CentraleSupélec

IT4BI

Decision Support and Business Intelligence

Information Technologies for Business Intelligence

Master Thesis

Oky PURWANTININGSIH

Visual Analytics on Human Body Movement Data Applied on Healthcare

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prepared at Laboratoire d'Informatique, de Robotique et de Microélectronique de Montpellier

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Abstract: The main objective of this Master thesis is to ...
To achieve this goal, we use ...

All this research work has been implemented in ...
Keywords: Keyword1, 2, ...

Acknowledgments

Last thing to do :-)

Contents

List of Figures

List of Tables

Chapter 1

Introduction

1.1 Motivation

Define what is hemiplegic, What rehabilitation they need.

1.2 Thesis Outline

Chapter 2

Domain Problem Characterization

2.1 Hammer and Planks

explain in details about hammer and planks. the purpose of the game development, the story behind the game, how to play the game, rule of the game.

2.2 Current Game Result Visualization

the existing visualization.

2.3 Requirement Analysis

2.3.1 Target User Questions

list question asked by user here

2.3.2 Visualization Requirements

define tasks for the application

Chapter 3

Related Works

3.1 Serious Game in Healthcare

explain how serious game is used in healthcare. discuss some example.

3.2 Visualization of serious game result

discuss how the result of serious game are usually presented (couldn't find any specific paper discussing about this, but there are some paper about serious game which has some visualization to analyze the result of the game) Discuss about state of the art game visualization

3.3 Visualization of Time Series Data

discuss visualization paradigm usually use to visualize time series data

3.4 Visualization of Movement Data

discuss paper about movement data visualization, ex: MotionExplorer, Andrienko's paper and book

3.5 Stream Graph

discuss examples of stream graph implementation, how it is used and for which kind of data

3.6 Data Visualization Tool

3.6.1 D3.js

general explanation of d3js and some example of how it is used to visualize time series and movement data.

3.6.2 Three.js

general explanation of three.js and some example.

Chapter 4

Data Abstraction

The data we explore... Our targeted data type is .. collected over... Typically, they containe... Discuss about the input (log file) of the application

4.1 Game Events Structure

define high level structure we use to deal with enemies, obstacles, obstacles. For each event, we assign a value () => to characterize the event

4.2 Clustering Algorithm

Chapter 5

Visual Mappings And Interactive Functionality

Chapter 6

Case Studies

write a kind of stories. Looking at this visualization, I see this and that. This correspond to this task and this task.

6.1 Normal Player

6.2 Patient

Chapter 7

Conclusion

Appendix A

Appendix Example

A.1 Appendix Example section

And I cite myself to show by bibtex style file (two authors) [1].

This for other bibtex stye file : only one author [3] and many authors [2].

Bibliography

[1] Olivier Commowick and Grégoire Malandain. Efficient selection of the most similar image in a database for critical structures segmentation. In *Proceedings of the 10th Int. Conf. on Medical Image Computing and Computer-Assisted Intervention - MICCAI 2007, Part II*, volume 4792 of *LNCS*, pages 203–210. Springer Verlag, 2007. (Cited on page 15.)

[2] A. Guimond, J. Meunier, and J.-P. Thirion. Average brain models: A convergence study. *Computer Vision and Image Understanding*, 77(2):192–210, 2000. (Cited on page 15.)

[3] David Oakes. Direct calculation of the information matrix via the EM algorithm. *J. R. Statistical Society*, 61(2):479–482, 1999. (Cited on page 15.)