Requirements Document for UM-BBD/PPS

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November 18, 2014

Contents

Part I

User Requirements

UR001

Statement *The system shall provide the functionality to analyze one dimensional time scale datasets in the field of atmospheric chemistry.*

Priority *A*

UR002

Statement *An extension of the system should provide the analysis of multidimensional datasets.*

Priority *B*

UR003

Statement *The system should provide a set of basic algorithms to analyze the dataset. These set includes peak-detection, correlation and clustering.*

Priority *A*

UR004

Statement *The system shall provide an export function to download the results of the analysis.*

Priority *A*

UR005

Statement *The results of the analysis should be visualized in a graphical manner.*

Priority *A*

UR006

Statement *The system shall provide the possibility to apply different kinds of filters for the visualization of datasets. At least the functionality to set the number of occurences of a given molecule should be available in the first release.*

Priority *A*

UR007

Statement *The system shall be extendable via a plugin mechanism. A plugin can contain additional algorithms or support for new file formats.*

Priority *A*

UR008

Statement *The system shall provide additional information for molecules as a hyperlink referring to chemical databases like MassBank, ChemSpider or ToxBank.*

Priority *A*

UR009

Statement *The system shall provide the functionality to search for specific datasets and molecules. Therefore, the system provides the possibility to annotate the datasets and its content.*

Priority *A*

UR010

Statement *The system shall provide the possibility to compare two datasets. The comparison should be done via dynamic-time-warping.*

Priority *A*

UR011

Statement *The user should have to possibility to set various view options. This includes the basic zooming and pruning of molecules of no interest.*

Priority *A*

UR012

Statement *The system shall provide the functionality to reapply filters to already processed data.*

Priority *A*

UR013

Statement *The system analysis of datasets must not modifiy the original dataset.*

Priority *A*

UR014

Statement *The visualization of the data should provide feedback within 5 seconds.*

Priority *A*

UR015

Statement *The user should have to possibility to abort a running analysis.*

Priority *A*

UR016

Statement *The system shall provide a user management.*

Priority *A*

UR017

Statement *There shall be three different types of users: guests, registered users and administrators.*

Priority *A*

UR018

Statement *Guests shall only be able to view uploaded public datasets and its analyses.*

Priority *A*

UR019

Statement *Registered users shall be able to upload, modify and delete own datasets. All edits made to the dataset should be logged.*

Priority *A*

UR020

Statement *The administrators shall be able to manage and view all datasets.*

Priority *A*

UR021

Statement *Users can create new user groups to which they can add other users.*

Priority *A*

UR022

Statement *Users can grant rights on their own datasets.*

Priority *A*

UR023

Statement *Uploaded datasets and their analysis shall be stored for an undefined timespan.*

Priority *A*

UR024

Statement *The system shall be accessible through a web interface. Uploaded and analyzed data shall be stored and located using individual URLs.*

Priority *A*

Part II

System Requirements

Chapter 1

Non-Functional Requirements

1.1 Product Requirements

1.1.1 Usability Requirements

1.1.2 Efficiency Requirements

1.1.2.1 Performance Requirements

1.1.2.2 Space Requirements

1.1.3 Dependability Requirements

NFR001

Statement *The MHC-PMS shall be available to all clinics during normal working hours (MonFri, 08.3017.30). Downtime within normal working hours shall not exceed five seconds in any one day.*

Priority *A*

1.1.4 Security Requirements

1.2 Organziational Requirements

1.2.1 Environmental Requirements

NFR002

Statement *Users of the MHC-PMS system shall authenticate themselves using their health authority identity card.*

Priority A

1.2.2 Operational Requirements

1.2.3 Development Requirements

1.3 External Requirements

1.3.1 Regulatory Requirements

1.3.2 Ethical Requirements

1.3.3 Legislative Requirements

1.3.3.1 Accounting Requirements

1.3.3.2 Safety / Security Requirements

NFR003

Statement *The system shall implement patient privacy provisions as set out in HStan-03-2006-priv.*

Priority *A*

Chapter 2

Functional Requirements

FR001

Statement *On the last working day of each month, a summary of the drugs prescribed, their cost, and the prescribing clinics shall be generated. (see user requirement UR001)*

Priority *A*

FR002

Statement *The system shall automatically generate the report for printing after 17.30 on the last working day of the month. (see user requirement UR001)*

Prioriy *A*

FR003

Statement *A report shall be created for each clinic and shall list the individual drug names, the total number of prescriptions, the number of doses prescribed, and the total cost of the prescribed drugs. (see user requirement UR001)*

Priority *A*

FR004

Statement *If drugs are available in different dose units (e.g., 10 mg, 20 mg) separate reports shall be created for each dose unit. (see user requirement UR001)*

Priority *A*

FR005

Statement *Access to all cost reports shall be restricted to authorized users listed on a management access control list. (see user requirement UR001)*

Priority *A*

Chapter 3

Scenarios

3.1 Scenario for collecting medical history

INITIAL ASSUMPTION: *The patient has seen a medical receptionist who has created a record in the system and collected the patients personal information (name, address, age, etc.). A nurse is logged on to the system and is collecting medical history.*

NORMAL: *The nurse searches for the patient by family name. If there is more than one patient with the same surname, the given name (first name in English) and date of birth are used to identify the patient.*
The nurse chooses the menu option to add medical history.
The nurse then follows a series of prompts from the system to enter information about consultations elsewhere on mental health problems (free text input), existing medical conditions (nurse selects conditions from menu), medication currently taken (selected from menu), allergies (free text), and home life (form).

WHAT CAN GO WRONG: *The patients record does not exist or cannot be found. The nurse should create a new record and record personal information.*
Patient conditions or medication are not entered in the menu. The nurse should choose the other option and enter free text describing the condition/medication.
Patient cannot/will not provide information on medical history. The nurse should enter free text recording the patients inability/unwillingness to provide information. The system should print the standard exclusion form stating that the lack of information may mean that treatment will be limited or delayed. This should be signed and handed to the patient.

OTHER ACTIVITIES: *Record may be consulted but not edited by other staff while information is being entered.*

SYSTEM STATE ON COMPLETION: *User is logged on. The patient record including medical history is entered in the database.*