

## Evaluation Report 1

### **Stakeholders: Goals and Task Analysis**

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Team Dead Birds

Scientist: David Flaspohr

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### **Team Details:**

S. No.	Name	Role	Department
1.	Eric Vasey	Team Leader	Computer Science
2.	Rebecca Driver	Team Leader	Humanities
3.	Caleb Chapman	Team Member	Computer Science
4.	Jonathan Faron	Team Member	Computer Science
5.	Ryan Fenton-Garcia	Team Member	Computer Science
6.	Bradley Ross	Team Member	Computer Science
7.	Kuber Dutt Sharma	Consultant	Computer Science
8.	Haitang Duan	Consultant	Computer Science

### **Scope of Development:**

The team aims at developing an app under the guidance of Dr. Robert Pastel and David Flaspohr. Through this app David aims at collecting data about bird deaths occurring due to road kills across various parts of America. Though most part of the app will focus on bird related data collection, the later phases might broaden the scope of the app to collect data about all animal deaths occurring due to road kills.

The app will require people commuting on highways to take pictures of any bird deaths they come across while driving. The commuters will be required to record the following data along with the photos:

- Location of the incidents
- Time of day
- Elevation of the road
- Speed limit on the road

Through this app the scientist aims at collecting data through crowd science. Using the data collected the scientist would be able to understand the interaction of human activities with the natural habitat of the animals of any region.

### **Scientist Information:**

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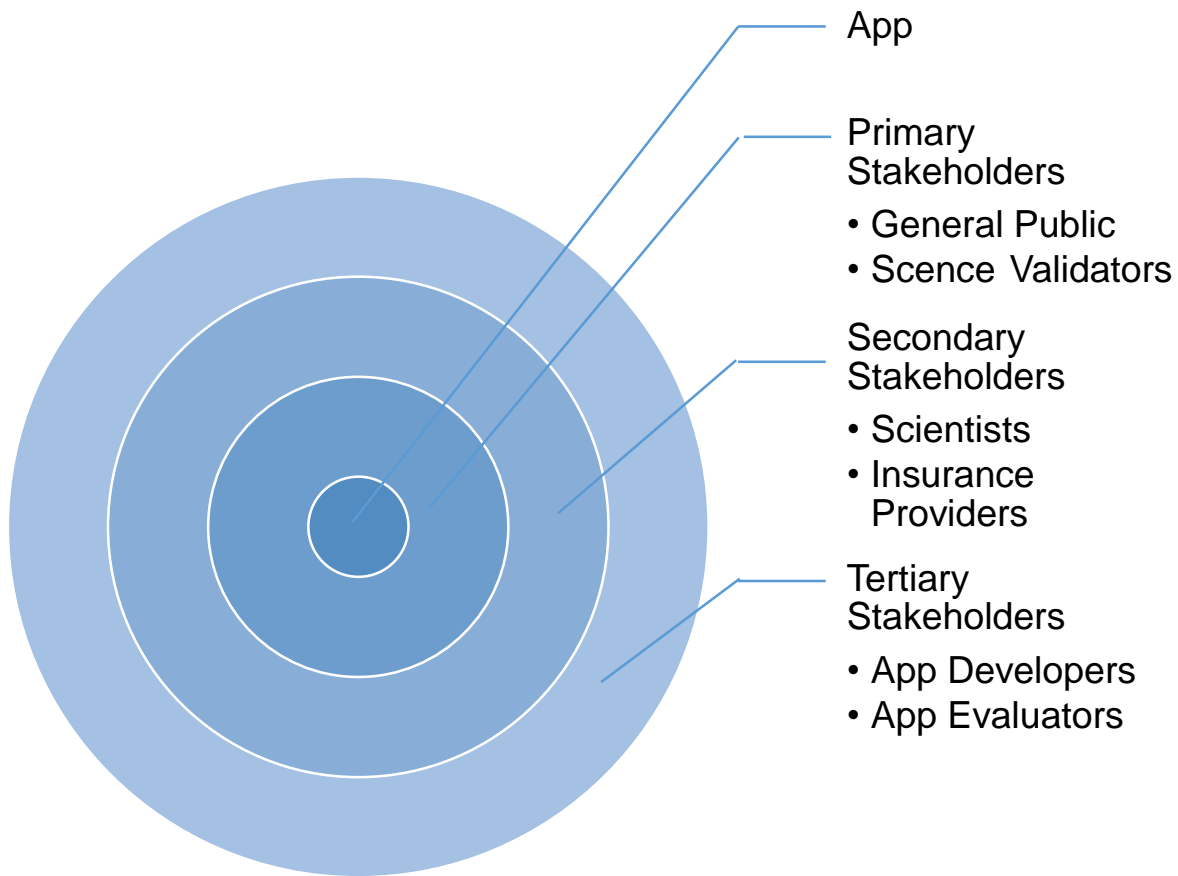
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### **Stakeholder Analysis**

## 1. Onion model:



## 2. Description of each stake holder:

### a. Primary Stakeholders

Primary stakeholders are the people who are supposed to use the app first hand. This app will be utilized by the general people commuting on the highways, who'll be interested in reporting incidents of bird deaths on the side of the highways.

Since the app will be largely depending on crowd science, we will be having an option of scientists and bird watching enthusiasts or birdlife enthusiasts sign up on the app. These people can look out for sightings reported in their local areas and can then go there to precisely identify the bird species.

The final validation of all observations will be done by the lead group of scientists, for whom the app is being developed.

Adding the function of local validation serves 2 purposes, namely:

- It will speed up the process for the lead group of scientists to identify the species
- It will assist the local bird enthusiasts to learn more about the various species available in their region.

b. Secondary Stakeholders

Secondary stakeholders are the people who interact with the app in an indirect manner. For our app the lead group of scientists will be the secondary stakeholders.

The lead group of scientists will be looking at all the data collected through the app. They will try to look for the patterns in the huge volumes of data collected through the app.

Based on the data collected from the app the scientists will be able to identify the lead cause of deaths of the bird species in any particular region. Doing so they will also be able to understand the effect of human interaction with the natural habitat in any region.

Another group that can be identified as secondary stakeholders for this app are the insurance providers. Since wildlife accidents amount to be a major source of insurance claims filled in the country. Using the data collected from this app the insurance providers can look out for zones which have higher degree of vulnerability. They can then accordingly modify their insurance policies for such regions.

c. Tertiary Stakeholders

The tertiary stakeholders for this app will be the various people involved in the various stages of design, development, testing and maintenance of the app.

The app designers, developers, testers and maintenance team will be some of the main people who will act as the tertiary stakeholders for this app.

**3. Stakeholder Goal and Influence Table**

Stakeholder	Goals	Influence Contributing	Constraining
General Public	Take photos and upload them	Photos Description of site	Difficult to stop on highways Identification of species

Site Validators	Go to site and validate reported incident	Incident validation	The observation can be faulty, in some cases
Scientists	Validate all data collected through the site  Detect patterns by analyzing the data collected Suggest preventive measures if any for safeguarding the wildlife	Provide scientific insights to the effects of human interaction with the natural habitat in any region	
App Developers	Design and develop an interactive and user friendly app  Develop a robust system that provides varying functionalities, depending on the user	Provide a device adaptive, user friendly interface  Scrutinize the data as per the user involvement with the app	Not always will the user be able to attach photos with the incident reports Develop some mechanism to facilitate various views of the data collected through the app, for the scientists Develop various views, as a varying pool of users using the app
App Evaluators	Evaluate the app and its various functionalities	Test the app in various user modes	Make sure the data abstraction for each user is perfectly synchronized throughout the interface

### Summary of stakeholder analysis

Since the app relies on crowd science, hence the general public is the primary stakeholder of this app. Using this app they will report incidents of bird deaths sighted during travels. Local scientists, or birdlife enthusiasts can volunteer to go to local sightings published on the app and validate the observation made by the general users.

All the data collected will be analyzed and validated by the lead group of scientists. They act as the secondary stakeholders of the app. They will synthesize the required information from all the data collected through the app.

The app developers and evaluators act as the tertiary stakeholders of the app and are responsible for developing an interactive easy to use interface which facilitates maximum data collection with minimum hassle for the general users.

## Personas

### Primary Stakeholders

		Description
Name:	Sam Gates	Sam is a high school teacher who commutes to his school every day. He lives in a region that is host to a wide species of birds. Often Sam observes the bird deaths while travelling to school. And while surfing for causes of deaths he comes across the dead birds app. He signs up as an incident reporter and reports the incidents on the app whenever he comes across one.
Occupation:	School teacher	
Age:	40	
App familiarity:	Moderate	
Name:	Kyle	Kyle is a software professional who likes photography. He often travels to nearby places on weekends. During his travel he often observes bird deaths on the highway. He searches the internet for information regarding the same and comes across the dead birds app. He signs up as an incident reporter and reports the incidents on the app whenever he comes across one.
Occupation:	Software Professional	
Age:	30	
App familiarity:	Moderate	

### Secondary Stakeholders

		Description
Name:	Dr. Kumar Sam	Dr. Kumar is a leading Ornithologist and wants to conduct some conclusive research about bird deaths due to roadkill. He meets up with a group of developers and develops a crowd science enabled platform using which he intends to collect data about bird deaths. After analyzing the data from the app he publishes a paper on how to mitigate the harmful effects of human interaction with natural habitats of birds in various regions of the country.
Occupation:	Ornithologist	
Age:	46	
App familiarity:	Professional	
Name:	Mat Sanders	Mat works for an insurance company and heads the claim settlements for 4 states. With the help of leading analytical tools Mat is able to identify that users from a particular region are filling claims for a similar reason. The reason is bird kills over the wind screens and accidents due to it. Mat tries to search a little about this in detail and stumbles across the dead birds app over the internet.
Occupation:	Insurance Provider	
Age:	32	
App familiarity:	Moderate	

Mat uses the findings from the app and upgrades his policy offerings for high vulnerability areas under his territory.



## **Simplified hierarchical task analysis**

### Primary Users

General User:

- Login as a user or guest
  - Report an incident
    - Upload photos
    - Upload site description as per pre-available form on the app

Incident Validator:

- Log in as a registered user
  - Search for incidents reported locally
    - Go to site
    - Fetch available photos if any
    - Upload photos if need be
    - State observation about the species and cause of death

### Secondary Users

Lead Scientist:

- Login as scientist
  - Look for all reported incidents as per region
    - Look for user reports
    - Look for validator observations if available
    - Validate the incident
- Access the database
  - Analyze the data and look for specific patterns in regions

Insurance Provider

- Login as user or guest
  - Look at the patterns for any specific region

## **Summary**

The app will have well defined user views as per the scope of interaction of the user with the app. The levels of abstraction in this description will increase with time as elaborate designs for the app are developed and more meetings with the scientist and conducted.

## **Appendix: Discussion with the Scientist**

Date: 1/29/2016

- Identify the effects of human interaction with natural habitat of birds
- Utilize the power of crowd science to gather information
- Develop an interactive interface to help users to report roadkill incidents

System:

- Should have varied device compatibility
- For smartphones should have support for camera, GPS, time stamp, weather
- Should have well designed but easy to fill forms that can capture data like elevation of road; speed limit in the area
- Interface should warn user to be careful before stopping on highways
- Users should be able to report incidents without photos too
- If possible the system should support feature of capture image and location and fill data later
- Local bird enthusiasts can sign up as volunteers who go to local reported incident sites and validate the observations made by the amateur users
- The database structure should let the scientist see the heat maps as per regions
- In later phases if time allows extend the scope of app to all animal kill reporting system