



# Project: health-watcher

## Stakeholders

**Name:** Citizen

**Description:** Any person who wishes to interact with the system.

**Name:** Employee

**Description:** Health System employee, placed on DIEVS.

**Name:** SystemOwner

**Name:** SystemDeveloper

**Description:**

developers that design and implement the system, as well as for caring through the testing and homologation of the system.

## Concerns

**Name:** ResponseTime

**Description:** The response time must not exceed 5 seconds.

**Classification:** Non-Functional

**Sources:**

- NFR Framework catalogue

**Responsibilities:**

- The response time must not exceed 5 seconds to log the system.
- The response time must not exceed 5 seconds to submit a complaint specification.
- The response time must not exceed 5 seconds to submit a query information.

**Stakeholder-Priorities:**

Stakeholder	Priority
Citizen	Very Important
SystemDeveloper	Very Important
SystemOwner	Very Important

**Concerns-Contributions:**

Concern	Contribution
Availability	+
Security	-
Concurrency	-

**Required By:**

Concern
QueryInformation
Register Complaint
Login

**Name:** Encryption**Description:** The system should use a security protocol to send data over the internet.**Classification:** Non-Functional**Sources:**

- documents

**Responsibilities:**

- The system should use a security protocol to send complaint specification over the internet.
- The system should use a security protocol to send query information over the internet.

**Stakeholder-Priorities:**

Stakeholder	Priority
Citizen	Medium
SystemDeveloper	Medium
SystemOwner	Important

**Required By:**

Concern
QueryInformation
Register Complaint

**Name:** Compatibility**Description:**

Allow exchange of information with the SSVS system (Sanitary Surveillance System). This exchange will firstly be only to query sanitary licenses and on another time – when SSVS have deployed the Complaint Control module – it will be given the automatic entry of the Sanitary Surveillance complaint nature.

**Classification:** Non-Functional**Sources:**

- document (use cases)

**Responsibilities:**

- Allow exchange of information with the SSVS system during complaint specification.
- Allow exchange of information with the SSVS system during query specification

**Stakeholder-Priorities:**

Stakeholder	Priority
SystemDeveloper	Very Important
SystemOwner	Very Important

**Required By:**

Concern
QueryInformation
Register Complaint

**Name:** AccessControl**Description:** ensure only authorised operations are carried out by citizens and employees.**Classification:** Non-Functional**Sources:**

- NFR Framework

**Responsibilities:**

- guarding againts unauthorized change log data
- guarding againts unauthorized register employees data
- guarding againts unauthorized register table data
- guarding againts unauthorized update complaint
- guarding againts unauthorized update employee
- guarding againts unauthorized update health unit
- allow citizens to register complaints
- allow citizens to access complaint data
- allow citizens to access health unit data

**Stakeholder-Priorities:**

Stakeholder	Priority
SystemDeveloper	Medium
SystemOwner	Very Important

**Concerns-Contributions:**

Concern	Contribution
Usability	-

**Required By:**

Concern
RegisterTables
UpdateComplaint
RegisterNewEmployee
UpdateEmployee
UpdateHealthUnit
ChangeLoggedEmployee
QueryInformation
Register Complaint
Login

**Name:** QueryInformation**Description:**

Makes possible for a citizen to perform queries. Query Health Guide: The citizen might query: -Which health units take care of a specific specialty. -Which are the specialties of a health unit. Query Diverse Information The citizen might query: Information about the complaint made by the citizen: -Complaint specification. -Situation (OPENED, SUSPENDED, or CLOSED). -Technical analysis. -Analysis date. -Employee that made the analysis. Information about diseases: -Description. -Symptoms. -Duration.

**Classification:** Functional**Sources:**

- documents (use cases)

**Responsibilities:**

- 1.The system receives the type of query
- 2.1In the case of a query on specialties grouped by health units, the citizen selects the unit to be queried.
- 2.2In the case of a query on health units grouped by specialties, the citizen selects the specialty to be queried.
- 2.3In the case of a query on complaints, the citizen provides the complaint code.
- 2.4In the case of a query on diseases, the citizen selects the disease to be queried.
- 2.The system receives the data for the query
- 3.The system shows the query result.

**Stakeholder-Priorities:**

Stakeholder	Priority
Citizen	Important
SystemOwner	Very Important

### Required Concerns:

<b>Concern</b>
Compatibility
Availability
Security
Performance
Usability

### Name: Register Complaint

#### Description:

This use case makes possible for a citizen to register complaints. Complaints can be: Animal Complaint – DVA •Animals apprehension. •Control of vectors (rodents, scorpions, bats, etc.) •Diseases related to mosquitos (dengue, filarirose). •Animals maltreatment. Food Complaint - DVISA •Cases where it is suspicious the ingestion of infected food. Diverse Complaint - DVISA •Cases related to several reasons, which are not mentioned above (restaurants with hygiene problems, leaking sewerage, suspicious water transporting trucks, etc.). The three kinds of complaints have the following information in common: •Complaint data: description (mandatory) and observations (optional); •Complainer data: name, street, complement, district, city, state/province, zip code, telephone number and e-mail. All these information are optional; •Complaint state (mandatory), which might be: OPENED, SUSPENDED or CLOSED. In the event of a registration, its state must be OPENED; •The system must register the complaint registration date. In addition to these data, each complaint has its specific ones. They are: Animal Complaint – DVA •Kind of animal (mandatory), amount of animals (mandatory), disturb date (mandatory); •Disturb location data: street, complement, district, city, state/province, zip code and telephone number. All these information are optional. Food Complaint - DVISA •Victim's name (mandatory); •Victim's data: street, complement, district, city (or closest one), state/province, zip code and telephone number. All optional; •Amount of people who ate the food, amount of sick people, amount of people who were sent to a hospital and amount of deceased people. All mandatory; •Location where the patients were treated, suspicious meal. All optional. Diverse Complaint - DVISA •Age (mandatory), scholar level (optional), occupation (optional); •Street, complement, district, city, state/province, zip code and telephone number of the closest location to the complaint location. All optional.

**Classification:** Functional

#### Sources:

- documents (use cases)

#### Responsibilities:

- 1.The system obtain the kind of complaint;
- 2.The system registers the kind, date and time of the attendance;
- 3.The system shows the specific screen for each type of complaint;
- 4.The system obtain the data;
- 5.The system saves the complaint (with the OPENED state), return the code for the attendance, so that the citizen can take note and query for the situation of his/her complaint.

#### Stakeholder-Priorities:

Stakeholder	Priority
Citizen	Very Important
SystemOwner	Very Important

### Required Concerns:

<b>Concern</b>
Compatibility
Availability

<b>Concern</b>
Security
Performance
Usability

**Name:** Login

**Description:** allows an employee to have access to restricted operations on the Health-Watcher system.

**Classification:** Functional

**Sources:**

- documents (use cases)

**Responsibilities:**

- 1. The system receives the login and password from the employee
- 2. The system validates the password

**Stakeholder-Priorities:**

Stakeholder	Priority
Employee	Very Important
SystemDeveloper	Very Important
SystemOwner	Important

**Required Concerns:**

<b>Concern</b>
AccessControl
Error and Exception Handling
Availability
ResponseTime
Usability

**Required By:**

<b>Concern</b>
RegisterTables
UpdateComplaint
RegisterNewEmployee
UpdateEmployee
UpdateHealthUnit
ChangeLoggedEmployee

**Name:** RegisterTables

**Description:**

makes possible the registration of the system tables. For this use case are expected the insert, update, delete, search and printing. The tables are the following ones: •Health unit (unit code, unit description). •Specialty (code and description). •Health unit / Specialty (health unit and specialty). •Employee (login, name and password). •Type of disease (code, name, description, symptom and duration). •Symptom (code and description). •Type of disease / Symptom (type of disease and symptom).

**Classification:** Functional

**Sources:**

- documents (use cases)

**Responsibilities:**

- 1. The system receives the option to register (insert/update) in one of the tables.
- 2.The system receives the data.
- 3.The system saves the data.

**Stakeholder-Priorities:**

Stakeholder	Priority
Employee	Very Important
SystemOwner	Important

**Required Concerns:**

Concern
AccessControl
Login

**Name:** UpdateComplaint

**Description:** makes possible the update of the state of a complaint.

**Classification:** Functional

**Sources:**

- documents (use cases)

**Responsibilities:**

- 1. The system receives the option update complaint
- 2. The system requests the complaint number
- 3. The system shows the complaint code and its type
- 4. The system receives the conclusion
- 5. The system updates the complaint conclusion and the information about the employee who gave it

**Stakeholder-Priorities:**

Stakeholder	Priority
Employee	Very Important
SystemOwner	Very Important

**Required Concerns:**

Concern
AccessControl
Login

**Name:** RegisterNewEmployee

**Description:** makes possible the registration of new employees on the system.

**Classification:** Functional

**Sources:**

- documents (use cases)

**Responsibilities:**

- 1. The system receives the following information about the new employee: Login, Name, Password (with special field for confirmation)
- 2. The system receives the confirmation of the operation

**Stakeholder-Priorities:**

Stakeholder	Priority
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Stakeholder	Priority
Employee	Very Important
SystemOwner	Important

**Required Concerns:**

Concern
Error and Exception Handling
AccessControl
Login

**Name:** UpdateEmployee**Description:** makes possible the update of the employee's data on the system.**Classification:** Functional**Sources:**

- documents (use cases)

**Responsibilities:**

- 1. The system receives the option update employee
- 2. The system receives employee data to be updated: ? Name ? New pasword (with extra field for confirmation)  
? Current password
- 3. The system receive the confirmation to update
- 4. The system updates the employee's data

**Stakeholder-Priorities:**

Stakeholder	Priority
Employee	Very Important
SystemOwner	Important

**Required Concerns:**

Concern
Error and Exception Handling
AccessControl
Login

**Name:** UpdateHealthUnit**Description:** makes possible the update of health unit's data.**Classification:** Functional**Sources:**

- documents (use cases)

**Responsibilities:**

- 1. The system receive the option update health unit.
- 2. The system receives the health unit data to be updated.
- 3. The system shows the health unit's data.
- 4. The system receives data to update.
- 5. The system updates the health unit's data.

**Stakeholder-Priorities:**

Stakeholder	Priority
Employee	Very Important

Stakeholder	Priority
SystemOwner	Very Important

**Required Concerns:**

Concern
Error and Exception Handling
AccessControl
Login

**Name:** **ChangeLoggedEmployee**

**Description:** makes possible the logged employee to be changed.

**Classification:** Functional

**Sources:**

- documents (use cases)

**Responsibilities:**

- 1. The system obtain the option change logged employee.
- 2. The system shows the login screen, and from then on, this main flow will follow the one described on [Login.FR10].

**Stakeholder-Priorities:**

Stakeholder	Priority
Employee	Very Important
SystemOwner	Low

**Required Concerns:**

Concern
Error and Exception Handling
AccessControl
Login

**Name:** **Usability**

**Description:**

The system should have an easy to use GUI, because it might be used by any person who has access to the internet. The system should have an on-line HELP to be consulted by any person that uses it. Several functionalities of the system should provide context sensitive help for the user (e.g., explain what are the types of complaints).

**Classification:** Non-Functional

**Sources:**

- documents (use cases)

**Responsibilities:**

- The system should have an easy to use to complaint specification
- The system should have an easy to use to login
- The system should have an easy to use to query information

**Stakeholder-Priorities:**

Stakeholder	Priority
Citizen	Medium
Employee	Medium
SystemDeveloper	Medium



Stakeholder	Priority
SystemOwner	Medium

**Concerns-Contributions:**

Concern	Contribution
AccessControl	-

**Required By:**

Concern
QueryInformation
Register Complaint
Login

**Name:** Availability**Description:**

The system should be available 24 hours a day, 7 days a week. Because of the nature of not being a critical system, the system might stay off until any fault is fixed.

**Classification:** Non-Functional**Sources:**

- documents (use cases)

**Responsibilities:**

- the system need to be available to complaint specification 24 h a day and 7 days a week.
- the system need to be available to login 24 h a day and 7 days a week.
- the system need to be available to query information 24 h a day and 7 days a week.

**Stakeholder-Priorities:**

Stakeholder	Priority
Citizen	Medium
Employee	Medium
SystemDeveloper	Medium
SystemOwner	Medium

**Concerns-Contributions:**

Concern	Contribution
Performance	+

**Required By:**

Concern
QueryInformation
Register Complaint
Login

**Name:** Standards**Description:**

The system must be developed according to the standards established by X , responsible for the norms and

standardization of systems for the City Hall.

**Classification:** Non-Functional

**Sources:**

- documents (use cases)

**Stakeholder-Priorities:**

Stakeholder	Priority
SystemDeveloper	Medium
SystemOwner	Important

**Name:** HardwareandSoftware

**Description:**

Here are listed the hardware and software to be used for the system to work. SOFTWARE • One license for the Microsoft Windows for the workstation HARDWARE • One computer with: Pentium III processor, 256 MB of RAM memory, net card 3Com 10/100. This equipment shall be used by the attendant as a workstation.

**Classification:** Non-Functional

**Stakeholder-Priorities:**

Stakeholder	Priority
SystemDeveloper	Important
SystemOwner	Very Important

**Name:** Distribution

**Description:**

The system should be capable of running on separate machines. For example, the system core could be running on one machine and the servlets on another.

**Classification:** Non-Functional

**Sources:**

- documents (use cases)

**Stakeholder-Priorities:**

Stakeholder	Priority
SystemDeveloper	Medium
SystemOwner	Important

**Name:** UserInterface

**Description:** The user interface must be implemented using servlets.

**Classification:** Non-Functional

**Sources:**

- documents (use cases)

**Stakeholder-Priorities:**

Stakeholder	Priority
SystemDeveloper	Very Important

**Name:** Operational Environment

**Description:** Software, Hardware and User-Interface

**Classification:** Non-Functional

**Sources:**

- document (use cases)

**Stakeholder-Priorities:**

Stakeholder	Priority
SystemDeveloper	Very Important
SystemOwner	Very Important

**Decomposition:****Type - and**

Concern
HardwareAndSoftware
UserInterface

**Name:** Persistence**Description:**

The persistence mechanism should store data about the complaints, employees, health units, deceases, specialities and citizens that complaint. The system must be capable of extension on the storage matter, making possible to use, arrays or different databases (MySQL, Oracle, etc.)

**Classification:** Non-Functional**Sources:**

- documents (use cases)

**Stakeholder-Priorities:**

Stakeholder	Priority
SystemDeveloper	Very Important
SystemOwner	Medium

**Name:** Concurrency**Description:** The system must be capable to handle 20 simultaneous users.**Classification:** Non-Functional**Sources:**

- NFR Framework catalogue

**Responsibilities:**

- the system must be capable to handle 20 simultaneous users.

**Stakeholder-Priorities:**

Stakeholder	Priority
Citizen	Very Important
SystemDeveloper	Very Important
SystemOwner	Important

**Concerns-Contributions:**

Concern	Contribution
Availability	+
ResponseTime	-

**Required By:**

Concern
QueryInformation

<b>Concern</b>
Register Complaint

**Name:** Performance

**Description:**

The system must be capable to handle 20 simultaneous users. The response time must not exceed 5 seconds.

**Classification:** Non-Functional

**Sources:**

- document (use cases)

**Stakeholder-Priorities:**

Stakeholder	Priority
SystemDeveloper	Very Important
SystemOwner	Very Important

**Decomposition:**

**Type - and**

<b>Concern</b>
ResponseTime
Concurrency

**Name:** Security

**Description:** Security Protocol (encryption) and Access Control

**Classification:** Non-Functional

**Sources:**

- document (use cases)

**Stakeholder-Priorities:**

Stakeholder	Priority
Citizen	Medium
SystemDeveloper	Medium
SystemOwner	Very Important

**Concerns-Contributions:**

Concern	Contribution
ResponseTime	-

**Decomposition:**

**Type - and**

<b>Concern</b>
Encryption
AccessControl

**Name:** Error and Exception Handling

**Description:**

Several functionalities might raise errors while the user interacts with the system and require different handling techniques. General errors that apply to most cases are due to missing information (e.g. users do not fill in the required fields in an entry form) and the system signals the error and show which fields need to be provided. Other

error might be related to entering invalid data and the error handling mechanism should try either to avoid that or to raise the error and suggest the correction.

**Classification:** Functional

**Sources:**

- documents (use cases)

**Responsibilities:**

- display an error message "employee is invalid".
- display an error message "name or the current password is missing";
- display an error message "the password or the employee is not valid"
- display message "employee information was not provided";
- display message "information was not provided";

**Stakeholder-Priorities:**

Stakeholder	Priority
Employee	Very Important
SystemDeveloper	Very Important
SystemOwner	Medium

**Required By:**

Concern
Login
RegisterNewEmployee
UpdateEmployee
UpdateHealthUnit
ChangeLoggedEmployee

## Matchpoints

**Name:** MP\_QueryInformation

**Owner:** QueryInformation

**Rule:**

(Compatibility||AccessControl)>>(Availability||Concurrency||Usability||ResponseTime||QueryInformation)>>Security

**Rule Visualization:**



**Associated Concerns:**

Concern
Compatibility
AccessControl
Availability
ResponseTime
Security
Concurrency
Usability

**Name:** MP\_UpdateComplaint

**Owner:** UpdateComplaint

**Rule:** Login>>Updatecomplaint>>AccessControl

**Rule Visualization:**

**Associated Concerns:**

<b>Concern</b>
AccessControl
Login

**Name:** MP\_UpdateEmployee

**Owner:** UpdateEmployee

**Rule:** (Login>>UpdateEmployee>>AccessControl)[>Error and Exception Handling

**Rule Visualization:**

**Associated Concerns:**

<b>Concern</b>
Error and Exception Handling
AccessControl
Login

**Name:** MP\_RegisterComplaint

**Owner:** Register Complaint

**Rule:**

(Compatibility||AccessControl)>>(Availability||Concurrency||Usability||ResponseTime||Register Complaint)>>Security

**Rule Visualization:**

**Associated Concerns:**

<b>Concern</b>
Compatibility
AccessControl
Availability
ResponseTime
Security
Concurrency
Usability

**Name:** MP\_RegisterTables

**Owner:** RegisterTables

**Rule:** Login>>RegisterTables>>AccessControl

**Rule Visualization:**

**Associated Concerns:**

<b>Concern</b>
AccessControl
Login

**Name:** MP\_RegisterNewEmployee

**Owner:** RegisterNewEmployee

**Rule:** (Login>>RegisterNewEmployee>>AccessControl)[>Error and Exception Handling

**Rule Visualization:****Associated Concerns:**

Concern
Error and Exception Handling
AccessControl
Login

**Name:** MP\_ChangeLoggedEmployee**Owner:** ChangeLoggedEmployee**Rule:** (Login>>ChangeLoggedEmployee>>AccessControl)[>Error and Exception Handling**Rule Visualization:****Associated Concerns:**

Concern
Error and Exception Handling
AccessControl
Login

**Name:** MP\_Login**Owner:** Login**Rule:** ((Availability||Usability||ResponseTime||Login)>>AccessControl)[>Error and Exception Handling**Rule Visualization:****Associated Concerns:**

Concern
AccessControl
Error and Exception Handling
Availability
ResponseTime
Usability

**Name:** MP\_UpdateHealthUnit**Owner:** UpdateHealthUnit**Rule:** (Login>>UpdateHealthUnit>>AccessControl)[>Error and Exception Handling**Rule Visualization:****Associated Concerns:**

Concern
Error and Exception Handling
AccessControl
Login

 **History**

None.

## Operators

Name	Symbol	Commutative
Enabling	>>	false
Disabling	[>	false
Pure Interleaving		true
Full Synchronization		true
Choice	[]	true

## Visualizations:

Dependencies:

Contributions:

Decompositions: