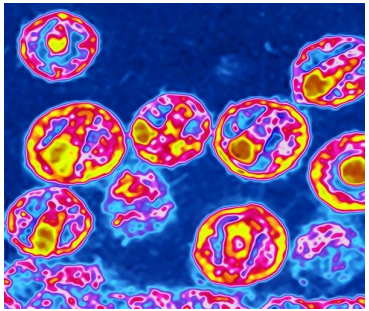

Module Guide for *Diagnosis_AIDs*

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PROJECT OVERVIEW

Anticipated Changes

AC1: The program may be expanded to cover a wide range of time frames, greater than 30 days.

AC2: The program may be expanded to include more inputs to increase the accuracy of the output.

AC3: The program may be expanded to include more outputs like a suggestion for therapy.

Unlikely Changes

UC1: The goal of determining the clearance rate of the virus will not likely change.

UC2: There will always be a source of input data external to the software.

UC3: The input constraints will not likely change.

DRASIL FRAMEWORK

- Framework that generates software artifacts, like the SRS, and generate codes in different languages like C++, C#, Python, Java and Swift.

MODULE HIERARCHY OVERVIEW

Level 1	Level 2
Hardware- Hiding Module	
Behaviour- Hiding Module	Input Format
	Input Constraints
	Constants
	Calculations
	Control
	Output Format
Software Decision Module	

Hardware-Hiding Module

Secrets:	The data structure and algorithm used to implement the virtual hardware.
Services:	Serves as a virtual hardware used by the rest of the system. This module provides the interface between the hardware and the software.
Implemented By:	OS

Behaviour-Hiding Modules

Software Decision Module

Behaviour-Hiding Modules

Secrets:	The contents of the required behaviours.
Services:	Includes programs that provide externally visible behaviour of the system as specified in the software requirements specification (SRS) documents. This module serves as a communication layer between the hardware-hiding module and the software decision module. The programs in this module will need to change if there are changes in the SRS.
Implemented By:	-

- Input Format
- Constants
- Input Constraints
- Calculations
- Control
- Output Format

Behaviour-Hiding Modules

Input Format

Secrets:	The input file name, input variable type.
Services:	Reading input file, and storing inputs.
Implemented By:	Diagnosis_AIDs

Constants

Secrets:	The program constants.
Services:	Provides the constants used in the calculations and input constraints.
Implemented By:	Diagnosis_AIDs

Input Constraints

Secrets:	The function for verifying input values.
Services:	Checks the inputs and warns the user if constraints are not met.
Implemented By:	Diagnosis_AIDs

Behaviour-Hiding Modules

Calculations

Secrets:	The expressions used for achieving output.
Services:	Provides the outputs calculated from the inputs using expressions.
Implemented By:	Diagnosis_AIDs

Control

Secrets:	The order of control of the programs.
Services:	Directs the functions in the program.
Implemented By:	Diagnosis_AIDs

Output Format

Secrets:	The output file selection.
Services:	Writes outputs of Diagnosis_AIDs in an output file.
Implemented By:	Diagnosis_AIDs

Hardware-Hiding Module

Behaviour-Hiding Modules

Software Decision Module

Secrets:	The design decision based on mathematical theorems, physical facts, or programming considerations.
Services:	Includes data structure and algorithms used in the system that do not provide direct interaction with the user.
Implemented By:	-

Anticipated Changes and Design for Change

AC1: The program may be expanded to cover a wide range of time frames, greater than 30 days.

- Constants

AC2: The program may be expanded to include more inputs to increase the accuracy of the output. (input, calculations)

- Input Format
- Calculations

AC3: The program may be expanded to include more outputs like a suggestion for therapy. (input, calculations)

- Calculations
- Output Format

Thank you!

References

[1] https://github.com/andreamclemeno/CAS741-Concentration-of-Virus/blob/master/docs/SRS/SRS.pdf

[2] https://jacquescarette.github.io/Drasil/
[3]
https://github.com/JacquesCarette/Drasil/tree/97b0fceceb522488b05ca1a2fdb12d0de1f889a8/code/stable/projectile/Projectile_C_P_NoL_B_U_V_D/src/python