

CHEETRACK SOFTWARE DESIGN DOCUMENT

Introduction

Problem Statement:

The problem is about animal traffic tracking system. The system aims to monitor and find the wildlife animals in the captive centers that are trafficked. The animals in the captive centers are recognized and tracked. At the end, when the authorized persons for example the officials of the game centers, will have access to the website to view the relevant information such as which cheetah is missing, brief history about a given cheetah, current statistics of a given game center.

Purpose

Purpose of this software design document (SSD) is to give reader information about design specifications of our software.

Our software, cheetrack, is used by a number of users but particularly Cheetah Conservationists.

It provides the users the facility to easily see information about cheetahs available in the captive centers.

Scope

This document contains design specifications about architecture of cheetrack software. It explains the system by dividing it into components. While doing this, for every component of cheetrack, when required, information such as identification, type, purpose, function, subordinates, dependencies, interfaces, resources, processing and data attributes of that component will be given. However, a prototype of the system is out of this document's scope. Readers should notice that one can easily construct a prototype by following the specifications in the document.

Overview

Definitions, acronyms and abbreviations

References

System components

1. Hardware components
2. Global Positioning Satellites chips
3. Computer device

Goals and objectives

- ✓ To develop a cheetah tracking system
- ✓ To use Software components of GPS will be implemented by using efficient algorithms.

Benefits

The system provides information instantly and is made available to the authorized people

The system will help to decrease on paper work since most work is digitalized.

The system provides additional information that cannot be obtained on the sight.

Increases accuracy of the information on the view

Future Plans for the Web Application


We plan to have a dream app that facilitates the following

- Have the ability to track the sellers online,
- Show trade along most known routes (based on information fed to the system)
- Use face recognition, which is being done for chimps and has proven quite helpful to assist with identification and quantification of the trade.

This of course will be linked to DNA once we have a DNA database with more data. The trade routes will be mapped using populated areas and roads, topography, etc.

Research shows Cheetahs are rarely taken from national parks or protected areas, since they actually don't do very well there. Cheetahs roam large areas (1.500 km²) and are usually found outside parks and reserves, so except for a few cases, game parks are not the main source of illegal cheetahs. We plan to enhance the ability of the app to tackle more complex tracking.

SCREENSHOTS



CHEETRACK

CHEETAH TRACKING AND MONITORING APPLICATION

Username

Enter username

Password

Enter password

Login

TEST:
Username: cheetrack
Password: cheetrack

CHEETRACK

Cheetah Tracking Application

Sign out

 DASHBOARD

 IMPORT CHEETAH DATA

 CHEETAH LOCATION INFO

 BACK UP CHEETAH DATA

 DETECT BY FEATURES

 UPDATE CHEETAH INFO

 REPORT TRAFFICKED

 Total Cheetahs
112

Number of cheetahs in Legal Captivity

 Game Parks
8

Partner Game Parks

 Recovered
23

Saved in the past month

 Trafficked
89

Number of Trafficked cheetahs

Cheetahs Captivity Tracking Status

Cheetahs in Captivity vs Those in custody



Trafficked Cheetahs

Recovered

In Custody

Cheetah tracking stats for the past 30 days

12 months data statistics on Cheetah Tracking

Cheetahs Trafficked against those Recovered



Trafficked


Recovered


✓ Cheetah tracking data for the past 12 months


CHEETRACK


Cheetah Tracking Web Application


Sign out


 DASHBOARD


 IMPORT CHEETAH DATA

 CHEETAH LOCATION INFO

 BACK UP CHEETAH DATA

 DETECT BY FEATURES

 UPDATE CHEETAH INFO

 REPORT TRAFFICKED

Import Data on Cheetahs

This page allows you to import cheeta data from videos, images, PDFs, Excel Files

You can import images and data provided by partners including qualified sanctuaries and zoos. Information may be in many different formats including videos and images of varying quality, with or without specific individuals being identified; PDFs or other receipts or certificates of purchase; Excel files with many individuals; and other types of documentation.

Select File Type

Choose File

No file chosen


Browse File


Upload File


CHEETRACK


Cheetah Tracking Web Application


Sign out


 DASHBOARD


 IMPORT CHEETAH DATA

 CHEETAH LOCATION INFO

 BACK UP CHEETAH DATA

 DETECT BY FEATURES

 UPDATE CHEETAH INFO

 REPORT TRAFFICKED

Back up Data on Cheetahs

Back cheetah data here

To back up the new data, select the Cheetas whose data you would like to back up and click the Back Up Button.

This data is save in the CheetahBackUpData folder on the web server

Tracking ID

Enter Cheetah Tracking ID

Cheeto Name

Enter Cheeto Name

Cheeto Conservation Status

Enter Conservation Status

Species

Species

Origin

Enter cheetah origin or history

Process Data Back Up

Previous Cheeta Data back ups

Tracking ID	Cheeto Name	Conservation Status	Species	Origin/history	Action
CHTRCK001	Shafiq	Endangered	Felis jubatus	Tsavo	Re do back up
CHTRCK002	Habib	Least Concern	Felis jubatus	Mabiro Forest	Re do back up
CHTRCK003	Shamira	Endangered	Felis jubatus	D.R.C	Re do back up
CHTRCK004	Philip	Least Concern	Felis jubatus	Murchison Falls	Re do back up
CHTRCK005	Princess	Endangered	Felis jubatus	Tsavo Game Park	Re do back up

CHEETRACK

DASHBOARD

IMPORT CHEETAH DATA

CHEETAH LOCATION INFO

BACK UP CHEETAH DATA

DETECT BY FEATURES

UPDATE CHEETAH INFO

REPORT TRACKED

Cheetah Tracking Web Application

Update individual Cheetah Profile using Machine Learning



Automated Machine Learning Technology / Artificial Intelligence

AUTOMATED GROUPING OF NEW INFORMATION Ideally, the program would be capable of using the animals' unique identifiers to automatically link multiple data entries of the same individual, along with the metadata and context data associated with it, to create a rich "profile" for each individual.

Select File Type

Upload file

Tracking ID	Cheeta Name	Conservation Status	Species	Origin/history	Action
CHTRCK001	Shafiq	Endangered	Felis jubatus	Tsavo	Update Cheeto Info
CHTRCK002	Habib	Least Concern	Felis jubatus	Mabira Forest	Update Cheeto Info
CHTRCK003	Shamira	Endangered	Felis jubatus	D.R.C	Update Cheeto Info
CHTRCK004	Philip	Least Concern	Felis jubatus	Murchison Falls	Update Cheeto Info
CHTRCK005	Princess	Endangered	Felis jubatus	Tsavo Game Park	Update Cheeto Info



CHEETRACK

Cheetah Tracking Web Application

Sign out

Help Identify and Track Cheetahs by Reporting to us

Have you come across any Cheetah? Kindly report to us here with the details + (a picture [optional])

Report Sight of Cheetah

To help us, let's get a few details about you as you submit your reporting

Your Firstname (optional)

Your Last name (optional)

Email address (optional)

Site Location

Description

Image / Photo

Number of Cheetahs seen

Description of incident

Report Cheetah Sight