Technical Report - Project specifications

Watchful Care

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| Course: | IES - Introdução à Engenharia de Software |
| Date: | Aveiro, <date of submission> |
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| Project abstract: | <concise presentation of the **application concept** and the **key achievements**> |

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# 1 Introduction

<Note: you may prepare the report in English or Portuguese, but don’t mix languages. Adapt the template if using Portuguese.>

<background info with respect to the objectives of this project assignment in the scope of the IES course,...>

# 2 Product concept

## Vision statement

<functional (black-box) description of the application: what will you system be used for? Which is the high-level/business problem being solved by your system?>

<if needed, clarify what was planned/expected to be included but was changed to a different approach/concept >

<optional: how is your system different or similar to other well-kniwn products?>

<optional: you may include a UML Use Case diagram to support the explanation>

<optional: additional details on the process for the requirements gathering and selection (how did we developed the concept? Who helped us with the requirements? etc)>

## Personas

<Uma Persona é uma personagem utilizada para contar histórias representativas da futura utilização do sistema. Uma Persona é um Actor instanciado, à qual se dá um conjunto de caraterísticas para a humanizar e definir o contexto em que usará o sistema e as suas motivações.

“Personas are fictional people. They have names, likenesses, clothes, occupations, families, friends, pets, possessions, and so forth. They have age, gender, ethnicity, educational achievement, and socioeconomic status. They have life stories, goals and tasks. Scenarios can be constructed around personas, but the personas come first. They are not ‘agents’ or ‘actors’ in a script, they are people. Photographs of the personas and their workplaces are created and displayed. […] It is to obtain a more powerful level of identification and engagement that enable design, development, and testing to move forward more effectively”. Adapted from Grudin, J. and Pruitt, J., 2002, June. Personas, participatory design and product development: An infrastructure for engagement. In Proc. PDC (Vol. 2).

Exemplo: ver [secção 4.1, neste artigo](http://www.mdpi.com/1424-8220/18/4/1285) (open access)] >

## Main scenarios

<You don’t need to be exhaustive. Pick the main scenarios, related to the core value of the system.>

<The scenarios tell the story of the Personas in their lives, doing their daily/professional activities that are relevant to find the points of contact with the system under specification.

Scenarios are somewhat similiar to use cases (they have a goal and tell a story), but, unlike use cases, they capture a larger process, with activities that may not use the software. Scenarios don’t required a “template”, like the usual use cases description.>

Exemplo: ver [secção 4.2 neste artigo](http://www.mdpi.com/1424-8220/18/4/1285) (open access)] >

# 3 Architecture notebook

## Key requirements and constrains

**<Identify issues that will drive the choices for the architecture such as: Will the system be driven by complex deployment concerns, adapting to legacy systems, or performance issues? Does it need to be robust for long-term maintenance?**

O sistema terá de aceder à base de dados existente no lar (document oriented/MongoDB), para obter a informação dos pacientes, logo terá de se adaptar ao formato de dados usado na base de dados do lar.

**Identify critical issues that must be addressed by the architecture, such as: Are there hardware dependencies that should be isolated from the rest of the system? Does the system need to function efficiently under unusual conditions? Are there integrations with external systems? Is the system to be offered in different user-interfacing platforms (web, mobile devices, big screens,…)?**

O sistema deve estar disponível nos computadores do lar e nos dispositivos móveis dos funcionários, este último será somente usado para receber notificações de emergências. Logo terá uma vertente como Web App e como Mobile App.

O sistema irá estar conectado a uma base de dados, onde estarão guardados as informações sobre os “pacientes” do lar. Também irá estar conectado a pulseiras que irão obter os dados vitais dos “pacientes” e a sua localização.

O acesso à informação dos pacientes é restrita somente aos funcionários do estabelecimento, o que requer que qualquer acesso ao sistema deva ser sujeito a autenticação através de identificação do utilizador e de password.

**E.g.: (the references cited in [XX ] would be hypothetical links to previous specification documents/deliverables )**

**There are some key requirements and system constraints that have a significant bearing on the architecture. They are:**

**è The existing legacy Course Catalog System at Wylie College must be accessed to retrieve all course information for the current semester. The C-Registration System must support the data formats and DBMS of the legacy Course Catalog System [E2].**

**è The existing legacy Billing System at Wylie College must be interfaced with to support billing of students. This interface is defined in the Course Billing Interface Specification [E1].**

**è All student, professor, and Registrar functionality must be available from both local campus PCs and remote PCs with internet dial up connections.**

**è The C-Registration System must ensure complete protection of data from unauthorized access. All remote accesses are subject to user identification and password control.**

**è The C-Registration System will be implemented as a client-server system. The client portion resides on PCs and the server portion must operate on the Wylie College UNIX Server. [E2]**

**è All performance and loading requirements, as stipulated in the Vision Document [E2] and the Supplementary Specification [15], must be taken into consideration as the architecture is being developed.>**

## Architetural view

**→ Discuss architecture planned for the software solution.**

A arquitetura planeada para este sistema consiste, no lado do cliente numa web-app, por onde o utilizador pode observar os dados dos pacientes e ser notificado de situações de emergência. Também terá uma mobile app, que estará conectada à API de onde irá receber notificações de emergência.

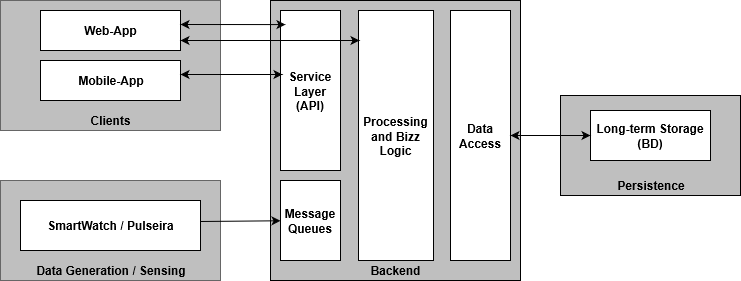
Cada paciente irá possuir uma pulseira/smartwatch, que estará conectada ao backend sistema e para onde irá enviar os dados vitais e a localização do paciente.

É possível pedir por informação sob a forma de mesnagens JSON para obter informação sobre os pacientes.

O backend estará conectado a uma base de dados de onde irá retirar informação sobre os pacientes e onde irá guardar acontecimentos de emergência.

No backend serão processadas as mensagens que vêm das pulseiras, para detetar situações de emergência e que irão despoletar um aviso que será mostrado no lado do cliente.

**→ include a diagram**



## Module interactions

→ explain how the identified modules will interact. Use sequence diagrams to clarify the interactions along time, when needed

→ dicuss more advanced app design issues: integration with Internet-based external services, data synchronization strategy, distributed workflows, push notifications mechanism, distribution of updates to distributed devices, etc.>

# 4 Information perspetive

<which concepts will be managed in this domain? How are they related?>

<use a logical model (UML classes) to explain the concepts of the domain and their attributes>

# 5 References and resources

<document the key components (e.g.: libraries, web services) or key references (e.g.: blog post) used that were really helpful and certainly would help other students pursuing a similar work>