

Usability Testing & Healthcare Applications

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Our Scenario

The topmost priority of the North Carolina Department of Health and Human Services (the Department) is the health and well-being of the individuals they serve. Your team is assigned to work on the usability testing of a SAAS application targeted for healthcare systems to be used by the served population. Think through the target audience, discuss and present the test plan for ensuring better usability of the mobile and web app. Focus on what constitutes usability to the target audience, and how your proposal addresses those concerns.

What is SAAS

- Form of SaaS: Cisco Webex Yahoo, Outlook, Hotmail, Netflix, etc.
- Method of software delivery that allows data to be accessed from any device with an internet connection and a web browser.
- Called sometimes: Web-based software, on-demand software, or hosted software.



SaaS and Healthcare Applications

- Cloud based services leading to incredible advancements in the healthcare industry.
- SaaS: Easier Collaboration, quick scalability and integration, ease of use.
- SaaS model in the healthcare industry grows at a rate of 20% annually.
- Cloud computing market in healthcare is predicted to reach \$51.9 billion by 2024.



SaaS and Healthcare Applications

- Healthcare app to improve quality of services and promote self management behaviors in patients.
- Use of the apps to schedule an appointment, review prescriptions, connect to doctors, online diagnosis.
- Majority of healthcare apps do not meet the users/patients expectations.



North Carolina Department of Health and Human Services



<https://www.ncdhhs.gov/>



NC Medicaid mobile app

- The department delivers health and human related services for all North Carolinians, with emphasis on vulnerable citizens, such as children, elderly, disabled and low-income families.
- Used to find and sign up for primary care providers (PCPs) and health plans
- Gives directions to nearby providers, hospitals, specialists and more

Usability Testing

- Method of testing the functionality of a website, app or other digital product by observing real users as they attempt to complete tasks on it.
- Basic features to be easily accessible to the end-users.
- Interactive tools to keep users engaged.
- Easy communication with healthcare professionals.
- Community feature.
- User friendly UI



Testing Plan



Objective: determine design inconsistencies and usability problem areas within the user interface & content areas

- Find 5 participants who accurately represent the target audience
- After each task, the participants fill out a post-task questionnaire
- Note and categorize errors or design concerns

Task Observations: Completion Rate, Error-free rate, Time on Task, Subjective Measures

Problem Severity Classification:

- Impact
- Frequency

Error Classification



Impact
High - prevents the user from completing the task
Moderate - causes user difficulty but the task can be completed
Low - minor problems that do not significantly affect the task completion

Frequency
High - 30% or more
Moderate - 11% - 29%
Low - 10% or fewer

Problem Severity Classification
High impact problems that often prevent users from correctly completing a task
Moderately occurring problems with moderate to low impact
Low impact problems faced by few participants

Participant 01



Behaviors:

Has very little time and drive to want and book and go to doctor's appointments

Impatient when it comes to waiting in line

Technology History:

Microsoft Office Products

Video Editing Software

Various Smart Technologies

Virtual Banking Apps

Art Apps



Age: 27

Job: Video Editor

Location: Releigh

Status: Engaged

Income: \$60,000

Julia

Team Manager

Bio: Julia loves her job as a video editor and has recently just received her first team management job for a small but impactful part of her companies next big contract.

This comes at a busy time for her as she has recently become engaged and together the two of them are planning their small wedding.

Participant 02



Behaviors:

Impatient when it comes to using
his smartphone

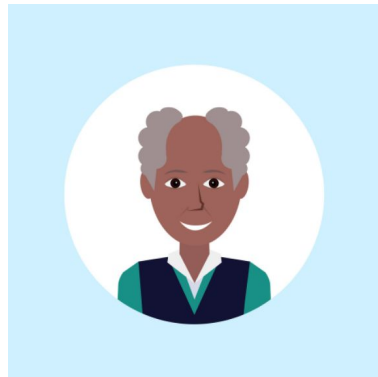
Increases the size of the text on his
phone and computer

Technology History:

Microsoft Office Products

Company Big Data Financial Software

First SmartPhone bought 7 years ago



Age: 68
Job: Retired (was in
Finance)
Location: Asheville
Status: Married, 1 Kid
Income: was \$80,000

Reggie
Retired

Bio: Reggie has recently retired from his career in the finance industry. He has been trying to take care of himself more recently so he can spend more time with his grandkids.

Reggie has never used a healthcare app on his phone before, and he does not know they even exist for his area.

Participant 03



Behaviors:

Speaks English as a second
language

Values flexibility

Technology History:

Google Products

Most social and professional media sites



Age: 36
Job: Human
Resources
Location: Murphy
Status: Married, 3
Kids
Income: \$45,000

Jennifer

Team Manager

Jennifer is a first generation college graduate who works as an HR recruiter. With the move to mostly online services Jennifer has been feeling pretty stressed with having to get her kids and mother all set up with online school and healthcare.

Jennifer's mother's health has been declining over the past couple of years and Jennifer within the last few months sold her mother's condo and had her move in with her family. She also now takes responsibility for her mother's doctors appointments and finances.



Conclusion

In testing the app and website through the perspectives of our personas, we found that the applications had no notable errors. They are ready for production.

Usability testing measures users' perceptions about the effectiveness, efficiency and satisfaction of the product. In regards to the NCDHHS applications, we tested that users would be able to get information and sign up for health plans.

Our proposal addresses these themes by noting and categorizing errors and user input.



References

[What Does Software As A Service Mean For Healthcare? \(forbes.com\)](#)

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Usability in Health Information Technology

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