Software Requirements Specification
for
Animal Care Utility App

Version 2.0 approved

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Los Angeles County Animal Care and Control

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# Revision History

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1. Introduction
An application that improves the quality and efficiency of the day-to-day services that the Los Angeles County Animal Care and Control centers provide.

1.1 Purpose
Completely define a full set of requirements for the Animal Care Utility App. Define and partially implement feasible modules for the Animal Care Utility App. The software is still in early stages of implementation, this documentation will cover all aspects of the software.

1.2 Intended Audience and Reading Suggestions
The intended audience for this documentation should have some technical knowledge of the inner workings of software development. It is not required but it would help to fully understand everything presented. It is directed towards developers, project managers, testers and documentation writers.

Depending on the type of reader more emphasis should be placed on aspects of the requirements that are more relevant to them. Testers should place more focus on the requirements list. project managers should focus on the technology used for fulfillment of the requirements.

1.3 Product Scope
The scope of the product includes the following:
- Ticketing system overhaul for better efficiency.
- Display readily viewable information requested by users.
- Assist in the improvement of waiting time at Animal Care facilities.
- Once released the software will be placed in kiosk on facility grounds or on mobile devices.

1.4 Definitions, Acronyms, and Abbreviations
The definitions, acronyms, and abbreviations used throughout this documentation can be found in the Appendix portion of the documentation. Which is located at the end of the documentation.
1.5 References

1. Documentation provided by LAC representatives
2. Sample Database provided by LAC representatives
3. NativeScript Documentation
   - Release version: 5.0
   - Release Date: November 2018
   - Located at: docs.nativescript.org
4. NativeScript-Vue Documentation
   - Release Version: 2.0
   - Located at: nativescript-vue.org/en/docs/introduction
5. LoopBack Documentation
   - Release Date: October 2018
   - Located at: loopback.io/doc/en/lb4
6. LA County Animal Care and Control Website
   - Located at: animalcare.lacounty.gov
7. Lunr.Js Documentation
   - Located at: lunrjs.com/docs/index.html
2. **Overall Description**

The application will be created for use on the tablet kiosks and mobile devices. It will contain features that will help improve the user experience when visiting an LA County Animal Care and Control location. It will assist the user in finding the information that they need in a more organized manner or forwarding them to a help desk associate that can assist them with their needs.

2.1 **Product Perspective**

The application will interact with the user to gather information and requests and then relay it back to the LAC database to conduct search or ticket data entry into the system. It will work in cooperation with the database to be able to pass the information needed back and forth between the two.

The application will also work together with the device core features whether on iOS or Android to provide access to text-to-speech and speech-to-text. Which will provide the ability to communicate with the dynamic search engine. It will also assist in providing accessibility for disabled individuals.

This application is a new innovative software designed with the purpose of assisting the Animal Care and Control employees and customers to have a better and easier experience when at one of the facilities. Its features and design are all a product of the requirements and planning of the team assigned to the project.

2.2 **Product Functions**

The main purpose of the LA County Animal Care and Control application is to allow the user to access the information that they need so that they can have their answer questioned or service provided. The information/features that will be provided by the application include:

- FAQ
- Animal Adoptions
- Animal Check-in
- Special Events
- Donation
- Contact Us
2.3 User Classes and Characteristics
There are generally two classes of user that will be using the application. The first class of user is someone who wants to be informed and prepared when they decided to visit an LA County Animal Care and Control location. Based on the reason for their visit to the location they will be able to inform themselves on the subject before they arrive at a location.

The second class of user that would generally be using this application is one who just shows up at one of the locations for one of the services provided whether it is to adopt an animal, register an animal or look for a lost pet. They will be able to interact with the application on site through the kiosk and be forwarded to where they need to be.

2.4 Operating Environment
The operating environment for the application will depend on the device that it will be running on. The kiosk version will be on an Android operating system, the downloadable application will depend on the users device which will work with either Android or iOS. The operating system will not affect the application in a negative way it will be able to work as intended on either operating system.

2.5 Design and Implementation Constraints
The primary target for the application is an Android tablet that will serve as the kiosk that will be located in one of the facilities. There will not be any specific hardware constraints other than that since most smartphones can run the same applications as tablets and this application will not be hardware intensive. It will however be required to have constant communication with the LA County servers which contain the database for all of the information that will be passed between application and user.

2.6 User Documentation
The application will be created in such a way that no documentation will be needed, one of the requirements for the application is that it is simple to follow and use for the user.
2.7 Assumptions and Dependencies
One of the dependencies that will be included is the use of LunrJS as the method of implementation for the dynamic search engine.

As stated before the application will be created based on the assumption that it will provide access to core device features while the operating system is either Android or iOS it will work.

2.8 Apportioning of Requirements
TBD
3. **External Interface Requirements**

3.1 **User Interfaces**

The user interface shall begin with the main page which will contain buttons for each of the available services. Upon the selection of a service the user will be directed to a separate page containing the required information.

When the user selects the Adoption page they shall be forwarded to a scrollable page with images of animals available for adoption.

When the user wants to view the FAQ they shall be directed to a list of the available questions and answers and will also have the ability to ask their own question. Upon failure to find the question requested a ticket request will be available to the user to be submitted to speak to a front desk clerk.

There will be measures implemented to ensure that the application is accessible to people with disabilities.

3.2 **Hardware Interfaces**

There are no Hardware interface requirements at this time.

3.3 **Software Interfaces**

The application is being built with the Nativescript-Vue framework. The application shall communicate with the LA County provided servers.

3.4 **Communications Interfaces**

The application shall use the HTTP?HTTPS protocol for communication over the internet.
4. **Requirements Specification**

4.1 **Main Application Design Module**

4.1.1 The Main Application Module shall receive GUI elements generated by other modules.

4.1.2 The Main Application Module shall generate GUI elements independent of the other modules.

4.1.3 The Main Application Module shall combine GUI elements from one or more modules and render the final GUI.

4.2 **Search Module**

4.2.1 The Search Module shall forward all generated GUI elements to the Main Application.

4.2.2 The Search Module shall forward all information requested to the database.

4.2.3 The Search Module shall receive information from the database for its request.

4.2.4 The Search Module shall contain queries used to request information from the database.

4.2.5 The Search Module shall allow the user to type in information when prompted.

4.2.6 The Search Module shall display back information to the user.

4.3 **GPS Module**

4.3.1 The GPS Module shall forward all generated GUI elements to the Main Application.

4.3.2 The GPS Module shall forward information about user location to the Ticketing Module.

4.3.3 The GPS Module shall implement TBD API.

4.3.4 The GPS Module shall determine a user’s location.

4.3.5 The GPS Module shall determine if a user is onsite.

4.3.6 The GPS Module shall provide the location of care facilities.

4.3.7 The GPS shall show the next nearest care facility.
4.4 Ticketing Module
4.4.1 The Ticketing Module shall forward all generated GUI elements to the Main Application.
4.4.2 The Ticketing Module shall receive information from the GPS Module.
4.4.3 The Ticketing Module shall forward generated tickets to the companion application.
4.4.4 The Ticketing Module shall receive information on resolved tickets from the companion application.
4.4.5 The Ticketing Module shall generate a ticket when a user question can not be resolved.
4.4.6 The Ticketing Module shall create a queue for tickets.
4.4.7 The Ticketing Module shall handle tickets using FIFO (first in first out).
4.4.8 The Ticketing Module shall remove resolved tickets from the queue.

4.4.1-1 Sub Module, Companion Application
4.4.1-1 The Companion Application shall receive tickets from the Ticketing Module.
4.4.1-2 The Companion Application shall display tickets to the front counter staff.
4.4.1-3 The Companion Application shall allow front counter staff to mark a ticket as resolved.

4.5 Speech to Text Module
4.5.1 The Speech to Text Module shall forward all generated GUI elements to the Main Application.
4.5.2 The Speech to Text Module shall implement TBD API.
4.5.3 The Speech to Text Module shall forward information to the Search Module.
4.5.4 The Speech to Text Module shall read back text displayed to the user.
4.5.5 The Speech to Text module shall convert user speech to text.

4.6 Machine Learning Module
4.6.1 The Machine Learning Module shall forward all generated GUI elements to the Main Application.
4.6.2 The Machine Learning Module shall implement TBD API.
4.6.3 The Machine Learning Module shall forward information to the Search Module.
5. Other Nonfunctional Requirements

5.1 Performance Requirements
Some performance requirements that the application will have include:
- Page to page transition will be performed in a timely manner
- Images shall be rendered with appropriate pixel definition
- Search and results shall be performed in a timely manner

5.2 Safety Requirements
There are currently no safety requirements.

5.3 Security Requirements
There are currently no security requirements.

5.4 Software Quality Attributes
The application shall be made to be updated whenever necessary. The application shall be available to users indefinitely, but will be informed should maintenance interrupt service.

5.5 Business Rules
There are no business rules at this time.
6. **Other Requirements**

There are no other requirements at this time. This might change in the future as the implementation of the application progresses.
Appendix A: Glossary

Kiosk - in this sense the kiosk referred to will be an android based tablet.

LunrJS - The API used for the creation of the search engine.

HTTP - HyperText Transfer Protocol, is the underlying protocol used by the World Wide Web and this protocol defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands.

GUI - Graphical User Interface, is a form of user interface that allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation, instead of text-based user interfaces, typed command labels or text navigation.

Module - each of a set of standardized parts or independent units that can be used to construct a more complex structure.