

Executive summary

Task description recap

Task: The Kent State University (KSU) Library doesn't seem to have the book you're looking for. How would you suggest the library make a purchase? Your task is to find this solution for the KSU Library website.

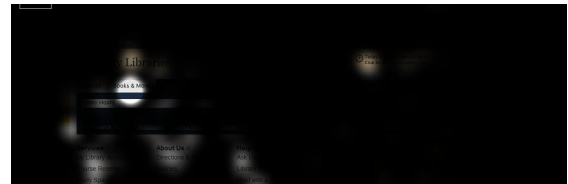
Highlights

1. 20% of the participants solved the task in 2:08 minutes time
2. 40% of the participants produced high - medium interest results
3. 40% of the participants produced low interest results
4. The moderator did not complete difficulty follow up questions for all participants.
5. Some of the participants had difficulty navigating to an appropriate area to complete the stated task.

Quick assessment: The gaze opacity map, to the right, very quickly suggests that 100% of the participants looked in predominantly one area on the screen. The high-contrast navigational elements, tabs, and search box area were their primary areas of focus. The terms “Books and More” can be seen on the map and appeared to help solve the task at hand for the participants. **To the Right:** The Gaze Plot Maps for three participants further supports the conclusion that the use of the navigational tabs in the search box area were an intense area that participants chose to solve the stated task. The Gaze Time for 60% of the participants suggests that the navigational solution may be found within this page element.

Heat & Cluster Map Assessment: Cluster 7, 3 and 2 are the most interesting. My assessment is that the navigational element of the main upper left part of the page, which encompasses the search box, represents the optimal area on the page for the participant/student to complete the stated task and acts as the highest Area of Interest (AOI) on the entire page. Therefore, the highest value of visual search was focused in these 3 segments (clusters 7, 3 and 2.) Similarly, the heat map to the right also suggests a perfect square pattern, where intense focus is in red over the first column. The navigational element options support the above cluster math assessment.

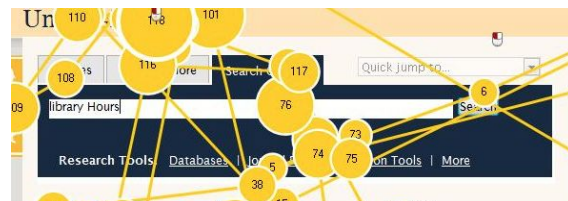
Shown in purple outlines.



Above: Gaze Opacity Map all participants



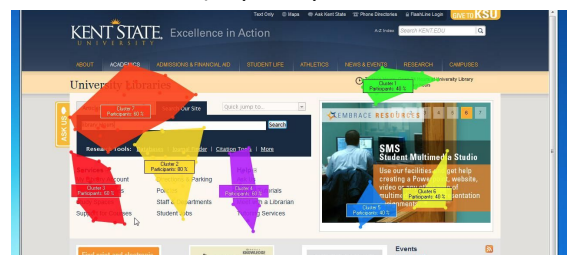
Above: Gaze Plot Map - participant unknown



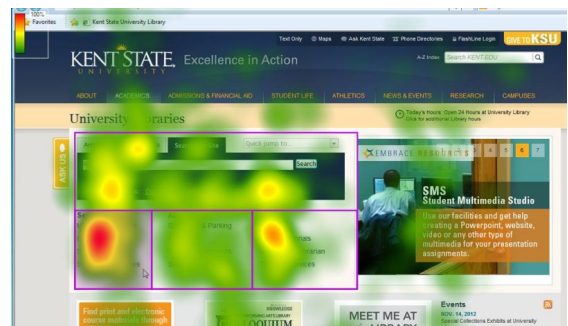
Above: Gaze Plot Map - participant unknown



Above: Gaze Plot Map - participant unknown



Above: Gaze Cluster Map - all participants



Above: Heat Map - all participants

Study task description recap

Task: The KSU library doesn't seem to have the book you're looking for. How would you suggest the library make a purchase? Your task is to find this solution on the KSU library website.

Website: The KSU library site (<http://www.library.kent.edu/>) Note: Now redesigned

Participant Observations

HIGH INTEREST

Participant 1 - Observations:

Female - Student

Test Result - Pass

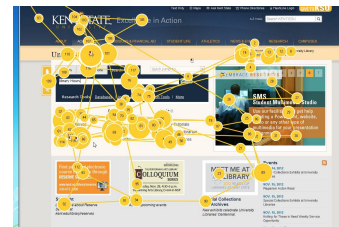
Difficulty level 1-7 - (7)

Link: [Eyetracking Assignment](#)

Video 1 -P11



Part 1 20 sec.



Part 2 49 sec.

The student started by scanning the obviously large navigational blocks on the homepage. She found a link very quickly that reads “support for courses” and chose to navigate to that sub page.

This student failed to find the desired information on the subpage “support for courses” and decided to navigate back to the home page. At this point, the moderator interrupted the student, who asked another question about navigation within the site. The participant then described her process of finding the solution outside of the website. She said she would first ask the librarian for the most obvious solutions. As the student continued to navigate through the site, it seems she is not finding what she's looking for, because she stopped multiple times and the eye tracking focalpoint widened.

The participant navigated to one other page, that appeared to have no rhyme or reason, and simply stumbled upon the answer. The answer was “suggest a resource for purchase”. This link was simply found in a list of other resource based links.

Medium to HIGH INTEREST

Participant 2 - Observations

Female - Student

Test Result - Fail

Difficulty level 1-7 (2)

Link: [Eyetracking Assignment Video 2](#)

-P12



The participant began to scan the web page with what appears to be a far more methodical manner, similar to a pattern a massage therapist would use moving through trigger points fairly quickly. The participant decided to click on “ask us”, most likely assuming her solution might lie within the context of following a question of some

sort. The participant seems to give up and suggested to the moderator that she would recommend a link called “request a book” be placed on the website in an obvious location. While conversing with the moderator, the participant further expressed her preferred solution, outside of the website, would be via telephone or face-to-face conversation with the librarian. The session was ended.

Medium to HIGH INTEREST

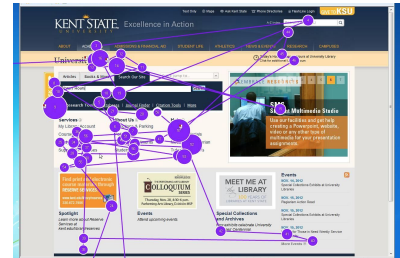
Participant 3 - Observations

Male - Student

Test Result - **Fail**

Difficulty level 1-7 - **None given**

Link: [Eyetracking Assignment Video 3 -P13](#)



The participant’s responses that we are tracking are quite interesting, in the sense that the pattern I’m noticing is incredibly vertical in orientation. The suggestion here is that the participant is not even reading content from left to right. In fact, they’re scanning from top to bottom looking for clues in the form of specific words, captions, headers, or buttons that might be clickable. This participant continued to respond to the moderator when asked “what are you looking for specifically” with similar references. “I’m looking for the word request in a button”. He chose to go to the “ask us” section of the website. The participant explained that it seemed like an obvious place to find the information. The moderator followed up at the end of the test with a secondary question, in which he asked the participant, “at this point, in trying to accomplish the stated task, what would you choose to do next?”. The participant explained that he would probably choose to make a phone call to the librarian directly.

LOW INTEREST

Participant 4 - Observations

Male - Student

Test Result - **Fail**

Difficulty level 1-7 - **None given**

Link: [Eyetracking Assignment Video 4 -P14](#)



The most obvious aspect of this observation is that the participant very clearly cannot accomplish the task and seems to be looking in all of the wrong places. The participant chose to go to “Ohio-link”, which is a secondary site away from the main library website. The moderator suggested that this is, more than likely, not the right area to be looking and suggested exiting this effort. The participant took the advice of the moderator, closed the window, and continued to look on the library main page. The participant then went to library tutorials and continued to get further lost, but also did not seem to be reading information from left to right. Instead, he seems to be scanning frantically. At this point, the moderator chose to end the test. No difficulty level of the task was offered to the participant.

LOW INTEREST

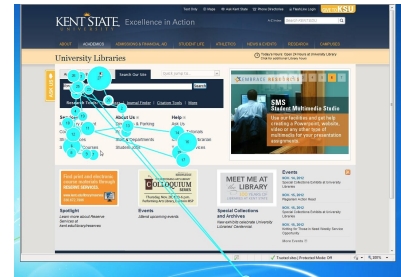
Participant 5 - Observations

Male - Student

Test Result - **Fail**

Difficulty Level 1-7 - **None given**

Link: [Eyetracking Assignment Video 5](#)
-P17



This participant chose to utilize the tabs within the navigational search box on the library home page. He quickly went to “books and more”. This seems like an obvious choice given the task is to suggest a book for purchase. This individual seemed to scan far more methodically and appeared to take more time reading contextual information within the navigational areas on the site. This observation is made clear by the AOIs growing in size more frequently than I observed in other participants. I'm not sure why the Gaze plot maps do not correlate to the size of the AOIs in the video however.

Once again the participant's video was cut short and the moderator did not follow up with questions about the level of difficulty this task presented.

Participant Cluster Map Conclusions - All Participants

Cluster 1. - LOW INTEREST

Based on the task of finding and suggesting books for the library to purchase, cluster 1 suggests this may be an irrelevant cluster or AOI. This cluster is specifically focused on the hours of operation the library is available to the student. Due to this, I've chosen not to speak more about this cluster or AOI.

Cluster 2. - HIGH INTEREST

Based on the task of finding and suggesting books for the library to purchase, cluster number 2, 3 and 4, all suggests similar results. Because clusters 2, 3 and 4 are located in a navigational box/element, higher on the page in a high-contrast color, students/participants tended to focus on this area first, due to its predominance on the page and it's navigational components. 80% of the participants focused on this cluster.

With that being said, the navigational elements in cluster number 2 seem to have nothing at all to do with the stated task at hand. Many of these navigational links are focused on directions and parking policies, staff departments, and student jobs. Higher-level links include “database” as well as “journal finder”, in addition to the right side of the search box. Results suggest that this is normal navigational scanning.

NOTE: Due to the participants' focus of 80%, we are labeling this as “high interest” in terms of its visual location on a page, but **NOT** necessarily due to the participants finding interesting navigational search options to accomplish the task.

Cluster 3. - HIGH INTEREST

Cluster 3 represent 60% of participants' scans. Cluster 3, in red on the cluster map, describes more relevant associative options for the participant to accomplish the task. Services and support for library services are included in the navigational features for cluster 3. With 60% participant engagement, services seems to suggest a reasonable location to start the task of finding a book to recommend for purchase.

Cluster 4. - MEDIUM - LOW INTEREST

Cluster 4 represents a 60% engagement of the participants/students sampled. Some of the navigational links include “help”, “ask us”, “meet with the librarian”, and “tutoring services”, as well as, “citation tools”. Several of these links seem like logical navigational elements to focus on to accomplish the task. The results suggest an obvious location to look, based on the cluster focus location on the page which contains a large navigational box that is in high contrast.

NOTE: Due to the participants focus of 60%, we are labeling this as “Medium - Low Interest” in terms of its visual location on a page **NOT** necessarily due to the participants finding interesting navigational search options to solve for the task.

Cluster 5. & 6 - LOW INTEREST

Cluster number 5 is one of the smallest clusters and represents participants at 40% engagement. Cluster number 5 is on an advertising box that was embedded in the page as a carousel. Cluster number 5 and number 6 represent 2 of the lower and smaller clusters on the cluster map. Due to this, I will speak no more about this cluster, because I feel as though not much can be learned from it.

Cluster 7. - HIGH INTEREST

With 60% participant engagement, cluster number 7 presents several interesting results. Cluster number 7 represents navigational elements located in the far, top, left-hand portion of the screen, including the search box, in high-contrast, on the KSU library page. Searching for a solution to suggest books for the library to purchase was a task solution that several students/participants considered.

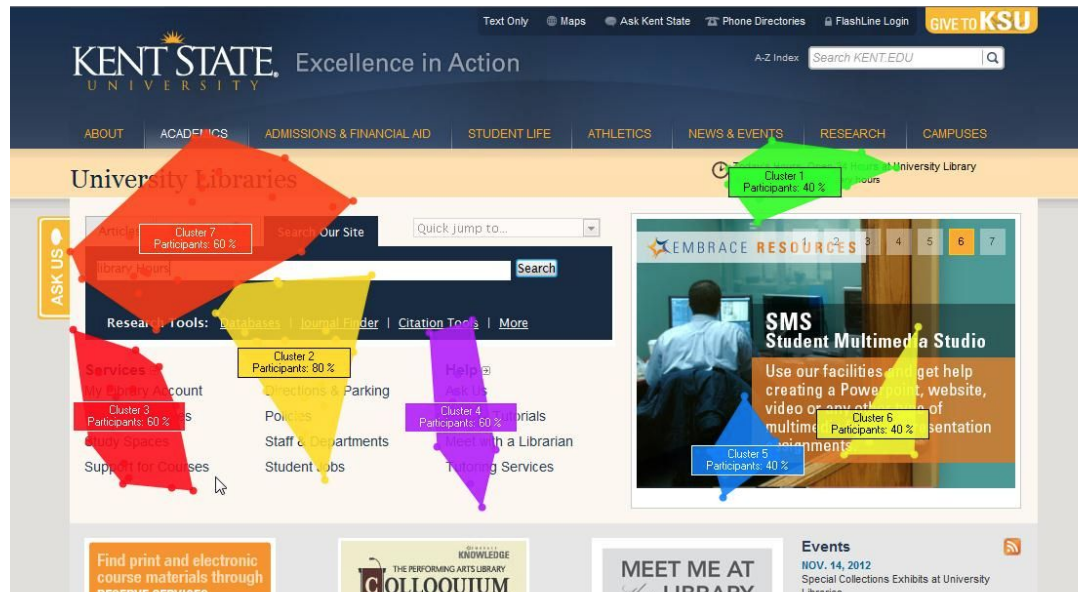
Additionally, cluster number 7 encompasses several tabs on the navigational box itself. Cluster number 7 also engages search tools and comes closer to Cluster number 2. My assessment is cluster number 7 and cluster number 2, due to their close proximity, represent the most interesting results of all clusters on the page. With that being said, cluster number 7 also represents the back button/KSU library link. It's also possible that the high value of 60% was achieved specifically because participants were considering how to back out of a page navigationally.

Cluster map assessment - maps 1-7

Cluster's 1 through 7 suggest a multitude of assessments. In my opinion, clusters 1, 5 and 6 are relatively meaningless on the page. Clusters 5 and 6 both focus on university advertising. Due to the imagery associated, I believe both clusters 5 and 6 engage the user from a visual perspective, but did not offer any assistance to solving the task. Cluster number 1 from a hierarchy perspective represented more interest because of its location on the page, and from an information hierarchy perspective, appears to be more important. However, cluster number 1 represented only the available hours of operation for the library. I believe that when users discovered this they quickly moved on. This would suggest and support the size of cluster number 1 being very small.

Cluster number 7, number 3, and number 2 are the most interesting of this entire map. My assessment is: the navigational elements of the main upper, left part of the page, which encompasses the search box, represent the best solution on the page for the participant/student to solve the task. Therefore, the highest value for visual search was focused in these three segments. Additionally, cluster number 7 represents the back button that was used by students for leaving this page, then moving to other pages and ultimately they went back to this page to exit. Because of its navigational elements, it may have achieved more visual dominance.

My ending assessment of this page is that high-contrast navigational elements, like the one encompassing the search tool, is a powerful resource for students to use in solving for the task at hand. It's clear that this is a very high “Area of Interest” (AOI) to the students/participants.



Above: Gaze Cluster Map - all participants

3 Eye tracking tasks

Justification for tasks below - Assignment: “Write an explanation of why you chose each one and how it will improve the current study.” Because I could not find the link(s) to suggest a book the library should purchase for me to use, I chose other tasks.

I've chosen the three following tasks for the purpose of further understanding the tabular navigation on the library website and how students utilize navigational elements for more sophisticated problem-solving. Additionally, the library website is a powerful resource for new students. I see the library website as being slightly overwhelming in terms of its abundance of content. Because of this, I've structured tasks around new or challenged students, who are looking for more resources on the website to assist them in improving their GPA by utilizing the website's abundant resources, including reference materials. Justification for the style of task creation, specifically for eye tracking, was found in the book “Eyetracking Web Usability” By J. Nielsen & K. Pernice Chapter 1., P 12-16

Task 1

Task Style: Open ended task writing style

Moderation Style: Walk along style

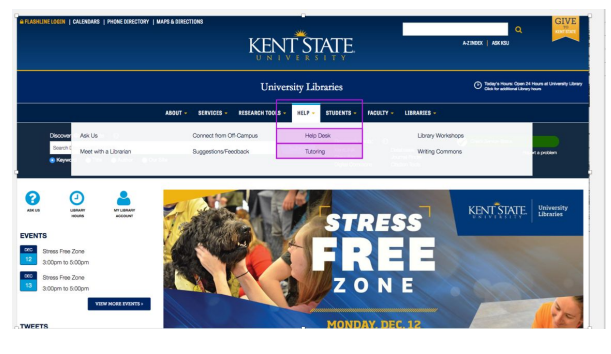
Task: You're starting to struggle in one of your classes and your points based grade has dropped from a possible B to a C. Check out kent.edu library website for extra tools to increase your knowledge for your coursework. What do you find that could help you improve your GPA?

Moderator notes: Encourage the participant to engage in a “walk along style” description of their task solving. Ask the participant to solve the problem verbally and communicate what they're thinking in terms of how they're navigating throughout the navigational elements and why they're choosing specific link solutions. What are they

exploring and why? Why do they think these solutions will help them? Don't hesitate to remind them to continue to think out loud, if they go silent.

Task Explanation - Open ended task writing style

This task directs the participants to explore the potential of an open-ended task to see how they might solve the problem in a myriad of different ways by using different tools available on the library website. The goal is to discover whether or not the participant can find the tutoring and mentoring section of the library website, and to locate what other tools they might discover to further increase their GPA.



Task 2

Task Style: Open ended task writing style

Moderation Style: Walk along style

Task: As a new student to KSU, you need to familiarize yourself with the resources available to you. Upon visiting the website, you find yourself overwhelmed by the sheer amount of resources available. How would you choose to familiarize yourself with all the library website has to offer as fast as possible?

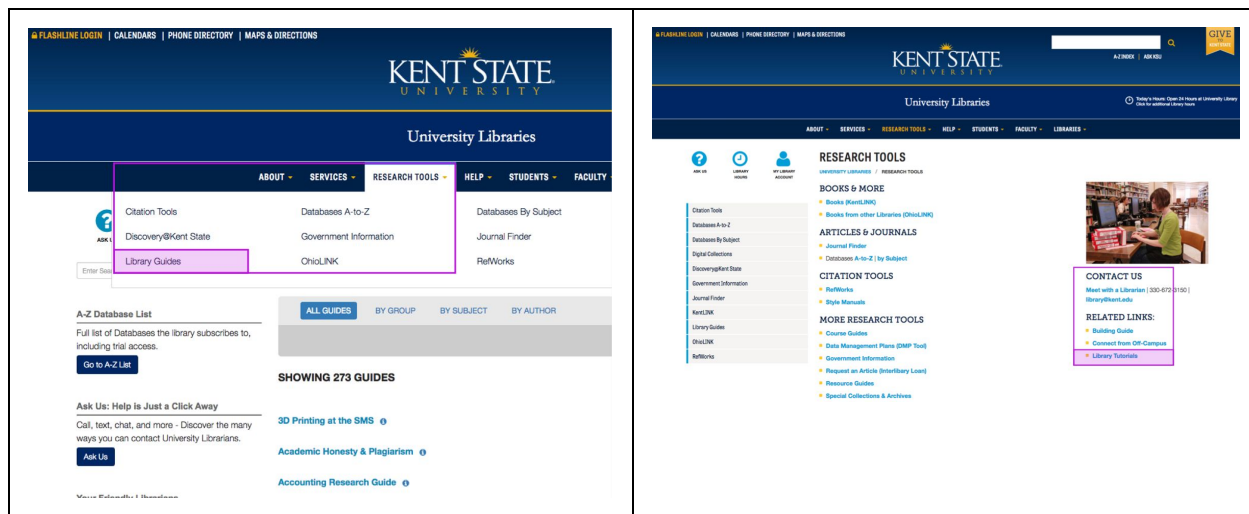
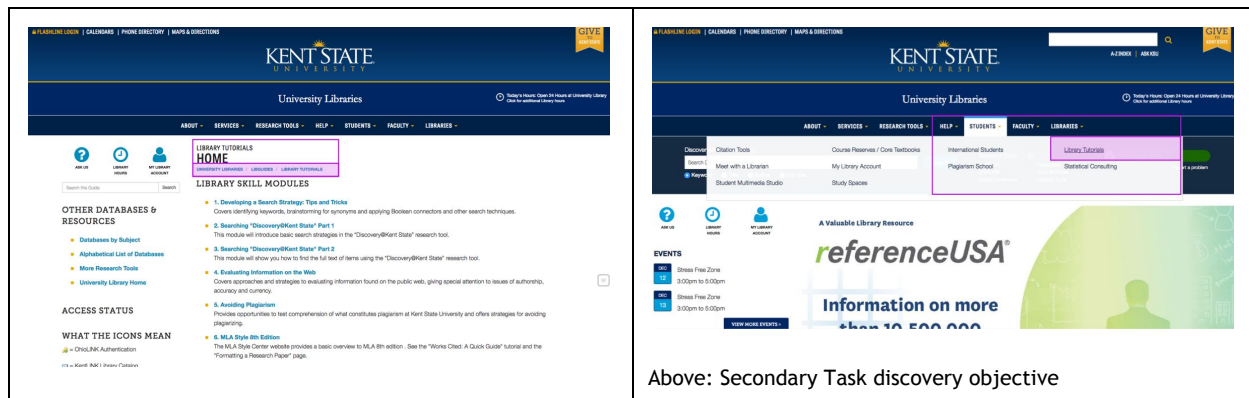
Moderator notes: Same as Task 1

Task Explanation - Open ended task writing style

First task objective: The participants have been asked to find a solution for being overwhelmed by the sheer amount of information available to new students on the library website. We're hoping participants and students can easily find the library's tutorials and guides. The purpose of this resource is to assist new students with understanding the breadth and depth of resources available through the library website. Located below are four screen captures showing resource links to library guides and tutorials.

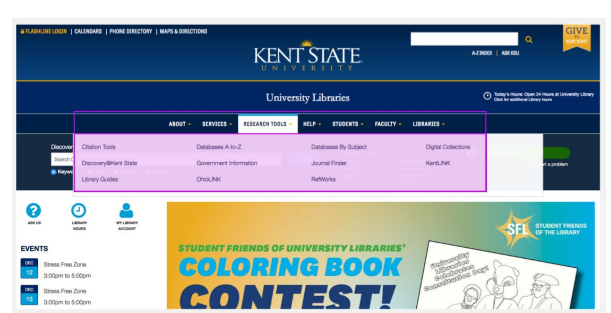
Secondary Task discovery objective: At the top right, a direct link is available to the students off of the homepage, which should be the most obvious. However, it's buried in a tab labeled students, rather than help. The location of this link specifically concerns us and is a secondary research point for us to discover whether or not a participant or student might have difficulty finding it here in this odd location.

We are highly concerned that this important link, for new students to find resources available to them, is in the wrong tab.



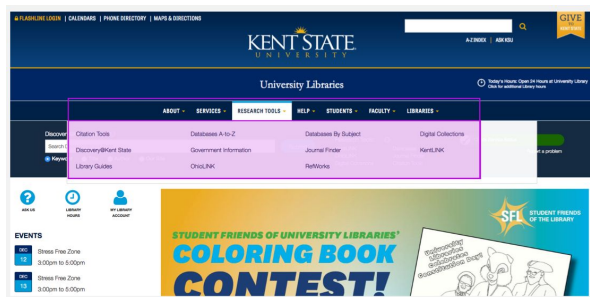
Task Explanation - Open ended task writing style

The navigation tab titled “research tools” is the focus of our examination. Our hope is that the student/participant will leverage this tab in the navigation as a form of explorative discovery into the vast resources available on the KSU library website. Knowing that every participant's course study is unique, it will be interesting to see which of the resources is the most popular across the sample of participants we choose.



Design assessment & recommendations - KSU Library Website

High-contrast navigational elements, like the one encompassing the search tool and tabs is a powerful resource for students and was a major AOI in this study. This proved to be a tool that 60% of the participants chose to use to solve the stated task. If there were to be a redesign of this webpage, focusing on navigation and tabs as a solution, there appears to be a predominant use case for students to use as a go-to navigation tool and one I'd recommend refinement of.



Shown above: In purple, the tabular navigation element

Task Writing Source: Eyetracking Web Usability Chapter 1., P 12-16

Tasks Determine Looks

The mind-eye hypothesis implies that the way people look at any given artifact—such as a Web page—is determined by what they're trying to do with it. In other words, the task the user has chosen or been asked to do determines their looks.

Obviously, it's important to test the right tasks: to conduct eyetracking studies while users are trying to do the same things on a Web site in a lab as they would at home or work. If you ask users to do an unrealistic task, you'll get unrealistic eye tracking data, and your study will be worthless. It is also important to give people some open-ended tasks, such as reading the news, and to let them create their own tasks. Doing this helps us learn where people choose to look when we did not impose even the slightest influence on them.