

**ITESM**

**CAMPUS QUERÉTARO**

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**INSTITUTO TECNOLÓGICO Y DE ESTUDIOS SUPERIORES DE  
MONTERREY**

**DEPARTAMENT OF COMPUTER SCIENCE**

**Software Architecture and Design  
Course Project – HLD**

**SAN HUMBERTO**

**High Level Design**

<b>Area:</b>	Web Systems	<b>Document Number:</b>	1
<b>Date:</b>	10/Sept/2016	<b>Document Version:</b>	1.0
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<b>Short Description:</b>	Monitoring system for calves.		

### Revision History

Version	Date	Author	Section	Description
1.0	13/Sept/2016	Francisco Núñez Gómez	All	Document definition

## High Level Design

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### Sign-off

Product Marketing	Date
Developer	Date
Director IS Systems Development	Date
Servers and Networks	Date
Project Manager	Date
Sr. Marketing Manager	Date
Telecom	Date
Servers and Networks	Date

### Distribution List

1. Francisco Núñez

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### **1 Purpose of this document**

This document presents the initial considerations on high level design for the Monitoring System of the calves in the San Humberto ranch as well as other related technical aspects

### **2 Intended audience**

This document is intended for the professor that will supervise this project.

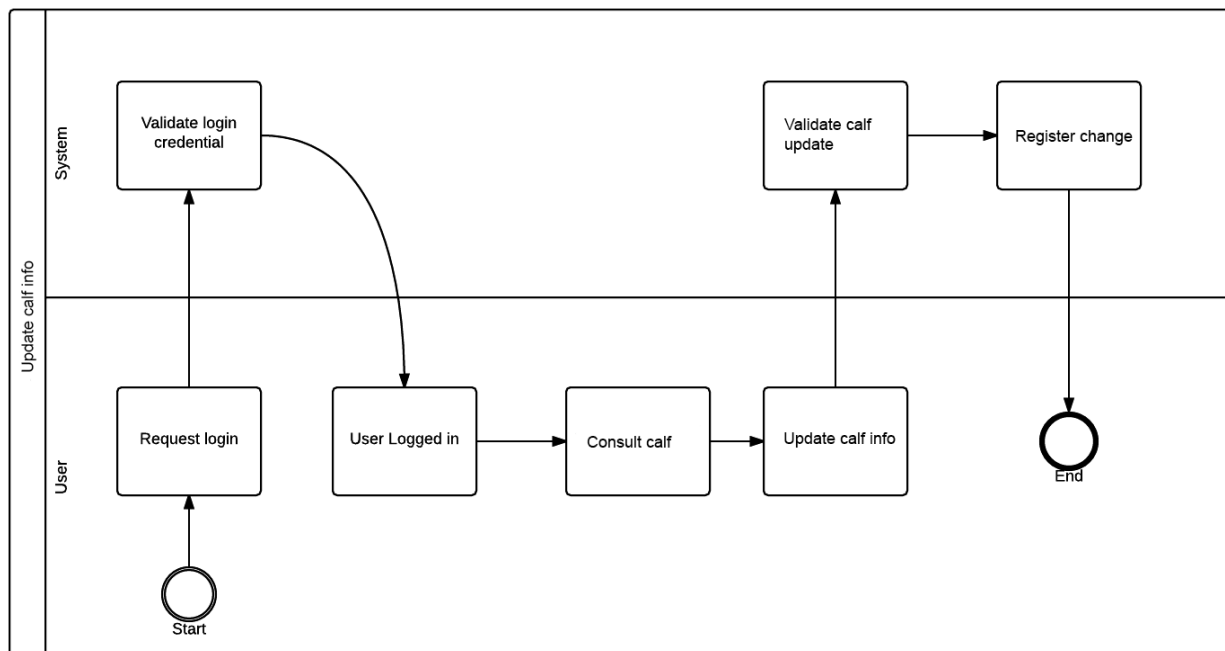
### 3 Functional Description

#### 3.1 Functional Overview

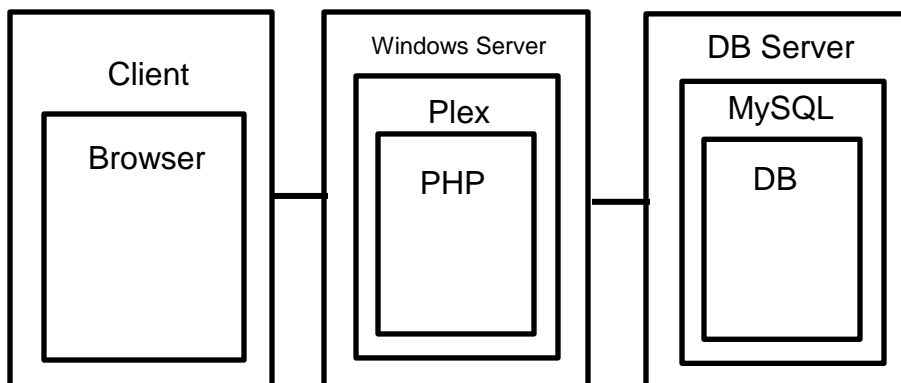
This system provides the employees and the manager of the ranch an easy way to keep track of all the data related with the calves as well as it serves as a tool to visualize and compare it through reports. It also helps to keep the record in a more organized way as it is stored in the data base instead of archiving papers.

#### 3.2 Logical Flow and Business Rules

Here is the main module of the system where the employee can consult any of the registered calves and update the information based on its daily check. The other diagrams would be simply the CRUDS of employees and calves.



#### 3.3 Architectural Overview





I'll be using the MVC architecture as it is a simple system and need no more complexity for an optimal performance. For the backend I will be using PHP without any framework and for the frontend I will be using Typescript which is an alteration of JavaScript in order to make it typed and object oriented.

### **3.4 Application component additions or modifications**

Since it is a new project, no modifications will be made, every new element will be added to it.

#### **3.4.1 Pages or Forms**

Dynamic:

- Home (view)
- Calf info (form)
- Reports (view)
- Login (form)
- Calf catalog (view)

#### **3.4.2 Database Modifications**

N/A

#### **3.4.3 Interaction with Other Modules or APIs**

N/A

### **3.5 Error Conditions**

#### **3.5.1 Application Exceptions**

- Invalid login credentials
- Not enough permissions
- Wrong data types on forms

#### **3.5.2 System Exceptions**

- Connection error
- Error while writing at database
- Loading error

### 3.6 System Dependencies/Interaction

Include a list of what systems or other applications this application will interact with or affect. Be sure to include details on which of these systems this application depends on, along with what will happen in the event of a failure in the other system. Include any steps required to get this application back to a normal state once the other system is back up.

### 3.7 Other Technical Issues

As the system will be user on tablets, the hardware may be at risk by the ranch environment like the dirt or even the cows and calves.

### 3.8 Hardware/Software Environment Overview

Hardware: desktop and tablets on the field, no specific hardware requirements other than internet connection.

Software: Windows server running with PHP

## 4 Configuration/Installation Steps

This specification will be fulfilled in the final version of this document.

## 5 Project Timeline

This section gives a high-level listing of the major components of the project timeline, with estimations of duration. A reference should be included to the Project Plan, where a more detailed breakdown of the steps can be found. The table below contains suggested categories for use, but these should closely follow the major categories of the Project Plan itself.

Category	Detailed Description	Estimated Time
Research	Define what the project is going to be about, and what purpose it serves.	2 weeks
Documentation	Production of the required documentation for the system such as FRD, HLD, CMR.	3 weeks
Code	Develop the system driven by a TDD approach.	5 weeks
Unit Testing and debugging	Run the tests one last time and debug before deploying	1 week
Deploy	Deploy the final system in a public URL or IP	1 week
	<b>TOTAL estimate</b>	12 weeks