USABILITY ANALYSIS

FOR THE TESLA MODEL "S" OWNER'S MANUAL

OVERVIEW

This document provides a usability evaluation of the Tesla Model "S" Owner's Manual, Version 2018.12 March 22, 2018. The analysis includes a heuristic evaluation, examining the Model S Manual's interface and compliance with recognized usability principles.

Roni Britton

July 2018

Usability Analysis for the
Tesla Model S Owner's Manual
[Version 2018.12 March 22, 2018]

Roni Britton

16 July 2018

This document was completed as a requirement for
the Technical Writing Inclusive Course
at Bellevue College, Summer Quarter 2018

Table of Contents

Usability Analysis for the Tesla Model "S" Owner's Manual

Overview

This document provides a usability evaluation of the Tesla Model S, Owner's Manual, Version 2018.12 March 22, 2018. The analysis includes a heuristic evaluation, examining the Model S Manual's interface and compliance with recognized usability principles.

A single evaluator conducted the usability evaluation of the manual. The evaluation and analysis were prepared for the Tesla vehicle's product team and the executive management team of Tesla, Inc.

The Model S owner's manual does not reference a specific audience. However, the manual can be accessed online and viewed by new or experienced Tesla owners, prospective buyers, researchers, investors, etc.

Recommendations to improve usability are included in this evaluation so that problems can be addressed as part of Tesla's ongoing improvement of the Model S.

Summary of Results

Ease in Usability

- The table of contents provides convenient links to most topics.
- Layered information and branching ease the user's navigation through the manual's information.
- Keywords stand out for easy recognition.
- Information presented is aesthetically pleasing to the eye.

Usability Problems

Usability problems noted in this evaluation are detailed in the attached Heuristic Evaluation Form (See page 7). In addition, the following chart summarizes the highest-priority issues requiring changes.

Summary of Results			
Criteria	**Severity Rating**	**Problem**	**Recommendation**
Efficiency	Moderate to High	Tesla company contact information is frequently sought information, and is not readily accessible in the Model S Online Owner's Manual.	Provide links or phone numbers to contact Tesla.

Summary of Results			
Criteria	Severity Rating	Problem	Recommendation
Consistency	Moderate to High	Presentation of topic headings is inconsistent. Headings alternate from left side to right side on different pages.	Align all topic headings on the same side of the page.
Familiarity	Moderate	New terms are not clearly defined at every occurrence.	Provide clear definitions for all new terms at every occurrence.
Readability	Moderate	Different levels of headings are in the same font as the body copy and are not easy to distinguish.	Increase font size, add color, or make bold the subheadings.
Clarity	Low	Although the Table of Contents (TOC) is organized so information can be read in any order, easy options to navigate back to the TOC, or to find additional answers are not available.	Since the Model S Owner's Manual is long (184 pages), an end-of-page link to return to the TOC would improve navigation and aid usability.

Results and Recommendations

The following usability problems in the Tesla Model S Owner's Manual requires change. Problems are listed according to highest priority.

- **Efficiency** - *Frequently-sought information, such as "contacting the company" should be easily accessible for users.*
  The owner's manual advises Model S owners to "contact tesla" for various service/maintenance needs. However, the Tesla contact information is not readily shown. Throughout the manual, body copy within most headings provides convenient links to other layered information. Links to Tesla's contact information, however, are not provided. The only company contact information is listed near the end of the owner's manual, under the heading, "Reporting Safety Defects." Company contact information provided at high levels of the structure improves usability.

  The table of contents does not list a contact section for the user to contact the Tesla company. When the manual advises the owner to contact tesla regarding issues of maintenance or operation, the contact information should be easily accessed for improved usability.

- **Consistency** – *Information presented on various pages should be consistent to make differences between pages meaningful.*
  The presentation of heading topics on different pages alternates from the left side of the page to the right side, regardless of whether the topic changes. The alternating pattern is an annoyance that disrupts the regular rhythm and eye flow.

- **Familiarity** – *Usability is enhanced when new terms are defined at every occurrence.*
  New terms are not defined clearly in the owner's manual. The terms "creep," "regenerative braking," and "HomeLink controls" are examples of terms not well defined.

- **Readability and Aesthetics** – *Different levels of headings improve readability and enhance usability.*
  Different levels of headings in the manual are not easily distinguished. Heading topics are shown in the same font as the body copy. Important points in the manual would be more easily read and understood if headings were bolded or shown in a larger font.

- **Clarity** – *High usability content includes a guide to the order of information, or allows for information pieces to be read in any order.*
  Information can be read in any order from the manual's table of contents. However, at the end of the information piece, returning to the table of contents may require significant scrolling as this manual includes 184 pages. Improve navigation and usability by including a link to return to the table of contents.

Other suggestions

Some descriptions are long, involving three or more steps to achieve an objective. One option is to reduce the longer copy to two actions per sentence.

Comments

This evaluation process can prove highly effective in revealing and solving usability problems. However, greater effectiveness would result in having two to four persons involved in the evaluation because different people find different usability problems.

Heuristic Evaluation Form

Rating Scale

Rating Scale	
Severity Rating	**Definition**
3	Impedes task completion (either product or information seeking)
2	Creates annoyance
1	Obscures a product feature or capability
0	Raises questions for further study

Cycles

1. Efficiency
2. Recognition
3. Familiarity
4. Readability and aesthetics
5. Consistency
6. Clarity

Cycle 1: Efficiency

Cycle 1: Efficiency		
Criteria	**Severity Rating**	**Problem**
The user finds that frequently-sought information is at high levels of the structure.	2	Frequently-sought information, such as company contact information is not readily accessible in Model S Owner's Manual.
Within headings, the most important words come first.		
Layered information and branching provide minimalist paths through information.		
Related information is positioned where most easily noticed.		
The user can easily identify how to access online help or the online manual (or additional help)	2	Contact links or phone numbers for Tesla are not easily accessible from the online manual.

Cycle 2: Recognition

Cycle 2: Recognition		
Criteria	**Severity Rating**	**Problem**
Titles inform without the context of surrounding information.		

Cycle 2: Recognition		
Criteria	**Severity Rating**	**Problem**
Index keywords are easy to recognize and distinguish.		
Symbols and color reinforce information structure.		

Cycle 3: Familiarity

Cycle 3: Familiarity		
Criteria	**Severity Rating**	**Problem**
Titles represent real-world concepts and tasks.		
Symbols do not conflict with other common uses, such as international symbols.		
New terms are defined at every occurrence.	1	New terms are not clearly defined or defined at every occurrence.

Cycle 4: Readability and Aesthetics

Cycle 4: Readability and Aesthetics		
Criteria	**Severity Rating**	**Problem**
Information is presented in a size and color easy to read.		
Different levels of headings are easy to distinguish.	1	Different levels of headings Are shown in the same font as the body copy.
Information is pleasing to the eye.		

Cycle 5: Consistency

Cycle 5: Consistency		
Criteria	**Severity Rating**	**Problem**
Headings at the same level in a section use parallel structure to help users identify the information they cover.		
Presentation of information on various pages is consistent so that differences between pages are meaningful.	2	Topic headings are inconsistent. Headings alternate from the left side to the right side on different pages.
Words have the same meaning from one use to another.		

Cycle 6: Clarity

Cycle 6: Clarity		
Criteria	**Severity Rating**	**Problem**
Information pieces can be read in any order, or a guide to the order is provided.	0	Although the table of contents is organized so information can be read in any order, navigation back to the TOC is not available.
Reused information retains meaning in any context.		
Meaning holds no matter how the user combines the information pieces.		