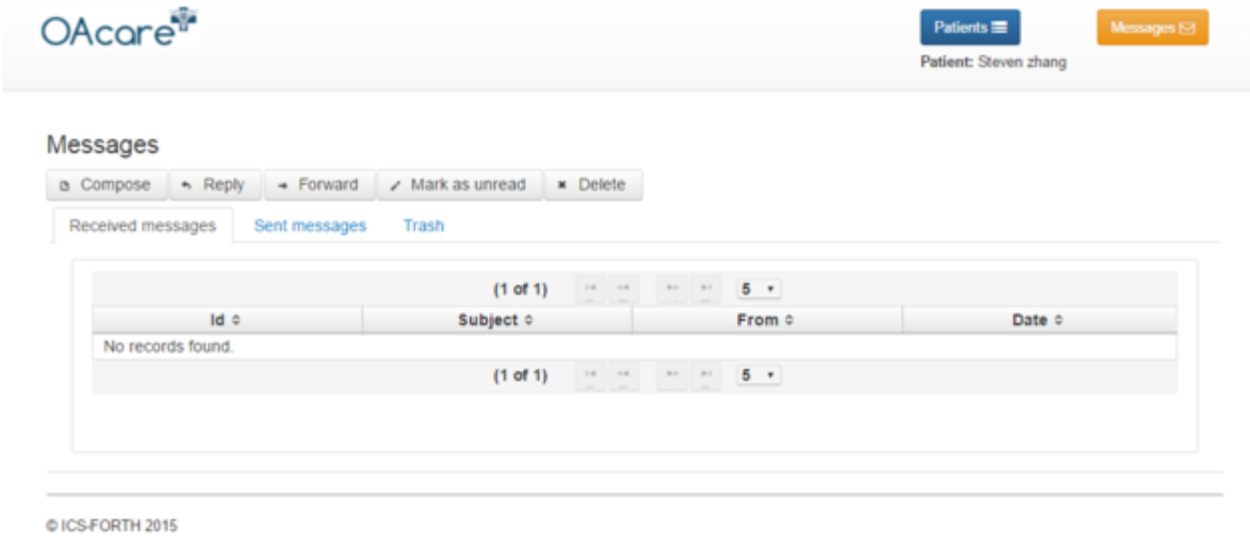

Figure 30

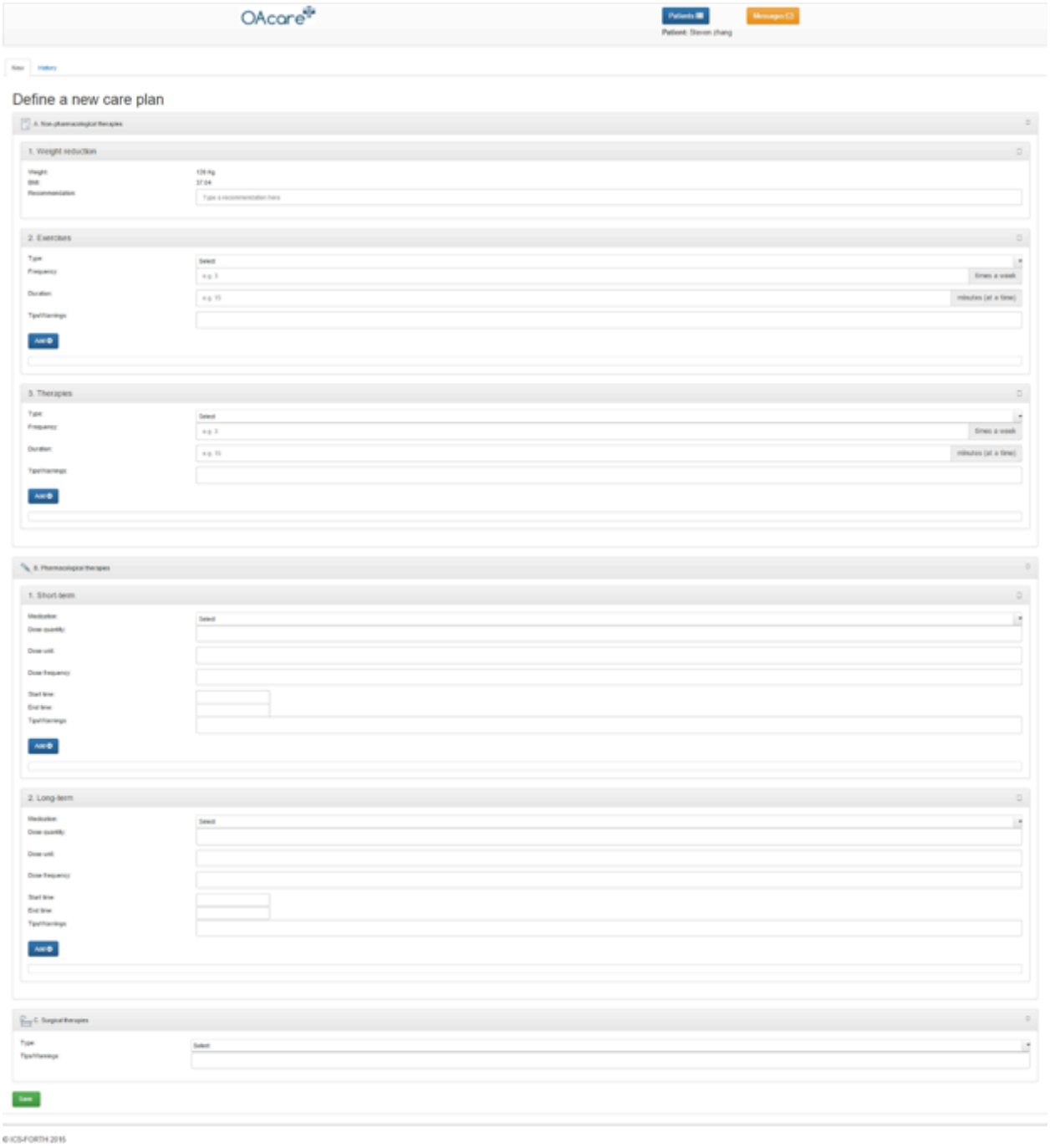
OAcare
Define a new care plan
1. Weight reduction
2. Exercises
3. Therapies
1. Short-term
2. Long-term
Save

Figure 31

3.5 Nephroblastoma Simulation Model and Clinical Trial: In-silico Profiling of Patients and Predictions

This demonstrator involves IAPETUS is a prototype web application build by the In Silico Oncology and In Silico Medicine Group, ICCS-NTUA. It is composed of two major modules. A Tool/Model Repository capable of storing simulation models and pertinent/assisting tools, as well as their individual attributes in separate tables, and a user interface to setup and carry out model executions and handle the outcoming results. It is built to handle all kinds of simulation models, including the various Oncosimulator branches, developed at ICCS. Its features will be demonstrated in the context of the Nephroblastoma Use Case and the outcomes of WP5.

3.5.1 Step by Step Guideline and Screenshots

To use IAPETUS, a user is first met by the initial screen (Figure 32).

Figure 32

If the end-user doesn't have an account within the application, it can be created with easy (Figure 33).

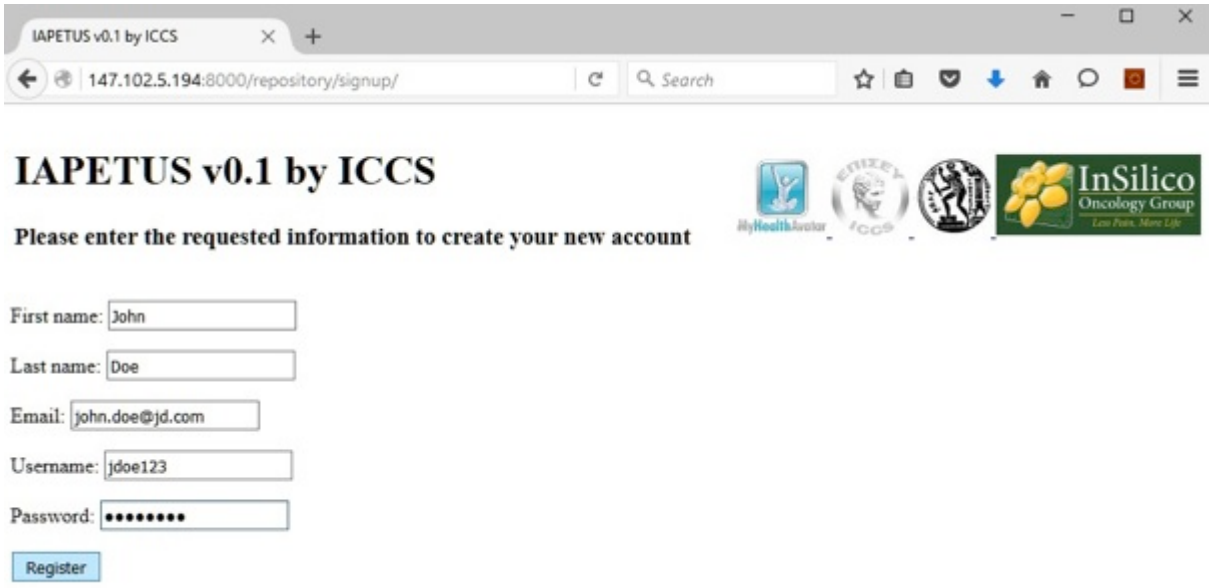

Figure 33

After creating the account end-user can login (Figure 34).

Figure 34

Upon successful login, end-users see the home screen, where they can choose between the model repository module and the Oncosimulator Module (Figure 35).

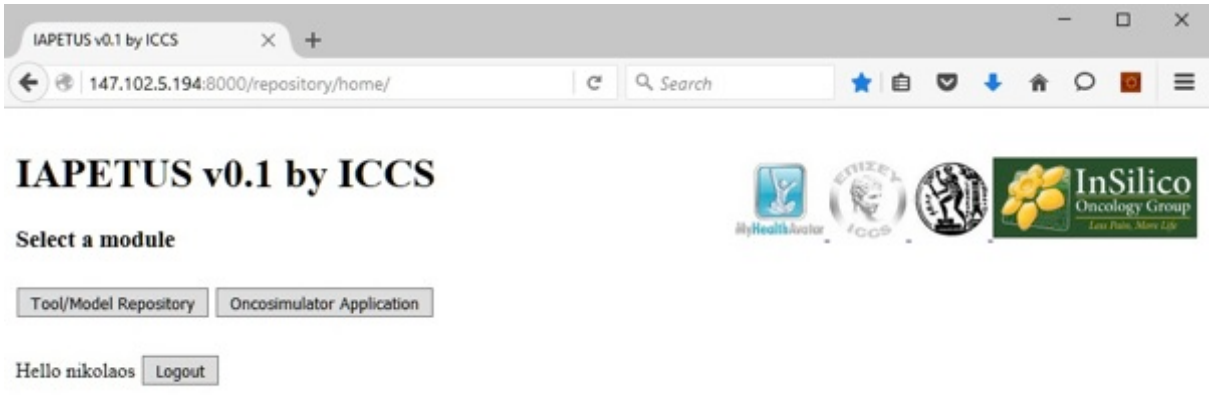

Figure 35

If they choose the Oncosimulator Module, they have the choices of giving input and running an execution, or viewing a report on past executions (Figure 36).

Figure 36

If they choose to run a new execution, first they must choose the cancer type (Figure 37).

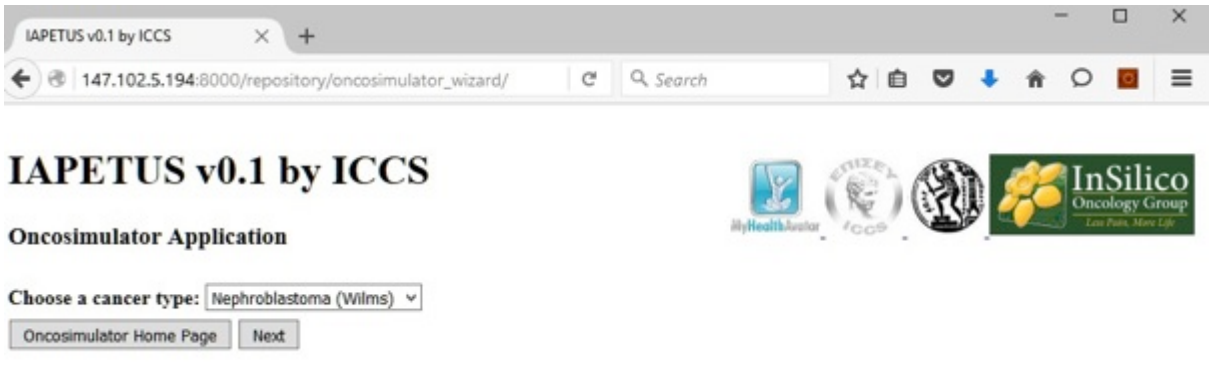

Figure 37

Then, they must choose one of the contained models which pertain to the chosen cancer type (Figure 38).

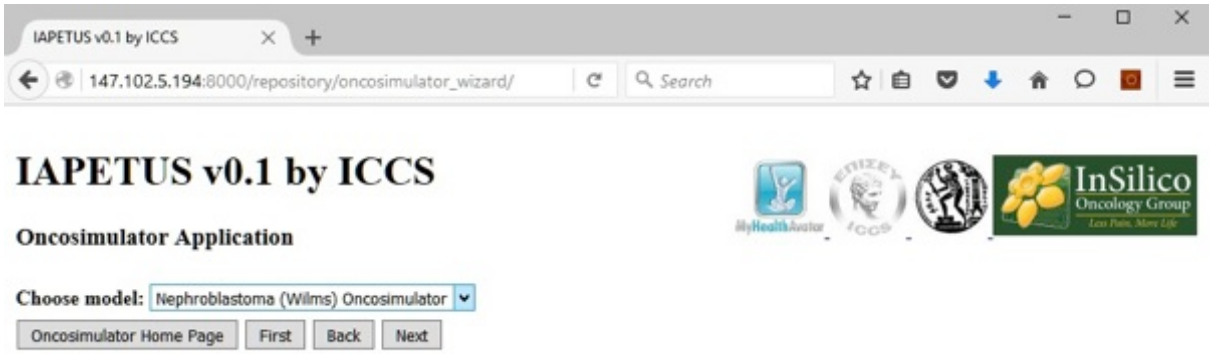

Figure 38

After that, they select a patient (Figure 39).

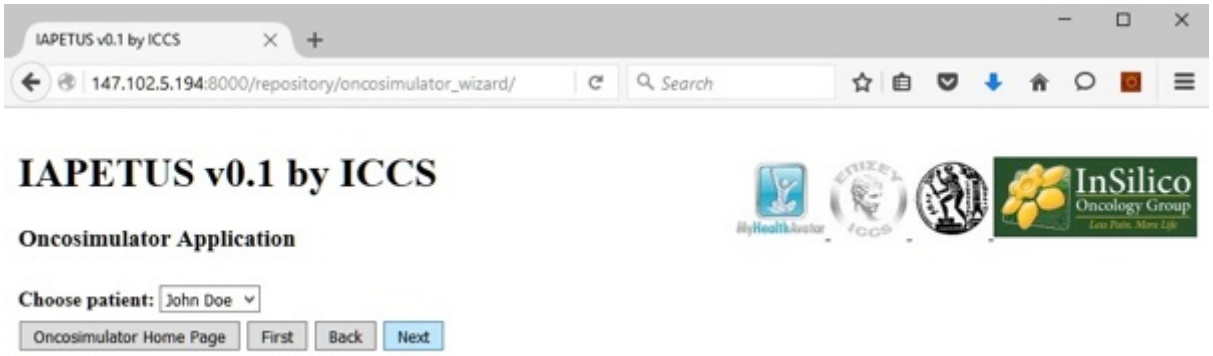

Figure 39

Finally, they provide the input parameters for the schema. At the same time, the pertinent input files will be fetched from the CHIC repository and brought up to the user. It should be noted that this screen is always different for every model included in the application's repository (Figure 40).

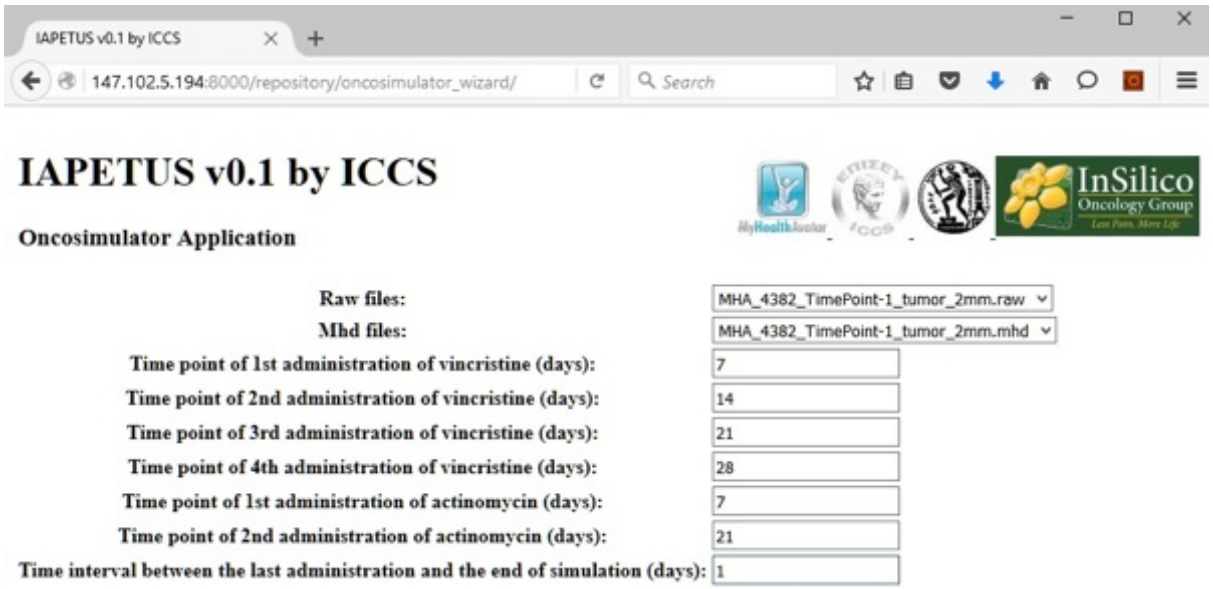

Figure 40

Finally, they are given one last chance to confirm their inputs. If they are certain about what they have entered, they may click on Run execution (Figure 41).

Figure 41

Results are calculated and presented to the user (Figure 42).

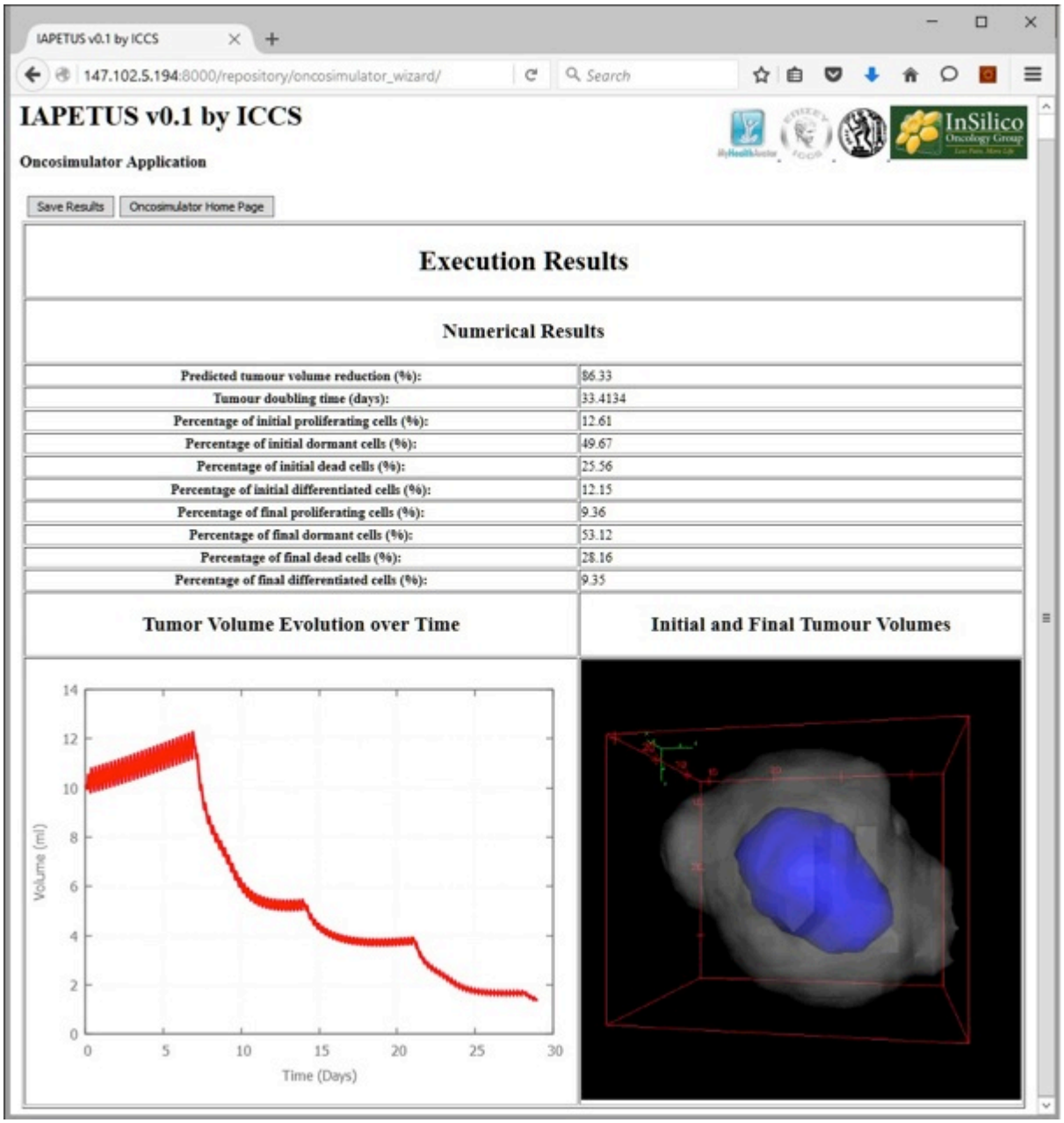

Figure 42

The user saves the results and then they should click the button to return to the Oncosimulator module home page (Figure 43).

Figure 43

To view a report, they must click on the button "View a previous simulation's report" and then chose a patient (Figure 44).

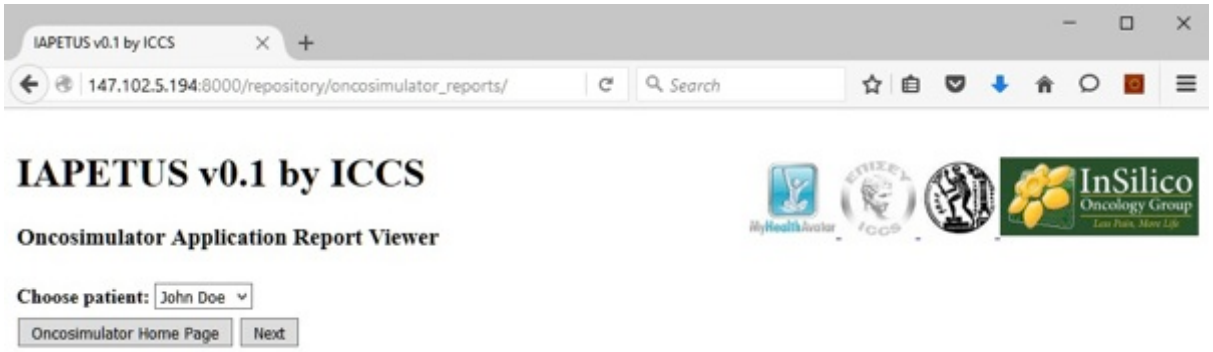

Figure 44

Then choose a report from a list of reports pertaining to that person (Figure 45).

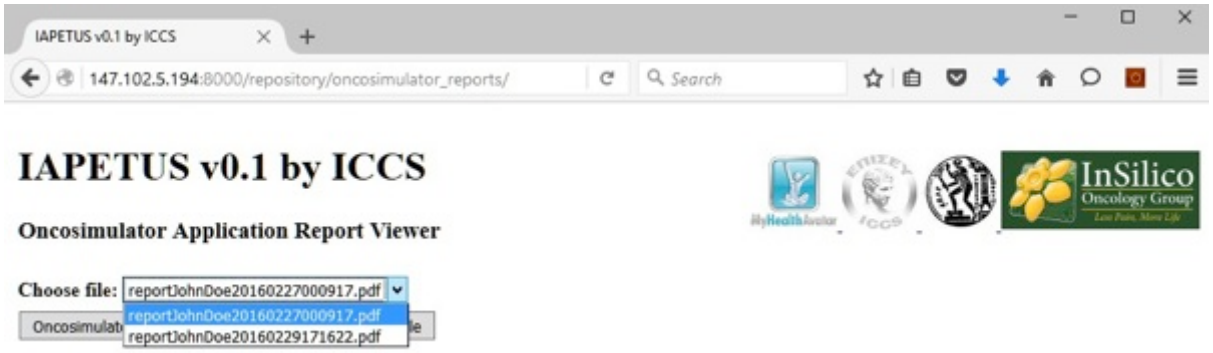

Figure 45

Download the file (pdf format) (Figure 46).

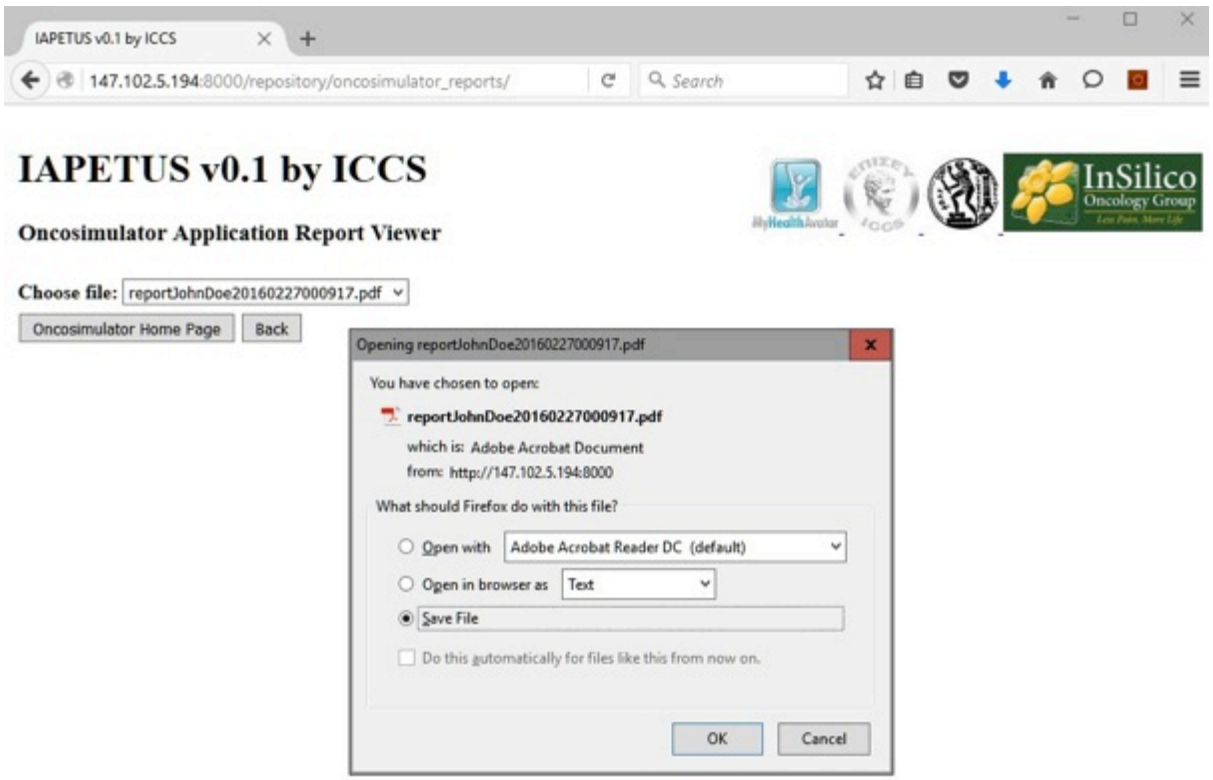

Figure 46

And open it with their pdf viewer (Figure 47).

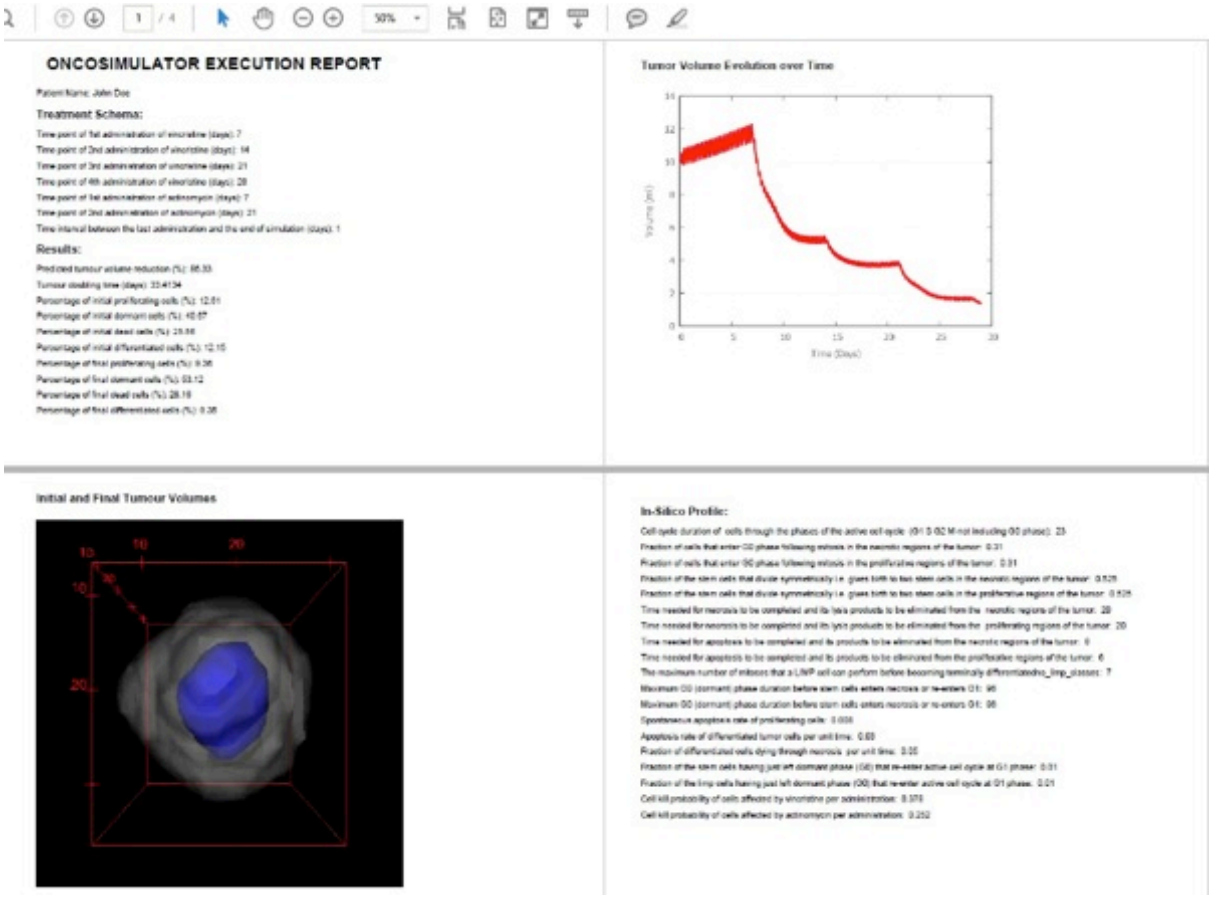

Figure 47

3.6 Nephroblastoma Model Repository Demonstration

IAPETUS has incorporated the Tool/Model repository, which is the result of work in WP5. A step by step Guide will be provided for inserting and retrieving data from within the repository

3.6.1 Step by Step Guideline and Screenshots

After the user has either created a new account or logged in with their existing account and they have entered IAPETUS' home screen, they can push the button "Tool-Model Repository" to enter the repository's home page (Figure 48).

Figure 48

From the homepage they have the choice to add, edit or delete certain types of entries. We will distinguish them depending on whether a file is required to be added or not. For non-file demanding entries, we will demonstrate how to add a Tool to the repository. First, the user clicks on "Add New Tool" and is prompted at the proper screen (Figure 49).

Figure 49

After finishing and clicking on "Add Tool" button, they are sent back to the home screen. To edit an entry, the user must first query for it by giving its name (Figure 50).

Figure 50

Query results will be presented (Figure 51).

Figure 51

And after the user clicks on the tool they want to see, then the Edit/Delete Screen is presented (Figure 52).

Figure 52

After finishing with their changes, the user is sent back to the repository home screen. To add a file, the user must click on “Add file”. The proper screen is brought up (Figure 53).

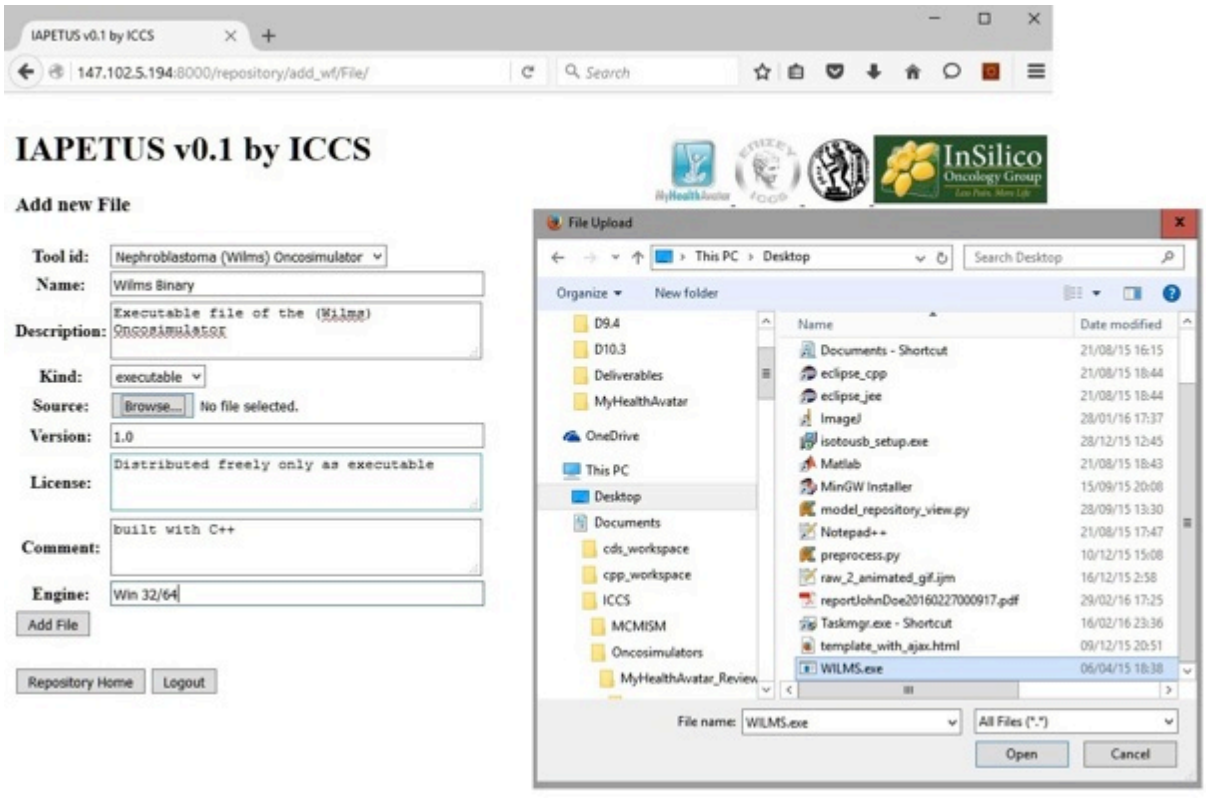

Figure 53

The user enters their data and then uploads a file. After data entry, the user returns to the home screen. To edit/delete/download a file, the user clicks on “Edit/Delete File” button, then the query screen is brought up (Figure 54).

Figure 54

After inserting the name to be queried, and pressing the button “Search for file”, the query results are returned (Figure 55).

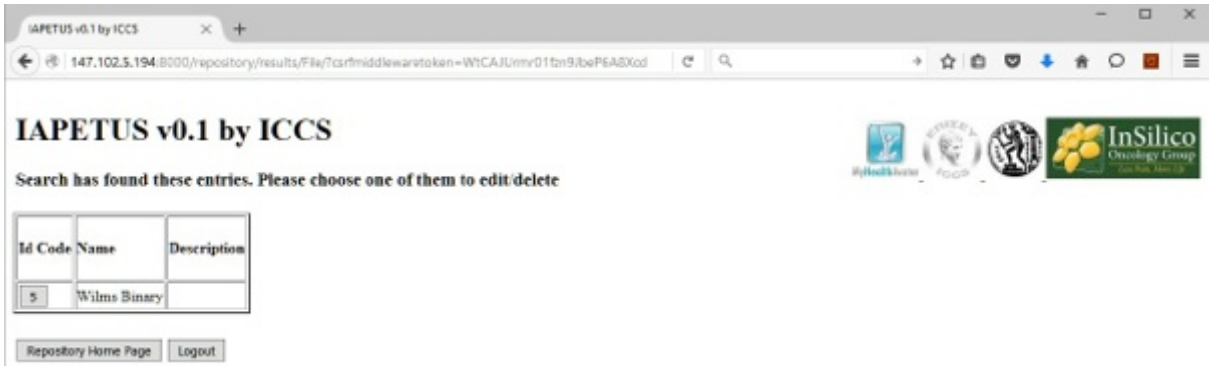

Figure 55

User selects an entry and the results are brought up on the Edit/delete Form. From here, the user can also download the file (Figure 56).

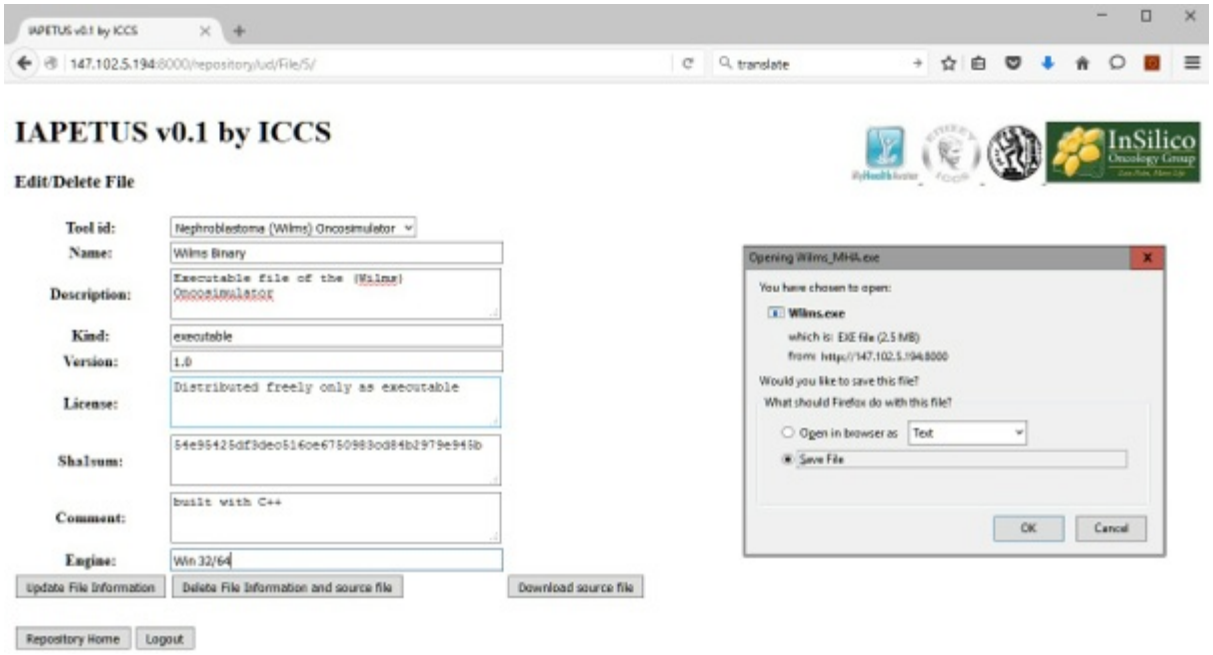

Figure 56

The procedure is identical for the other tables in the repository. For completion reasons we present for the other tables the “Add” forms (Figure 57).

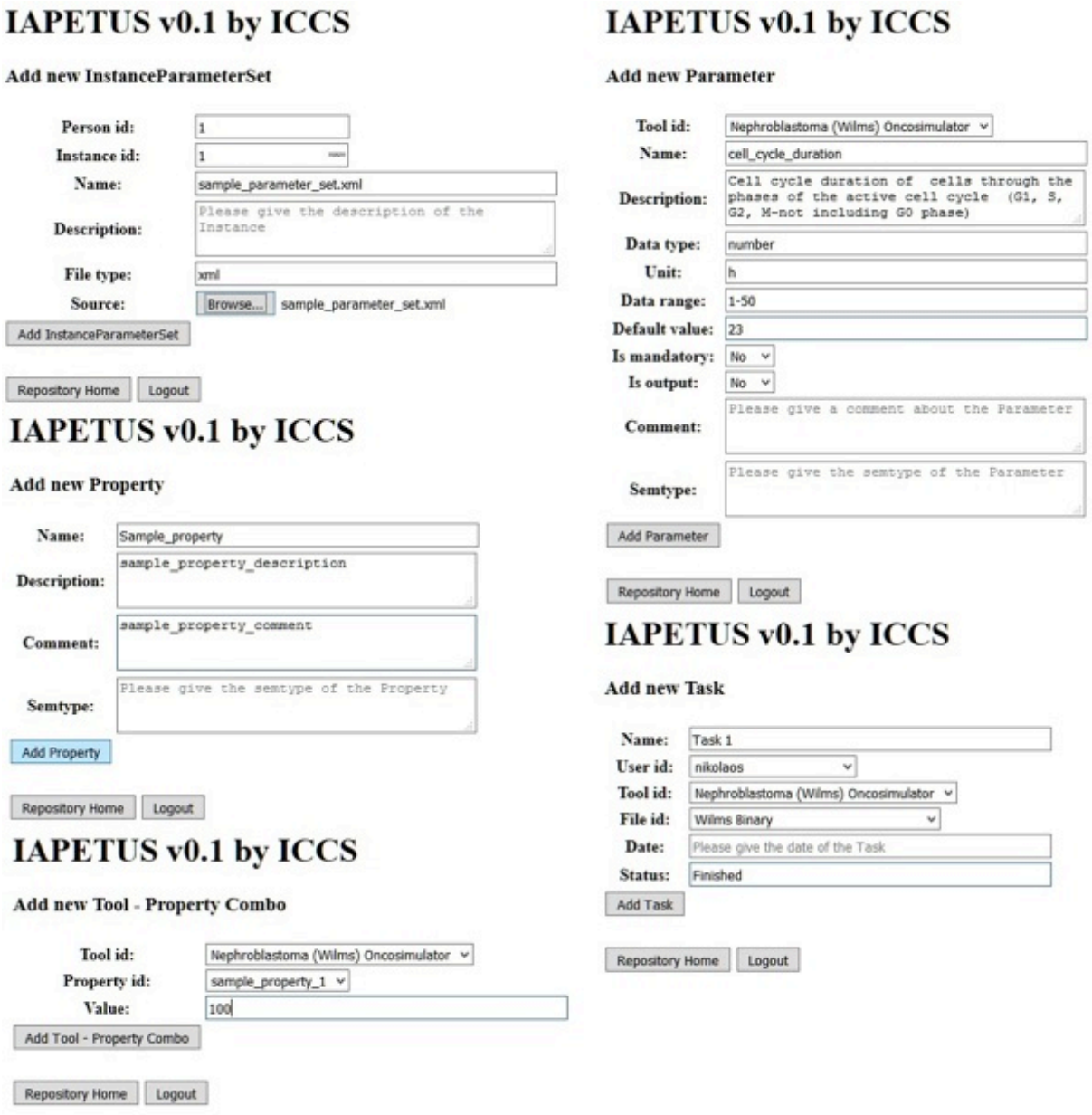

Figure 57

And the “Edit/Delete” forms (Figure 58).

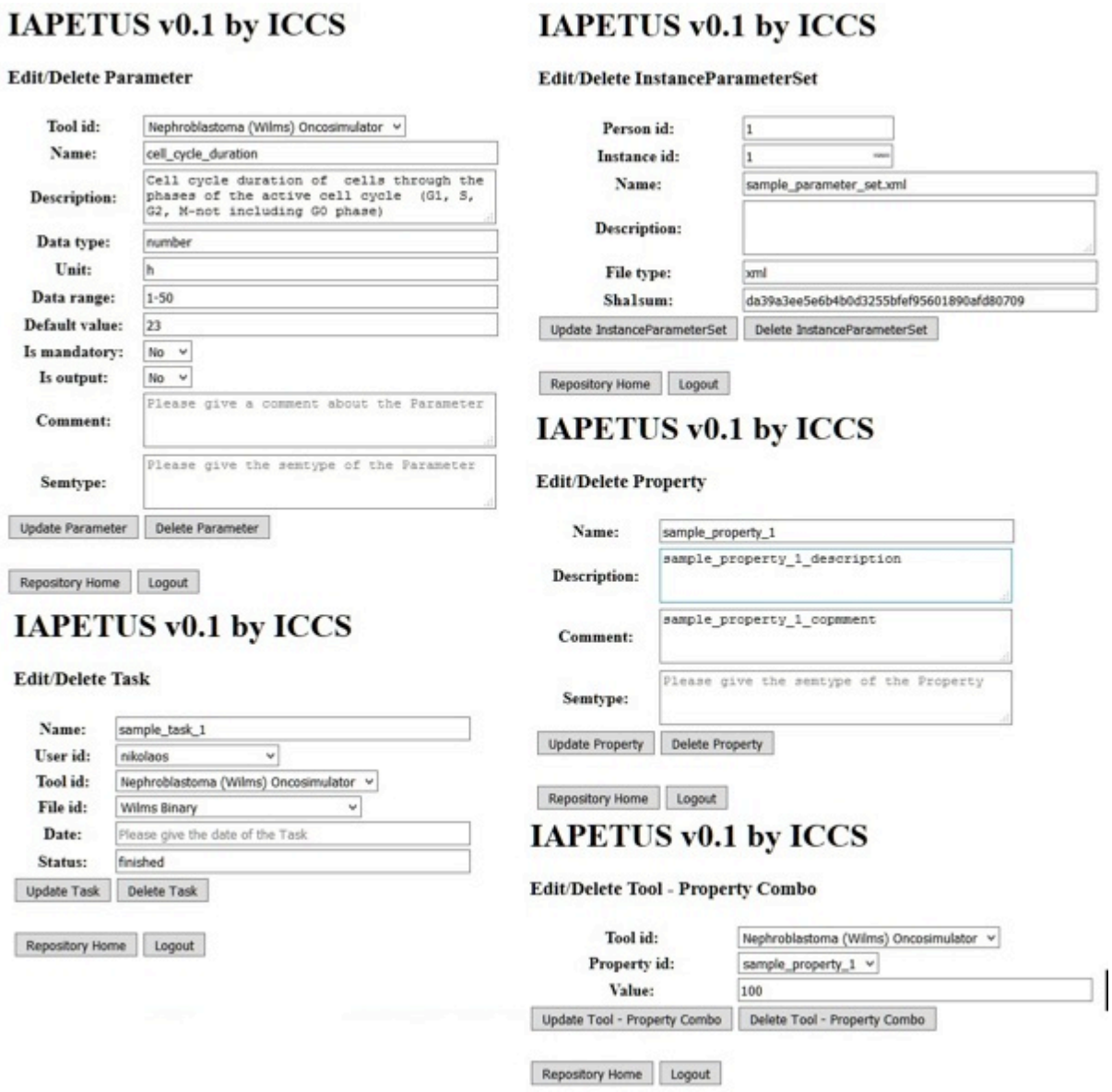
IAPETUS v0.1 by ICCS
Edit/Delete Parameter
Tool id: Nephroblastoma (Wilms) Oncosimulator
Name: cell_cycle_duration
Description: Cell cycle duration of cells through the phases of the active cell cycle (G1, S, G2, M-not including G0 phase)
Data type: number
Unit: h
Data range: 1-50
Default value: 23
Is mandatory: No
Is output: No
Comment: Please give a comment about the Parameter
Semtype: Please give the semtype of the Parameter
Update Parameter
Delete Parameter
Repository Home
Logout
IAPETUS v0.1 by ICCS
Edit/Delete InstanceParameterSet
Person id: 1
Instance id: 1
Name: sample_parameter_set.xml
Description:
File type: xml
Sha1sum: da39a3ee5e6b4b0d3255bfef95601890afd80709
Update InstanceParameterSet
Delete InstanceParameterSet
Repository Home
Logout
IAPETUS v0.1 by ICCS
Edit/Delete Task
Name: sample_task_1
User id: nikolaos
Tool id: Nephroblastoma (Wilms) Oncosimulator
File id: Wilms Binary
Date: Please give the date of the Task
Status: finished
Update Task
Delete Task
Repository Home
Logout
IAPETUS v0.1 by ICCS
Edit/Delete Property
Name: sample_property_1
Description: sample_property_1_description
Comment: sample_property_1_copmment
Semtype: Please give the semtype of the Property
Update Property
Delete Property
Repository Home
Logout
IAPETUS v0.1 by ICCS
Edit/Delete Tool - Property Combo
Tool id: Nephroblastoma (Wilms) Oncosimulator
Property id: sample_property_1
Value: 100
Update Tool - Property Combo
Delete Tool - Property Combo
Repository Home
Logout

Figure 58

4 Conclusions

The main conclusion of this document is that the initially planned (according the DoW) demonstration of MHA to the public at the final conference has been successfully extended by active enrollment and continuous support provided by all project members. **We are proud to acknowledge the support and active demonstration actions performed by all MHA project partners.**

The provided support and active enrollment of all partners in demonstration activities allowed us to report all demonstration actions of the MHA to the public performed in the frames of not one but 20+ conferences and events, where some are top eHealth events and exhibitions with an advanced and unique audience (**Chapter 2. Conferences and Events Demonstrations**).

An additional extension of this document is the presence and detailed description of MHA demonstration scenarios

4.1 Demonstration Scenarios

The presented and described demonstrations scenarios have not been required by project task description. Nevertheless, the decision to present top demonstration scenarios has been taken in order to equip MHA partners and all interested end-users with basic description of additional MHA tools and services implemented during the project.

All project partners expressed their interest to continue MHA demonstration activities after the end of the MHA project. We are proud about this concluding decision and in order to support it the **Chapter 3. Demonstration Scenarios** has been dedicated exclusively to the description of MHA demonstration scenarios.

4.2 Other Relevant Demonstration Actions

Additionally, we are proud to report the presence of additional, advanced and very well accepted by the general public demonstration activities.

4.2.1 Videos

Around 12 new videos related to MyHealthAvatar Platfrom have been published during the last 12 months.

Please, check them all at https://www.youtube.com/channel/UC1HWrv1RlKJ2jAK4l3mHUgQ

A short collection of the latest published videos is presented below.

Title:	MyHealthAvatar Diabetes
Date:	12 February 2016
Media:	Youtube
Partners involved:	Project dissemination and coordination teams

Title:	MyHealthAvatar mobile application - Goals
Date:	13 January 2016
Media:	Youtube
Partners involved:	Project dissemination and coordination teams

Title:	MyHealthAvatar mobile application - Calendar
Date:	13 January 2016
Media:	Youtube
Partners involved:	Project dissemination and coordination teams

Title:	MyHealthAvatar mobile application - WebToolbox
Date:	13 January 2016
Media:	Youtube
Partners involved:	Project dissemination and coordination teams

Title:	Web Settings MyHealthAvatar
Date:	13 January 2016
Media:	Youtube
Partners involved:	Project dissemination and coordination teams

Appendix 1 – Abbreviations and acronyms

DoW	Description of Work
MHA	MyHealthAvatar
SOA	Service Oriented Architecture