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State of the Art

This chapter provides the reader with the relevant technical-scientific background as well as existing related products and research, also known as the state of the art, in the field(s) of the project.

Introduction

Provide here an overview of the contents (structure) of this chapter.

Domain Analysis

Domain overview

Current practices

Challenges and opportunities

These are examples of citations to books **[1]** and **[2]**, a chapter on a smart companion **[3]**, articles on IoT **[4]**, blimps **[5]**, cloud computing **[6]**, gas emissions **[7]**, pedestrian crossing behaviour **[8]**, smart bicycles **[9]** and diaper moisture **[10]**, and to Web resources **[11]**, **[12]** and **[13]**.

Existing Solutions

Commercial solutions

Open-source solutions

Research prototypes

Relevant Technologies and Approaches

Data sources and acquisition

Data analysis and modelling techniques

Data visualisation techniques

UI/UX approaches

Development technologies

User Experiences and Interaction Design

Existing user interfaces

User-centred design principles

Good practices and design patterns

Technology Analysis

Relevant architectures

Frameworks

Tools and platforms

Gap Analysis

Summary of limitations of existing solutions

Identified opportunity

Positioning of the proposed solution

Summary

Provide here the conclusions of this chapter and make the bridge to the next chapter.

Based on this study of the state of the art, the team decided to adopt the following <specify here the architecture, technique(s), material(s), component(s)> because <specify here the technical/scientific reasons>.

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[3] Alexandre Soares dos Reis, Elien Gielen, Ko Wopereis, Marcel Pasternak, Vaido Sooäär, Tobias Schneider, Abel J. Duarte, Benedita Malheiro, Jorge Justo, Cristina Ribeiro, Manuel F. Silva, Paulo Ferreira, Pedro Guedes, 2020. Smart Companion Pillow – An EPS@ISEP 2019 Project. *Robot 2019: Fourth Iberian Robotics Conference*, Cham: Springer International Publishing, pp.465–476, ISBN 978-3-030-36150-1.
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characteristics using Neem oil blended bio-diesel in diesel engine. *Materials Today: Proceedings*, 21, pp.870 - 875, ISSN 2214-7853.
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