The engineering method

Contenido

[Context of the problem 1](#_Toc85204560)

[Identifying the problem 2](#_Toc85204561)

[Identification of needs and symptoms 2](#_Toc85204562)

[Definition of the problem 2](#_Toc85204563)

[Data collection 2](#_Toc85204564)

[Search for creative solutions 2](#_Toc85204565)

[Transition of the formulation of ideas to preliminary design ideas 2](#_Toc85204566)

[Alternative 1: 2](#_Toc85204567)

[Alternative 2 2](#_Toc85204568)

[Evaluation and selection of the best solution 2](#_Toc85204569)

[Criteria 2](#_Toc85204570)

[Evaluation 3](#_Toc85204571)

[Selection 3](#_Toc85204572)

[Preparation of reports and specifications 3](#_Toc85204573)

[Specification of the problem 3](#_Toc85204574)

[Requirements 3](#_Toc85204575)

[Nonfunctional requirements 3](#_Toc85204576)

[Considerations 3](#_Toc85204577)

[Implementation of the design 3](#_Toc85204578)

[Bibliografía 4](#_Toc85204579)

# Context of the problem

Basketball is one of the most important and popular sports around the globe, given that it’s wildly popular and it creates great spectacles. Having said this, recently the International Basketball federation (FIBA) has been overwhelmed with the amount of data that can be considered useful, so they have decided to create an application that can manage the most important data for all professional players in the world so they can be analyzed.

# Identifying the problem

## Identification of needs and symptoms

* The program must be able to handle *at least 200000* players
* The program must manage the following data for each player
  + Name
  + Age
  + Team
  + And 5 other statistics
* The program must be able to search for specific statistics
  + For 4 statistics, the complexity of the search must be O(log n)
  + For the rest of the statistics, linear search is accepted
* Binary search Trees must be used
* The program must have a graphic interface
* The information must be saved in secondary memory

## Definition of the problem

# Data collection

# Search for creative solutions

# Transition of the formulation of ideas to preliminary design ideas

## Alternative 1:

## Alternative 2

# Evaluation and selection of the best solution

## Criteria

* Criteria A: The precision of the solution
  + [2] Exact
  + [1] Approximated
* Criteria B: Resemblance to the example given
  + [3] It resembles the example
  + [2] it deviates from the example
  + [1] it does not resemble the example
* Criteria C: Simulation of the store
  + [3] complete
  + [2] Misses some steps
  + [1] does not simulate the store
* Criteria D: Ease of use
  + [2] easy
  + [1] requires some explaining

## Evaluation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Criteria A | Criteria B | Criteria C | Criteria D | Total |
| Alternative 1: User enters all the information | Exact  2 | Resembles the example  3 | Complete  3 | Requires some explaining  1 | 9 |
| Alternative 2: User acts only as the clients | Exact  2 | Deviates from the example  2 | Misses some step  2 | Ease of use  2 | 8 |

## 

## Selection

# Preparation of reports and specifications

## Specification of the problem

## Requirements

## Nonfunctional requirements

## Considerations

Things that should be considered

# Implementation of the design

List of tasks to implement:

# Bibliografía

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