

# TIPPER

How can seniors find clear, reliable, contextual help for web tasks they are unfamiliar with or have forgotten?

## Design Specification

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## High-Level Summary

Research shows that more than 50% of senior citizens use the internet on a regular basis, but that most of them frequently run into basic issues they cannot solve themselves. Our product Tipper, a browser-based contextual help system for web use, is a simple yet powerful solution designed to make seniors more competent and comfortable on the web.

## Problems & Goals

### Problems

Results of contextual inquiry, survey, and secondary research overwhelmingly show senior citizens experiencing difficulty completing basic web tasks. Beyond specific task-related issues, most seniors have problems approaching web tasks generally, typically for one of two reasons.

1. The task is new and unfamiliar. Seniors are hesitant to try something new on their own.
2. They had previously learned the task but have now forgotten, and where they wrote it down.

Aside from helpers like children, grandchildren and more experienced peers, seniors do not have a way to find help with the task they are trying to complete. “Help” pages provided by the site or app developer tend to be too generic, lacking the context of the current task and using verbiage unfamiliar to seniors. Additionally, helpers feel frustrated when they must re-teach the same tasks multiple times.

### Goals

- Provide contextual, reliable help to reduce seniors’ hesitance completing web tasks
- Help seniors feel comfortable trying new things on the web
- Maximize helpers’ ability to help and avoid re-teaching the same thing multiple times




## Audience

Tipper is geared toward seniors 70+ with some internet experience, the senior population most willing to use a solution like Tipper and with the most to gain.

Future iterations of the design should focus more closely on the experience of the people creating tips, including seniors’ family, volunteers, and to some extent the seniors themselves.

This specification is intended for web and browser developers who might be interested in taking Tipper past its current prototype stage to the level of production. Likewise, those in software management might be interested to find a new idea to promote empowering user experience on the web, for seniors or others.

# Personas

<p><b>PRIMARY</b> 60% of our target users prefer not to venture out of their comfort zones.</p>	<p><b>PRIMARY</b> 40% of our target users are willing to try new things on their own.</p>	<p><b>SERVED PERSONA</b> The peer-appointed local computer guru.</p>
 <p>Age 81 Device: PC laptop</p> <p><b>Helen Hesitanté</b></p> <p><i>"Doing things I know how to do is easy. Trying new things is hard. Sometimes I feel like I'm never going to learn it all."</i></p> <p><b>Motivations</b> -Stay in touch with her family, friends, and community. -Stay up to date with news and local activities.</p> <p><b>Goal</b> Feel more confident and efficient with the tasks she already does on the internet.</p> <p>Helen is comfortable with the limited things she does, though she hesitates to try things when she's not certain. For example, she forgot how to add bookmarks to websites and doesn't know how to find help on her own. She needs her grandson to write down the steps so that she can refer back later.</p>	 <p>Age: 80 Device: iMac</p> <p><b>Larry Learner</b></p> <p><i>"I would like to try new things but I am not familiar enough with the programs to set them up and accomplish it without help from others. I need to learn more and improve my skills on using the computer."</i></p> <p><b>Motivation</b> Using the internet is one of his hobbies. He likes to stay up to date, both with news across the world and to keep in touch with family</p> <p><b>Goals</b> - Learn how to do new things with the Internet that he hasn't tried, such as playing games and ordering merchandise - Easy to get instructions and help</p> <p>Larry is always willing to try new things. He often chats over lunch with other residents at his retirement home, and he'll Google topics raised in his conversations when back at his apartment.</p>	 <p>Age 70 Device: Desktop, laptop, and iPad</p> <p><b>Gary Geek</b></p> <p><i>"It's great when someone stops me in the hall and says they were able to communicate with their grandkids because of my help."</i></p> <p><b>Motivations</b> Gary enjoys the feeling of helping people and being regarded as an expert. His role also allows him to meet many more people in his building than he normally would, which he likes.</p> <p><b>Goal</b> Gary wants to be able to help more people across different kinds of problems, and not spend so much time re-teaching the same problems.</p> <p>Gary is perceived as a computer expert by many others at Grace Assisted Living. He spends a great deal of his time freely helping others with their computer needs, be they hardware or software related.</p>

## Solution Summary

### General Design Requirements

1. Provide access to clear, contextualized help
2. Build upon users' existing skills
3. Minimize the number of new concepts introduced
4. Use plain English and avoid unfamiliar acronyms and unclear icons
5. Implement consistent visual cues
6. Constantly communicate status in a clear way
7. Use accessible text, UI and colors

### Tipper Overview

Tipper is a browser extension for Google Chrome that allows users to find easy-to-understand help for anything on the internet. Help is accessed by mousing over web elements to show detailed tooltips. "Tips" are crowdsourced such that anyone with Tipper can create tips for elements on the web and share them with the world. In addition to single tooltips, step-by-step tips can walk users through multi-step tasks.

## User Experience Walkthrough

Tipper starts up in the background when Chrome is invoked but lies dormant until the user visits a page with tips available. When available, the Tipper icon pulses to let the user know that there are tips available on this page. The user clicks the icon and five orange outlines boxes appear around various elements on the screen. The five outlines indicate the most popular features of the page.

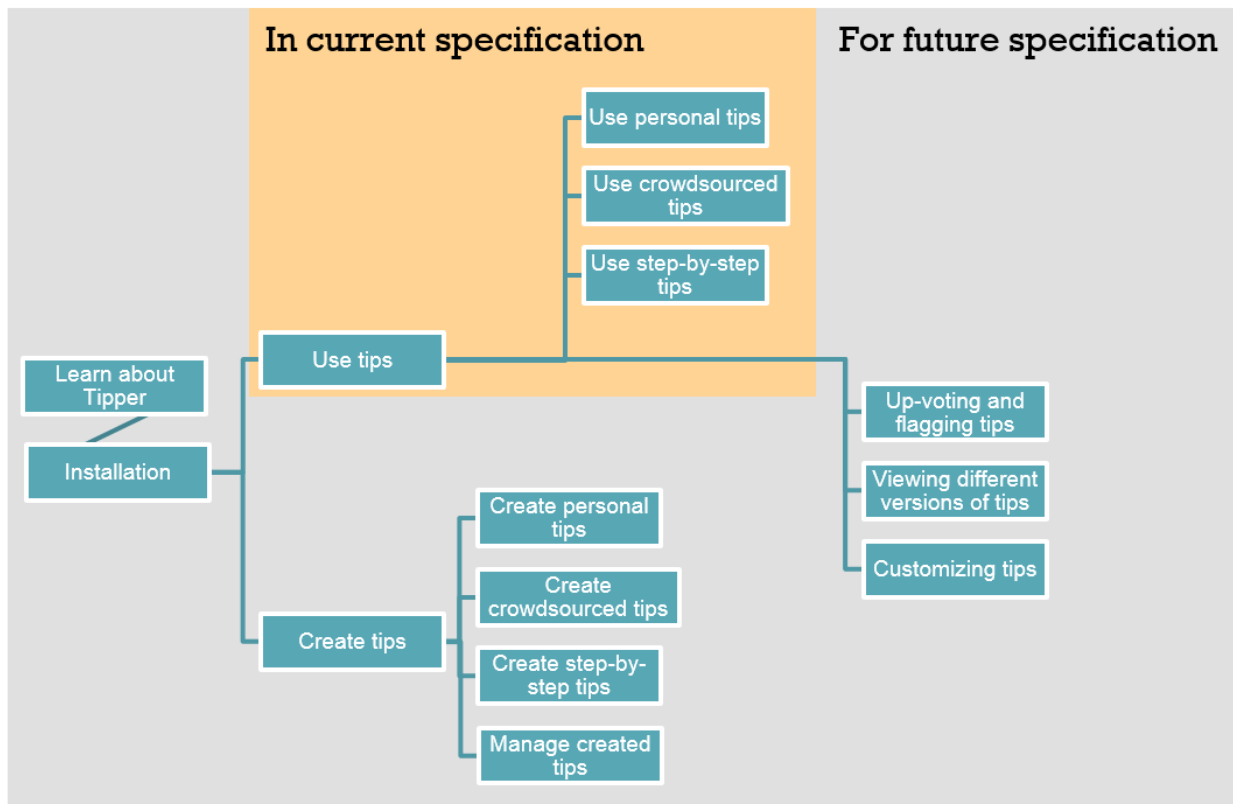
As the user moves the cursor over elements on the page, tips appear for those elements. The user can move around and read as many tips as s/he likes. Orange tips indicate a crowdsourced tip, authored by someone on the web. When users or their helpers add tips locally, these “personal tips” appear in purple.

The user may enter a string of “step-by-step tips” guiding him/her through a multi-step procedure, such as the task of inserting a photo into an email. Step-by-step tips appear one by one until the task has been completed.

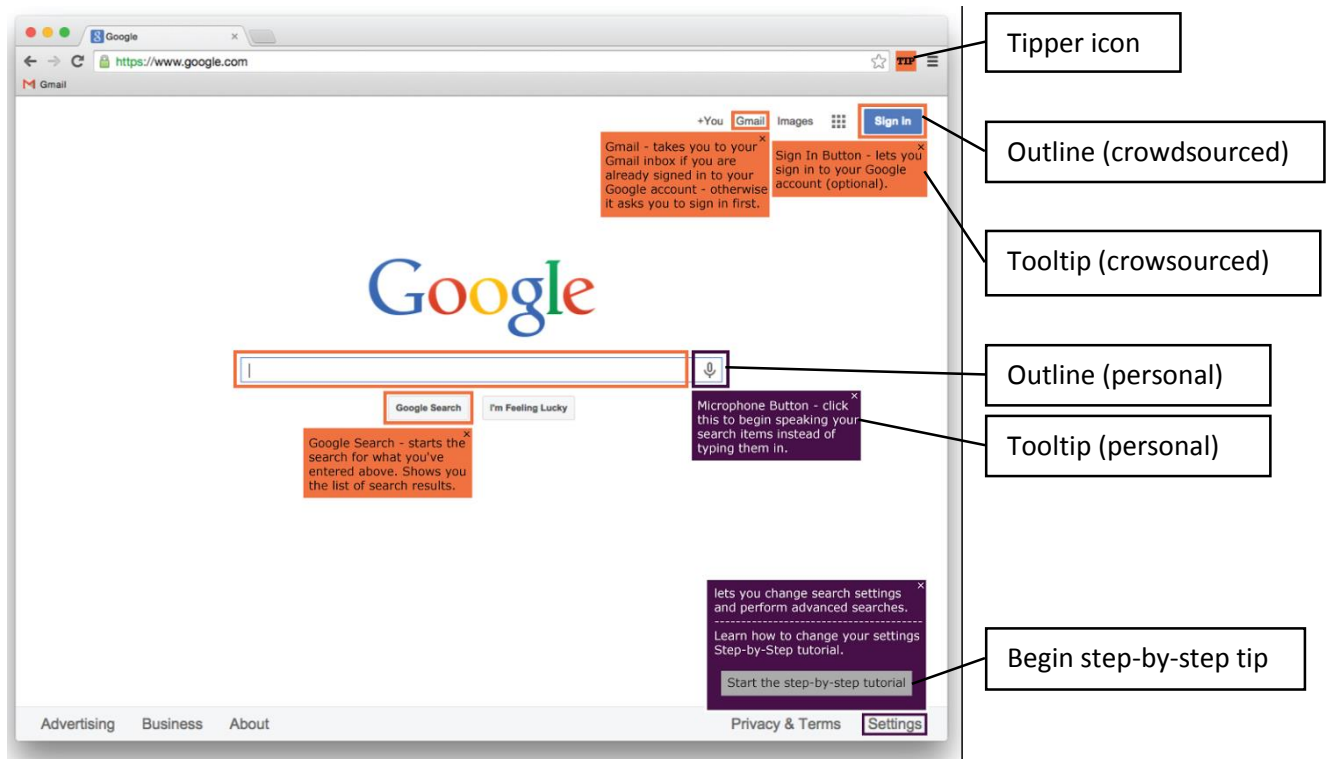
Then the user clicks the Tipper Icon again to turn off Tipper.

## Specification Scope

The current specification includes only the “use tips” area of the Tipper system, which includes the most important feature set for our primary personas. Additional specification is needed for the complete system.



## Detailed Specification



## Tipper Brower Extension Icon

### Visual

- The browser icon is 24x24px, appearing the top-right corner of the browser frame.
- When Tipper is OFF, the icon has a gray background.

#### TIP

- When Tipper is ON, the icon has an orange background.

#### TIP

- When Tipper is OFF but has tips available for the page, the icon animates from gray to orange over a 1-second interval, repeating 3 times. After completing 3 animation cycles, the icon remains gray. If the user later hovers over the icon, it repeats the same 3-cycle animation.

### Interaction

- When user hovers over a web element with a tip while Tipper is OFF, the icon animates from gray to orange over a 1-second interval. After completing 1 animation cycle, the icon remains gray.
- When users hover over the icon when no tips are available for the page, the icon remains gray.
- Left-clicking the icon when Tipper is off turns Tipper on. The top 5 crowdsourced outlines appear immediately.
- Left-clicking the icon when Tipper is on turns Tipper off. All Tipper UI disappears immediately.
- Right-clicking the icon reveals advanced commands, such as creating a tip (out of current scope).

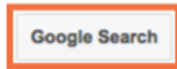
## Outlines

### Visual

- Personal tip outlines are a 5 pt. purple stroke (#480048).



- Outlines for crowdsourced tips are a 5 pt. orange stroke (#F07241).



- All outlines have a 1 pt. white border to distinguish them from page elements.

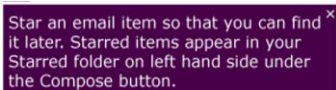
### Interaction

- Outlines always appear for personal tips.
- Highlighted outlines always appear for only the top 5 crowdsourced tips on each page.
- Highlighted outlines for other crowdsourced tips appear only when the user mouses over the web element.

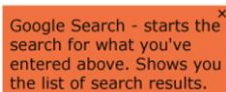
## Tooltip

### Visual

- Tooltip rectangles resize to fit the text within.
- Tooltips appear below corresponding outlines. When enough room below the outline is not available, tooltips appear above the outline.
- Personal tips have a purple background color (#480048) with white text (#FFFFFF).



- Crowdsourced tips have an orange background color (#F07241) with black text (#000000).



- All text font is Verdana 13 pt.
- All tooltips have a 1 pt. white border to distinguish them from page elements.
- Tooltips animate in, fading from 0 to 1 alpha and translating down from -20px their final y-positions.
- Tooltips do not animate out.

### Interaction

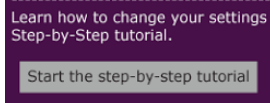
- Tooltips appear when the user mouses over the web element.
- Tooltips dismiss when users click somewhere outside of the tooltip or when the next tooltip opens.
- All tooltips also have an “x” button in the top right corner that dismisses the tooltip.

## Step-by-Step Tips

### Visual

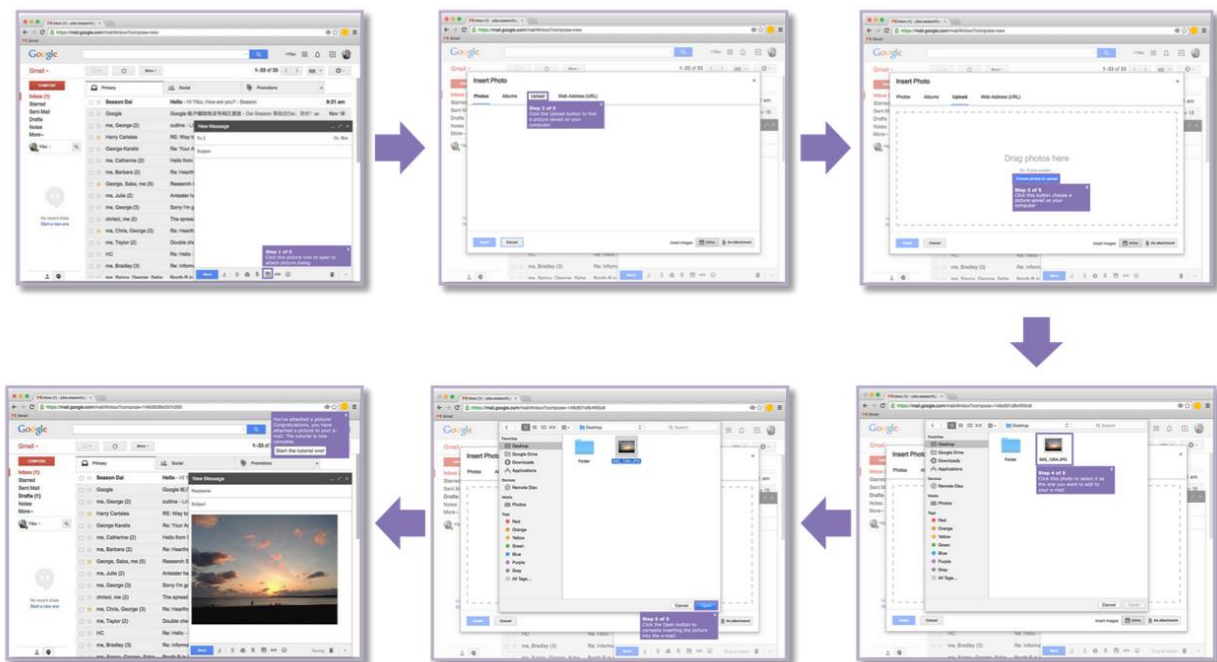
- Step-by-step tips can be crowdsourced (orange) or personal (purple). Refer to the corresponding outline and tooltip specifications above.

- Step-by-step tips are initiated from a gray button with the string “Start the step-by-step tutorial”

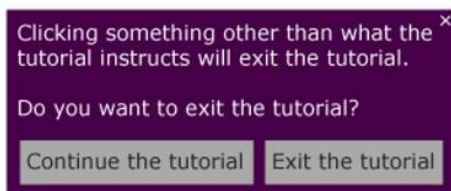


## Interaction

- Step-by-step tips are initiated by left-clicking the “Start the step-by-step tutorial” on a crowdsourced or personal tooltip.
- After initiating, users are guided through the process. The next step of the task is always visible with both outline and tooltip.
- Those elements or icons are the only outline highlighted on the screen. Other outlines and tooltips are not available and not visible.



- Users can exit step-by-step tips by either turning off Tipper by clicking icon on top right corner, or by clicking somewhere on the page other than the target button
- To avoid accidentally exiting the step-by-step tutorial, a modal dialog first confirms that the user wants to exit
- If the user clicks “Continue tutorial” the dialog dismisses and the current step of the step-by-step tip is still available.
- If the user clicks “Exit the tutorial” the dialog dismisses and the Tipper system is turned off.



## Design Rationale

### Device: Desktop & Laptop

We scoped Tipper to desktops and laptops because they are the most common devices for the target user group. Of 31 survey and interview participants, 71% have laptop computers, 61% have desktop computers, 61% have smart phones, and 42% have tablets. Additionally, though smart phone and tablet ownership is reasonably high, all participants used either a desktop or laptop computer as their primary device for accessing the internet.

Our decision is also supported by secondary research, which indicates that the smaller size of buttons on mobile devices tends to pose usability issues for seniors. We thus focus on the more frequently used and more usable desktop and laptop computers.

### Platform: Chrome Extension

This initial design specification scopes Tipper to a Google Chrome browser extension. We found our users do not have a strong browser preference, most choosing whatever browser a helper has installed. Chrome was the most frequently used browser, by more than half of our interviewees. Future iterations should consider expanding to additional browsers and platforms.

Though browser extensions are not a familiar concept to our users, the extension icon on top right corner tested to be clear and usable for seniors. A browser extension is also a technically feasible solution for this design.

### Annotating Web Content versus Other Applications

Adding tips to web content accommodates the widest range of experiences, and affords the most consistent and technically feasible experience across tasks. Web use is common among seniors and are also the source of frustration. All of our testers perform web searches every day, though none knew about functions of the Google search page, such as image search. Likewise, all used Gmail to send email but none knew how to insert a photo into a message. Tipper can accommodate both different tasks.

### Personal Tips

User research showed the common case of seniors can getting customized help from friends and family members, though these people are not available to help all the time. Additionally, a few seniors interviewed during contextual inquiry mistrusted help coming from an unknown source. We therefore designed personal tips, which are only saved in a user's own computer and satisfy individual needs.

### Step-by-Step Tips

Step-by-step tips are inspired partly by users' tendency to write down the processes for web tasks on paper. We found that while helpful, users sometimes forget to look at their written notes, or lost the notes entirely. Contextual step-by-step tips solve those issues. We received unanimously positive feedback on step-by-step tips. Users felt comforted by being guided through a task.

### Display: All Highlights/Top 5/Minimal

Working within the tradeoff between visibility and simplicity, we tested 3 display types for tip outlines.



### 1. “All highlights”

In this design, all functions with available tips are always visible on the page with orange highlighted outlines.

### 2. “Top 5” version

This design addresses the disadvantage of the previous design by showing orange highlighted outlines on only the top 5 functions on the page, according to the frequency of clicks of all Tipper users. This is a simplified variation of the “heatmap” concept that we wanted to evaluate before exploring more complex heatmap options.

### 3. “Minimal” version

Highlighted outlines only appear when the user mouses over the tip, when Tipper is enabled.

Almost all users tested preferred the “Top 5” option, finding it make important functions visible without being overwhelming. From observation, users’ attention was better directed to important functions with Top 5, while either of the other options caused users to miss items on screen more often.

## Color Scheme & Font

Our research suggested that color would be important for calling attention to tips that our users could potentially miss, so our color palette aims to highlight elements.

### Justification for Orange Crowdsourced Tips

- Used relatively infrequently on the web
- Commands attention without being overpowering or in-your-face
- Warm color that is potentially inviting and friendly
- Accessible to color blind users
- Commonly associated with optimism, determination, and movement, which are appropriate for our crowdsourcing concept

### Justification for Purple Personal Tips

Clearly distinguished from the orange crowdsourced tips

- Used relatively infrequently on the web
- Purple is more associated with trust, better for the personal tips
- Commonly associated with imagination, creativity, dignity, nobility, abundance

### Justification for Font

- Font size 13, larger than typical web content to benefit legibility
- Verdana typeface is web compatible and sans-serif is clear to read on screens

### Accessibility

We also considered about color accessibility. In addition to choosing color blind safe colors, we chose background/text color combinations that meet the W3C Web Accessibility standards color contrast ratios at the AAA level.

- Ratio 15.3:1 for purple (#480048) background with white (FFFFFF) text
- Ratio 7.9:1 for orange (#F07241) background with black (000000) text



## Tooltip Entrance & Dismiss Model

Tooltips animate in when the user mouses over the associated web element. The animation shows causality between the element and its corresponding tip, as well as adds some fun. To dismiss a tip, users may click the "x" button in the tip's top right corner. Tips are "sticky" such that they only dismiss after another tip is opened or if user clicks somewhere else. We chose this interaction model because we observed that users understood the light-dismiss interaction model for other flyouts. It also creates a more stable interaction, so that users can read tips carefully without accidentally dismissing them with small mouse movements.

## Dismissal of Step-by-Step Tips

Unlike for single tips which appear on mouse over, after entering step-by-step mode, outlines and tooltips always appear for the current tip in the sequence. In this way, the one pertinent tip is immediately available for the user.

Step-by-step tips additionally prevent accidental navigation by popping up a dialog to confirm that the user wants to exit the tutorial before navigating.

## Right-Click for Advanced Functions

During our research we discovered that seniors by and large do not know the concept of right-click. For this reason, we decided that creating tips and other more advanced functionality could be accessed by right click, purposefully "concealed" from novice users. Once this "hidden feature" is learned, users can create their own tips and access more advanced features.

# Future Work

## Create Tips

Currently, our design only address the "use tips" part of the Tipper design. Seniors creating their own tips (or having helpers create tips for them) and then making them available to anyone who owns Tipper (crowdsourcing) is probably the most powerful proposed facet of Tipper.

In addition to specifying the base user experience, there are numerous dilemmas to overcome such as spam tips, multiple tips attached to the web element, ranking tips, etc. Additional specification is required for creating, sharing and maintaining crowdsourced tips with all Tipper users.

## Animating Outlines

Animating visible outlines using color cycling or another animation technical may better draw users' attention than static outlines which may blend into the page to some degree. Perhaps animation could be incorporated to denote the popularity of web functions, to reintroduce the heatmap idea.

## Customization

There are two main aspects for customization. Based on the evaluation, one aspect is to enable Helen and Larry to customize their own box and tip color. The other aspect is to enable them to hide tips they are already familiar with.