

# **BETTER TIPS FOR TAPS**

**LIBRARY TECHNOLOGY CONFERENCE 2017**

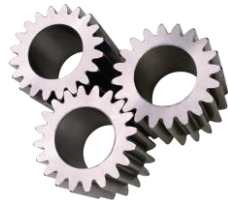
**JUNIOR TIDAL**

**WEB SERVICES & MULTIMEDIA LIBRARIAN  
NEW YORK CITY COLLEGE OF TECHNOLOGY, CUNY**

# OVERVIEW

- **MOBILE USABILITY TESTING**
- **MOBILE VS DESKTOP**
- **SETTING UP THE TEST**
- **CONDUCTING THE TEST**
- **DATA ANALYSIS**

# WHAT IS USABILITY TESTING?



**MOBILE USABILITY TESTING IS THE  
EVALUATION OF A MOBILE  
WEBSITE ON A DEVICE, SUCH AS A  
TABLET OR SMARTPHONE.**



**“USABILITY REALLY JUST MEANS  
MAKING SURE THAT SOMETHING  
WORKS WELL: THAT A PERSON OF  
AVERAGE ABILITY AND  
EXPERIENCE CAN USE THE  
THING...”**

**–STEVE KRUG, *DON’T MAKE ME  
THINK***



**USABILITY CAN DETERMINE IF  
THE USER'S EXPERIENCE IS  
SATISFYING OR FRUSTRATING.**



**USABILITY TESTING IDENTIFIES  
OBSTACLES THAT USERS MAY  
ENCOUNTER.**



**OBSTACLES CAN BE AS SIMPLE AS  
BROKEN LINKS OR HIGHLIGHTING  
MORE SERIOUS BUGS IN A  
WEBSITE.**





**USABILITY TESTING GIVES  
INSIGHT TO USER  
PREFERENCES AND  
BEHAVIORS**



# **WHY IS USABILITY IMPORTANT?**

# **EXERCISE: MAKE A PB&J SANDWICH**

**WRITE INSTRUCTIONS DOWN FOR  
ASSEMBLING A PB&J**

**YOU HAVE...**

- 1 PACKAGE OF A BREAD LOAF**
- 1 CONTAINER OF PEANUT BUTTER**
- 1 CONTAINER OF JELLY**
- 1 KNIFE**

A photograph of a pink plate with two slices of toast. One slice is topped with a thick layer of butter, and the other is topped with a layer of jam. A silver butter knife is positioned diagonally across the plate. The background shows a wooden table and a white ceramic cup with a blue floral pattern.

**WHY IS TESTING  
USABILITY IMPORTANT?**

A photograph of a sandwich on a white plate, with a knife cutting through it. The sandwich appears to be a ham and cheese sandwich. The background is a wooden table. The text is overlaid on the image in a bold, black, sans-serif font.

**LIKE PB&J  
SANDWICHES,  
WEBSITES DON'T  
COME WITH  
INSTRUCTIONS**

A photograph of a slice of toast on a pink plate. The toast is topped with a thick layer of butter and a spread of jam. A silver knife is positioned diagonally across the toast, as if in the process of cutting it. The background is a light-colored wooden surface. In the upper right corner, a portion of a white ceramic cup with a blue floral pattern is visible.

**LIBRARY WEBSITES  
CAN BE VERY  
COMPLICATED**

A top-down view of a pink oval plate on a wooden table. The plate contains two slices of white toast. The slice on the left is covered in a thick layer of yellow butter. The slice on the right is covered in a thick layer of red jam. A silver butter knife is positioned horizontally across the right slice. In the background, a white ceramic cup with blue floral patterns is partially visible.

**IMPROVES  
PERFORMANCE**

A photograph of three slices of toast on a pink plate. The toast is spread with a thick layer of butter. One slice on the right is also spread with red jam. A silver butter knife is positioned horizontally across the jammed slice. The plate is on a wooden table. In the background, a white ceramic cup with blue floral patterns is partially visible.

**KEEPS COST DOWN**



A photograph of a pink plate on a wooden table. On the plate are three slices of toast. The leftmost slice is topped with a thick layer of butter. The middle slice is topped with a thick layer of red jam. The rightmost slice is topped with both butter and jam. A silver butter knife is positioned horizontally across the middle slice, as if cutting it. In the background, a white ceramic cup with a blue floral pattern is partially visible. The text 'TESTING IDENTIFIES WHAT WORKS AND WHAT DOESN'T' is overlaid in large, bold, black capital letters across the center of the image.

**TESTING IDENTIFIES  
WHAT WORKS AND  
WHAT DOESN'T**

A photograph of a pink plate with a sandwich and a knife. The sandwich is cut into two halves, one of which is being cut by a knife. The text is overlaid on the image in a bold, black, sans-serif font.

**IMPROVES EFFICIENCY  
SO DEVELOPERS CAN  
FOCUS ON OTHER TASKS**

A photograph of a pink plate with three slices of toast. One slice is topped with jam and a knife is cutting into it. The text 'DATA-DRIVEN DESIGN DECISIONS CAN BE MADE' is overlaid in the center in bold black letters.

**DATA-DRIVEN DESIGN  
DECISIONS CAN BE MADE**

A photograph of a pink plate with two slices of toast. The slice on the left is topped with a thick layer of butter, and the slice on the right is topped with a layer of jam. The plate is set on a wooden table. In the background, a white ceramic cup with a blue floral pattern is partially visible. The text "REDUCES REWORK OR BIG FIXES" is overlaid in large, bold, black letters across the center of the image.

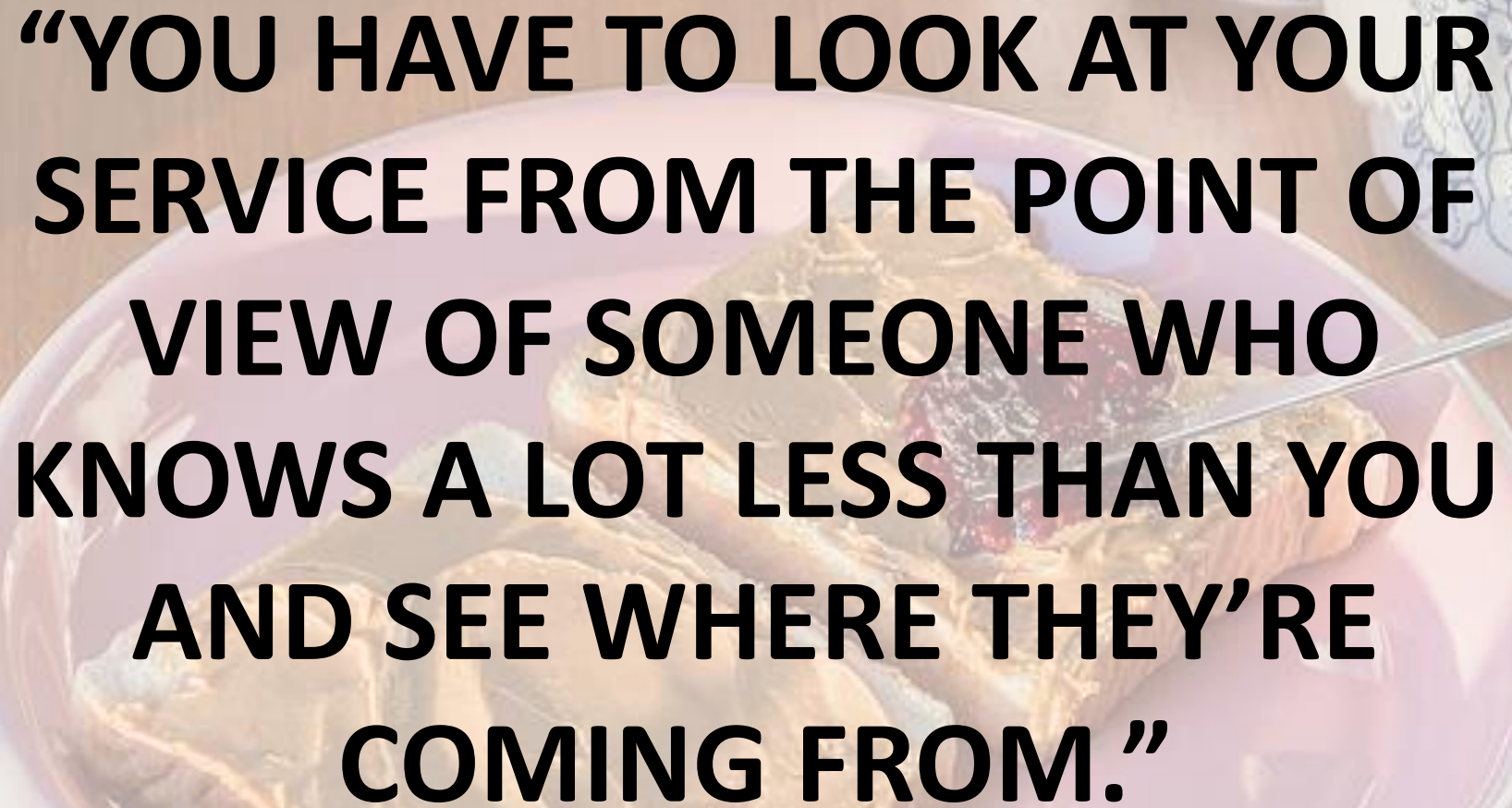
**REDUCES REWORK OR  
BIG FIXES**

A photograph of a pink plate on a wooden table. The plate contains three slices of toast. Two slices are spread with butter, and one slice is spread with jam. A silver butter knife is placed on the jammed slice. The text "HELPS MAKE DATA-BASED DECISIONS" is overlaid in the center of the image.

**HELPS MAKE DATA-BASED  
DECISIONS**

A photograph of a pink plate with a white rim, containing two slices of toast. One slice is topped with a spread of jam, and a silver butter knife is resting on it. The other slice is plain. The plate is on a light-colored wooden surface. In the background, a white ceramic cup with a blue floral pattern is partially visible. Overlaid on the center of the image is the text "INCORPORATES THE USER'S PERSPECTIVE AND VOICE" in a bold, black, sans-serif font.

**INCORPORATES THE  
USER'S PERSPECTIVE  
AND VOICE**

A white plate of food, possibly a sandwich or burger, with a knife and fork, overlaid with a quote. The background is a wooden table. The text is in bold black font.

**“YOU HAVE TO LOOK AT YOUR  
SERVICE FROM THE POINT OF  
VIEW OF SOMEONE WHO  
KNOWS A LOT LESS THAN YOU  
AND SEE WHERE THEY’RE  
COMING FROM.”**

**-SUMANA HARIHARESWARA**

# MOBILE VS DESKTOP





# **WHAT ARE SOME DIFFERENCES BETWEEN MOBILE AND DESKTOP TESTING?**



**THE MOBILE CONTEXT - THE  
CIRCUMSTANCES AND  
ENVIRONMENT A MOBILE DEVICE  
IS USED.**



**MOBILE DEVICES ARE  
PORTABLE AND CAN BE USED  
ANYWHERE AND ANY TIME.**



**DESKTOP MACHINES ARE  
TETHERED.**



**LAPTOPS ARE NOT AS MOBILE  
WHEN IN USE.**



**THE ENVIRONMENT IN WHICH  
DESKTOP AND LAPTOP  
WORKSTATIONS ARE STATIC.**



**MOBILE DEVICES HAVE SMALLER  
SCREEN SIZES.**



**SMALLER SCREENS FORCES A  
DRAMATIC CHANGE TO THE  
INTERFACE.**





**WEB PAGE REAL ESTATE AND  
LAYOUTS ARE MORE  
RESTRICTIVE IN THE MOBILE  
CONTEXT.**

# TOUCH INTERFACE



**USERS INTERACT WITH THEIR  
FINGERTIPS AND NOT WITH A  
KEYBOARD AND MOUSE.**



**OPTIMIZE TASKS THAT DOESN'T  
REQUIRE A KEYBOARD AND  
MOUSE.**



# NETWORK ACCESS



**DATA TRANSFER IS AT THE MERCY  
OF CELL PHONE AND WIFI  
SIGNALS.**



**LIMIT CONTENT, SUCH AS IMAGES, SO  
THEY CAN BE DOWNLOADED QUICKLY  
OVER MOBILE BROADBAND.**



# TEST SETUP





**WHAT ARE THE GOALS OF YOUR  
TEST?**



**BEFORE YOU CAN TEST, IT'S  
IMPORTANT TO IDENTIFY YOUR  
GOALS.**



## **EXAMPLE GOAL:**

**YOUR DESKTOP SITE HAS BEEN MOBILE  
OPTIMIZED AND YOU WANT TO SEE HOW  
WELL THAT FARES WITH SMARTPHONE  
USERS.**



## **EXAMPLE GOAL:**

**A DISCOVERY TOOL WAS RECENTLY  
INTEGRATED WITH YOUR SITE AND YOU  
WANT TO SEE HOW TABLET USERS UTILIZE  
IT.**



## **EXAMPLE GOAL:**

**A WEBSITE IS IN THE PROTOTYPE STAGE,  
AND YOU WANT INCORPORATE THE  
EXPERIENCES OF MOBILE USERS BEFORE  
CREATING A BETA VERSION.**



**GOALS DETERMINE TASKS TO TEST**



**A TASK IS A PROCESS THAT USER  
NEEDS TO ACCOMPLISH.**



**A TASK IS NOT A TASK SCENARIO.**





**“TASK SCENARIOS ARE  
ASSIGNMENTS THAT ARE GIVEN  
TO USERS.”**

Task Scenarios for Usability Testing. (2014, January 12). Retrieved from  
<https://www.nngroup.com/articles/task-scenarios-usability-testing/>



**TASK SCENARIOS ARE WHAT ARE  
THE QUERIES USED IN A USABILITY  
TEST.**



**THESE ARE USED TO OBSERVE USER  
BEHAVIOR BY PLACING THEM IN A  
REALISTIC, HYPOTHETICAL SITUATION IN  
USING THE LIBRARY WEBSITE.**



# TASK VS TASK SCENARIO



**TASK:**  
**FIND THE HOURS OF THE LIBRARY**  
**WEBSITE.**



**TASK SCENARIO:**  
**IMAGINE THAT YOU ARE STUDYING FOR**  
**FINALS AND NEED A SPACE TO STUDY.**  
**USING THE LIBRARY WEBSITE, DETERMINE**  
**THE LIBRARY'S HOURS.**



# WHO ARE YOU TESTING?



# WHO IS YOUR USER BASE?





**MOBILE USABILITY TESTING  
INHERENTLY GIVES A SET OF USERS,  
THOSE WHO USE MOBILE DEVICES**



# WHAT TYPE OF MOBILE USERS?



**TABLET USERS?**

**SMARTPHONE USERS?**

**ANDROID TABLET USERS?**

**iPHONE USERS?**

**ALL OF THE ABOVE?**



**ANALYTICS CAN PROVIDE CLUES  
ON WHAT KIND OF USER IS BEST  
FOR USABILITY TESTING.**



# **ANALYTICS CAN HELP CREATE A PERSONA OR A “REALISTIC REPRESENTATION” OF YOUR AUDIENCE.**

Affairs, A. S. (2013, October 09). Personas. Retrieved from <https://www.usability.gov/how-to-and-tools/methods/personas.html>

## **EXAMPLE PERSONA:**

**A 19 YEAR OLD FRESHMEN STUDENT WHO  
IS A FIRST-TIME RESEARCHER THAT  
PRIMARILY USES A SMARTPHONE FOR  
INTERNET ACCESS.**



## **EXAMPLE PERSONA:**

**A 51 YEAR OLD CONTINUING EDUCATION  
STUDENT WHO USES A TABLET  
COMPUTER PRIMARILY FOR EMAIL AND  
SOCIAL MEDIA.**



**PARTICIPANTS SHOULD BE  
COMFORTABLE AND FAMILIAR WITH  
THE DEVICE THAT THE TEST IS  
CONDUCTED ON.**





**IF THEY ARE USING A DEVICE THEY  
ARE NOT FAMILIAR WITH, THIS  
COULD TAIN THE TEST.**



**YOU MAY FIND PROBLEMS WITH  
THE HARDWARE RATHER THAN  
THE WEBSITE.**



# HOW MANY USERS TO TEST?



# LITERATURE SUGGESTS 5 USERS FOR A COGNITIVE WALKTHROUGH USABILITY TEST.

Nielsen, J. (2000, March 19). Why You Only Need to Test with 5 Users. Retrieved from <https://www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/>

**LABORATORY TESTING**  
**VS**  
**FIELD TESTING**



**THERE ARE TWO TYPES OF  
TESTING: LABORATORY  
TESTING AND FIELD TESTING.**



# WHAT IS LABORATORY TESTING?



**A LABORATORY TEST IS  
CONDUCTED IN A  
CONTROLLED  
ENVIRONMENT.**





**IN A LAB TEST, DEVICES MAY  
BE PROVIDED BY THE  
PROCTORS.**



**NETWORK ACCESS IS  
READILY AVAILABLE.**



# WHAT IS FIELD TESTING?



**FIELD TESTING IS CONDUCTED  
OUTSIDE THE CONTROL OF A  
LAB FOR MORE REALISTIC  
RESULTS.**



**THE USER MAY HAVE TO  
CONFIGURE THEIR OWN  
NETWORK CONNECTION.**



**FIELD TESTING CONTAINS  
THE DISTRACTIONS OF THE  
REAL WORLD.**



# TEST COMPONENTS



# METRICS





# **METRICS MEASURE USER INTERACTIONS WITH THE APPLICATION.**



# TASK TIMING



# NUMBER OF TAPS TO COMPLETE A TASK



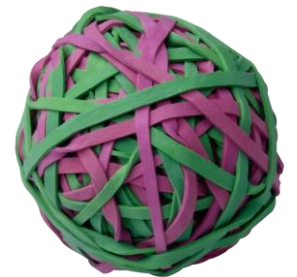
# SUCCESS/FAILURE RATE



# TALK ALOUD PROTOCOL (TAP)



# CONDUCTING THE TEST



# PROCTORING THE TEST



**THERE SHOULD BE A LEAD TESTER,  
AND ADDITIONAL SUPPORT SUCH  
AS NOTE TAKER.**





**THE PROCTOR WILL  
CONDUCT THE TEST.**



**THE PROCTOR CANNOT  
ANSWER QUESTIONS, SO NOT  
TO LEAD THE PARTICIPANT.**



**A NOTE TAKER(S) SHOULD ALSO  
BE PRESENT.**



**DIGITAL RECORDING IS BEST.**



# WHERE TO TEST



**LAB TESTING:  
A CLOSED CONFERENCE ROOM.**



**NO DISTRACTIONS, PARTICIPANT  
CAN FOCUS IN A QUIET ROOM.**



**ADDITIONAL EQUIPMENT CAN BE  
USED, SUCH AS A MONITOR TO  
TRACK NAVIGATION**





# **EASIER TO RECORD RESULTS IN A LAB TEST**



# **LAB TESTING ALLOWS INCORPORATION OF OBSERVERS**



**EASIER TO INCORPORATE  
OBSERVERS THROUGH GOOGLE  
HANGOUTS, CLOSED CIRCUIT  
FEED, OR SKYPE IN A LAB TEST.**



# FIELD TESTING



**FIELD TESTING WOULD BE  
ANYWHERE THEY COULD USE A  
MOBILE DEVICE.**



**FIELD TESTS CAN BE CONDUCTED  
IN LINE AT THE CIRCULATION  
DESK, A CAFE, OR IN THE STACKS**



**THE DOWNSIDE OF FIELD  
TESTING IS THAT IT IS HARDER  
TO CAPTURE RESULTS**



**NETWORK ACCESS MAY BE  
SPOTTY IN A FIELD TEST.**





**WHEREVER YOU TEST, MAKE SURE IT  
MEETS INSTITUTIONAL  
REQUIREMENTS.**



# IRB TESTING AND APPROVAL



# FUNDING FOR INCENTIVES



# SCHEDULING



# **SCHEDULING PARTICIPANTS CAN BE DIFFICULT**



**ONLINE SURVEYS, DOODLE  
POLLS, AND GOOGLE  
CALENDAR CAN BE USED TO  
FACILITATE SCHEDULING.**



**ONLINE SURVEYS CAN BE USED  
TO SCREEN PARTICIPANTS.**



**THE ONLINE SURVEY CAN ALSO  
BE USE TO DETERMINE A  
USER'S PREFERRED DEVICE.**





**PARTICIPANTS MAY CANCEL LAST  
MINUTE OR NOT SHOW UP AT  
ALL.**



# TECHNICAL SETUP



# TOOLS TO CAPTURE THE TEST



**SCREEN CAPTURE SOFTWARE**

**CAMERAS**

**DOCUMENT SCANNERS**

**DIGITAL MP3 RECORDERS**



**FREE TOOLS:**

**QUICKTIME (MAC OS X ONLY) FOR  
SCREEN CAPTURE**

**AUDACITY FOR AUDIO CAPTURE**

**PHOTOBOOTH (MAC OS X ONLY) FOR  
PARTICIPANT CAPTURE**

**PROPRIETARY TOOLS:**

**CAMTASIA (SCREEN AND WEB CAM  
CAPTURE)**

**MORAE (USABILITY SUITE)**

**REFLECTOR (MOBILE DEVICE SCREEN  
CAPTURE)**

# OBSERVERS



**OBSERVERS SHOULD BE  
HIDDEN FROM PARTICIPANTS.**





**OBSERVERS COULD BE OTHER  
STAKEHOLDERS.**



**OBSERVERS CAN TAKE NOTES AND  
OFFER DIFFERENT PERSPECTIVES.**



# **USABILITY EXERCISE**

**1. FIND A PARTNER OR CREATE  
A TRIO**

**2. TEST EACH OTHER'S  
WEBSITES ON A MOBILE  
DEVICE**

**3. DISCUSS FINDINGS**

**<http://cityte.ch/libtechconf>**

# DATA ANALYSIS



**METRICS AND TAP RESPONSES  
CREATE PATTERNS AND IDENTIFY  
PROBLEMS.**



**RE-DESIGN THE SITE TO SOLVE  
THOSE PROBLEMS.**





**RE-TEST TO DETERMINE HOW  
WELL THAT WORKS OUT**



**CONCLUSION**

**QUESTIONS?**

**THANKS!**