How to make your apps easy to use: Usability testing the simple way

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About me

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FreeDOS

GNOME

Outreachy

U of M

What is **usability**?

Real people can do **real tasks** in a **reasonable amount** of time.

When to do usability testing?

Before

- Paper prototype test

- Mock–up of new interface

- Get an idea how real people will use it

mock–up → **test** → tweak → **test** → tweak

During

- Test new design

- Use the actual interface

- Tweak the design to make it better

design → **test** → tweak → **test** → tweak

Who can do usability testing?

Not you

You know the system too well

You know the menus

You know the keyboard shortcuts

Someone else

Representative of your users

Real people

Real tasks

How to do usability testing?

1. Personas

2. Scenarios

3. Scenario tasks

4. Test

5. Analyze

Watching someone else use the software (what's easy, what's hard?)

You don't need a fancy lab
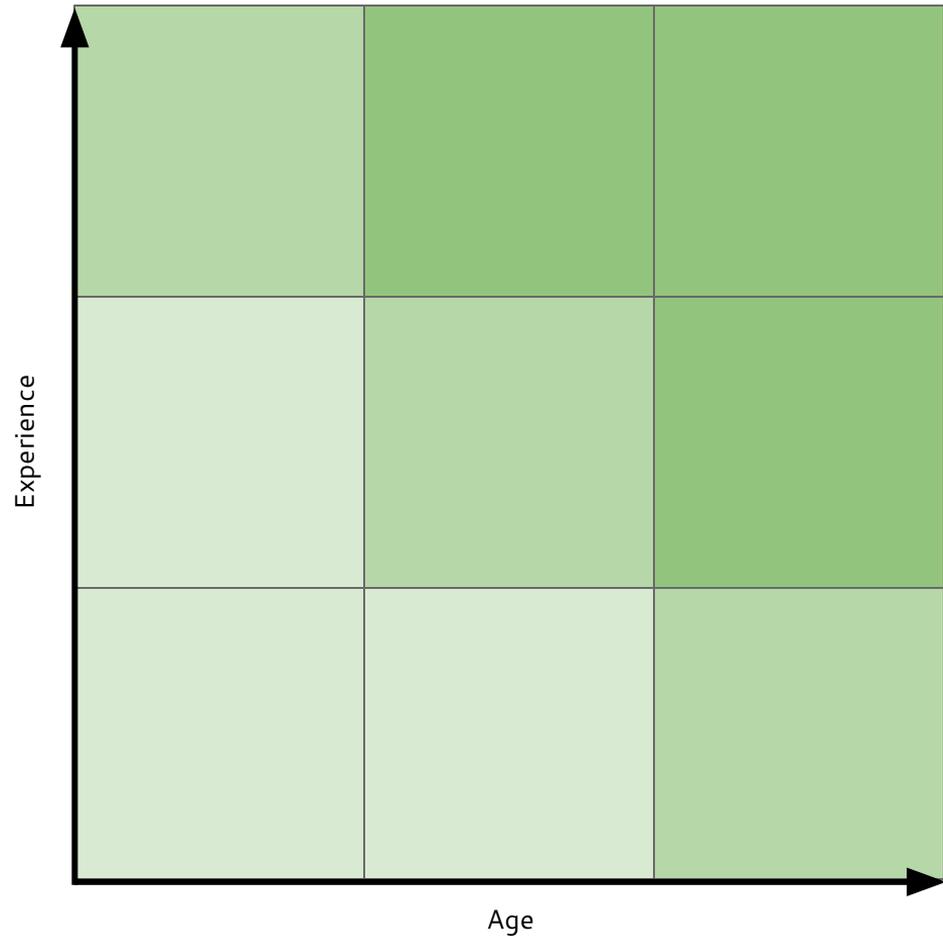
You can do it on your own

1. Personas

Fictional user

Make it real
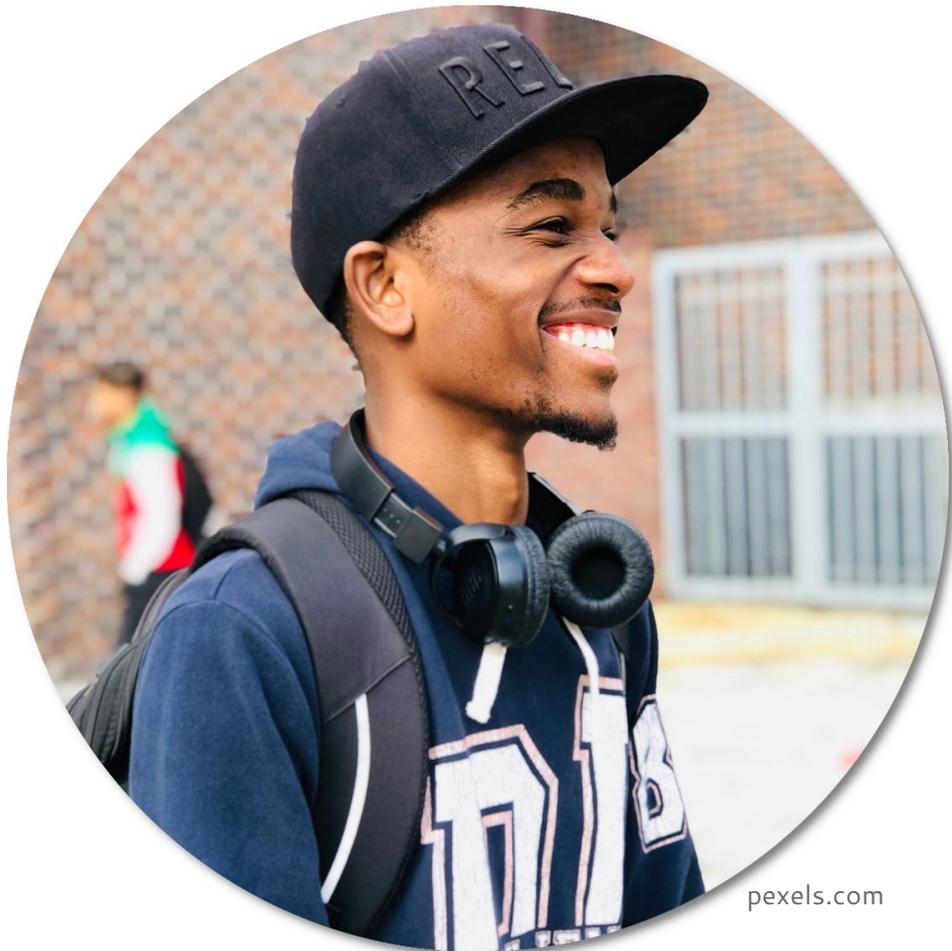
Include a photo

Represent all users

Todd

Todd (16, he/him) is a high school student who is getting interested in open source software.

At his school's computer club, a friend shows him Fedora, running GNOME on a lab PC.

Todd is learning about computers and is still getting started with using GNOME and the apps.

pexels.com

Stevie

Stevie (24, they/them) is a marketer for a mid-size company. They used Windows until recently, but would have had to buy a new computer to run Windows 11.

One of the web developers at the company suggested Stevie try Linux and GNOME, and after running the Live image, they made the switch.

Stevie is experienced with computers but new to GNOME.

bit.ly/QueerInTechPhotos

Maria

Maria (33, she/her) is a web developer for an online retailer.

Maria has run Linux since she was an undergrad CS student. She was a GNOME 2 user but switched to KDE after GNOME 3.

After reading articles about GNOME 40, Maria would like to try GNOME again. She's very familiar with Linux distros but re-learning GNOME.

pexels.com

Dan

Dan (45, he/him) teaches math and CS at a university.

Dan has been a Linux user since the 1990s and has tried all the Linux desktops: twm, olvwm, WM, fvwm, KDE, and GNOME. His favorite is GNOME, which he's used solidly since GNOME 2.

Dan uses GNOME for everything, including teaching classes.

pexels.com

Jessica

Jessica (52, she/her) is a business analyst at a small firm.

Most of her home computing is email and Facebook, on a Mac laptop. When it was time to buy a new Mac, her college–aged child suggested she try Linux instead.

Jessica is an occasional computer user who is completely new to Linux and GNOME.
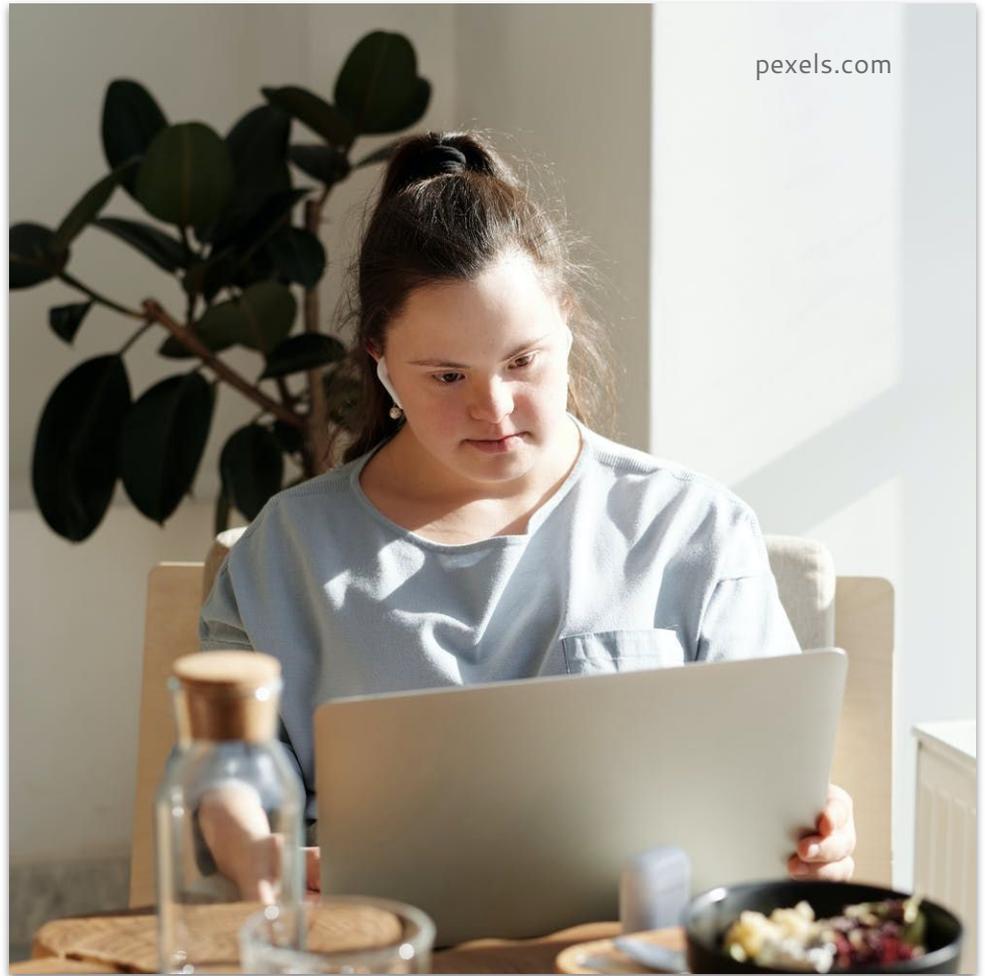
pexels.com

2. Scenarios

Who/What/Where/When/Why

Brief story about what they're doing (software)

How they use the software (circumstances)

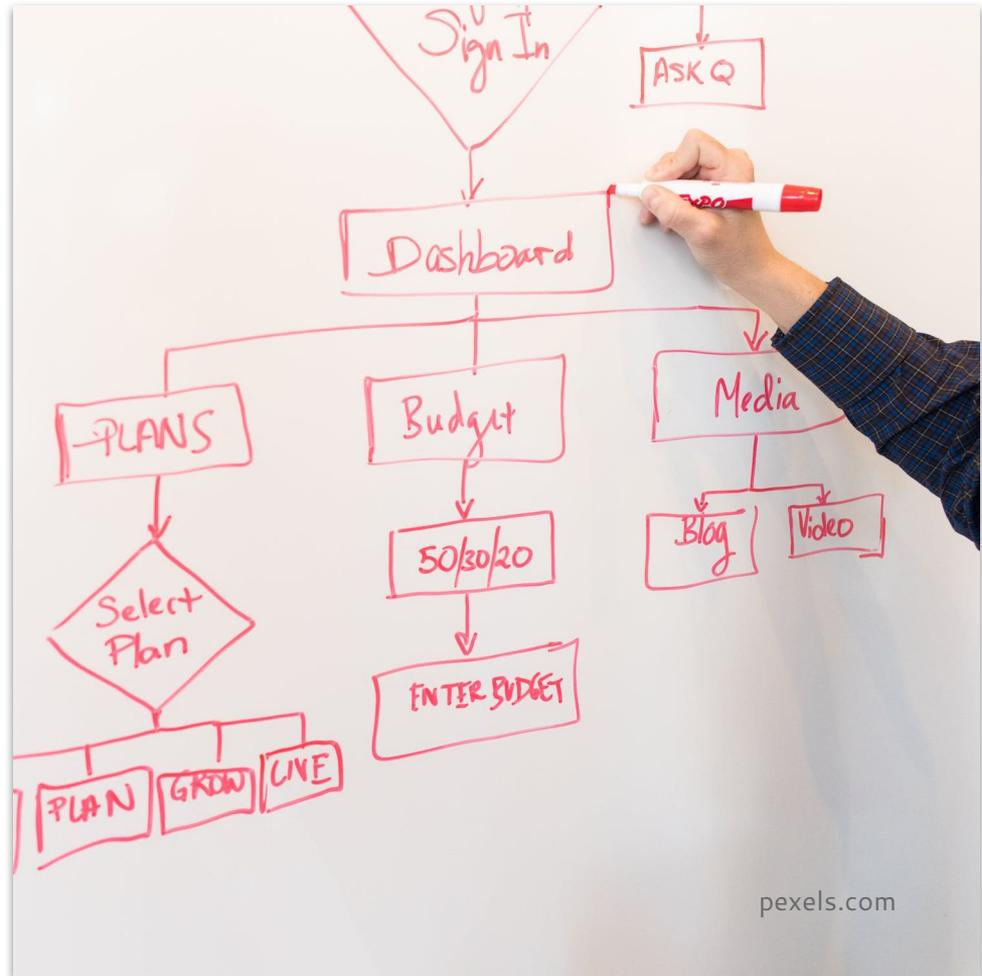Why they use the software (goals/objectives)

3. Scenario tasks

Set a **brief context** then ask the tester to **do something specific**

Don't reuse terms ("Font" etc)

Make it real

Follow a story, but be careful about making tasks too dependent

Actual GNOME scenario tasks

[Gedit] You want to finish writing a draft of a blog post that you are using in a project. You start the Gedit text editor (this has been done for you). Please open the file **blog post draft.txt** from the **Documents** folder.

[Gedit] Some of the names are incorrect in the document. Replace every occurrence of **Applejack** with **Fluttershy**, and all instances of **Rainbow Dash** with **Twilight Sparkle**.

[Calendar] A client has asked to meet with you at their office next week. Add an event called **Meeting with client** to your calendar for next week on Thursday at 10:00.

Actual GNOME scenario tasks

[Calendar] Your boss just reminded you about an important conference you need to attend **August 15–18**. You already planned a trip for around that time, so you want to check if you are free to attend the conference. Please check your calendar to see when you have your vacation, and if you are able to attend the conference.

[File Manager] Yesterday, you re-organized your files and you don't remember where you saved the copy of the class paper you were working on. Please search for a file named **The Hobbit.odt**.

[Firefox] You don't have your glasses with you, so it's hard to read the text on the website. Please make the text bigger on the website.

4. Test

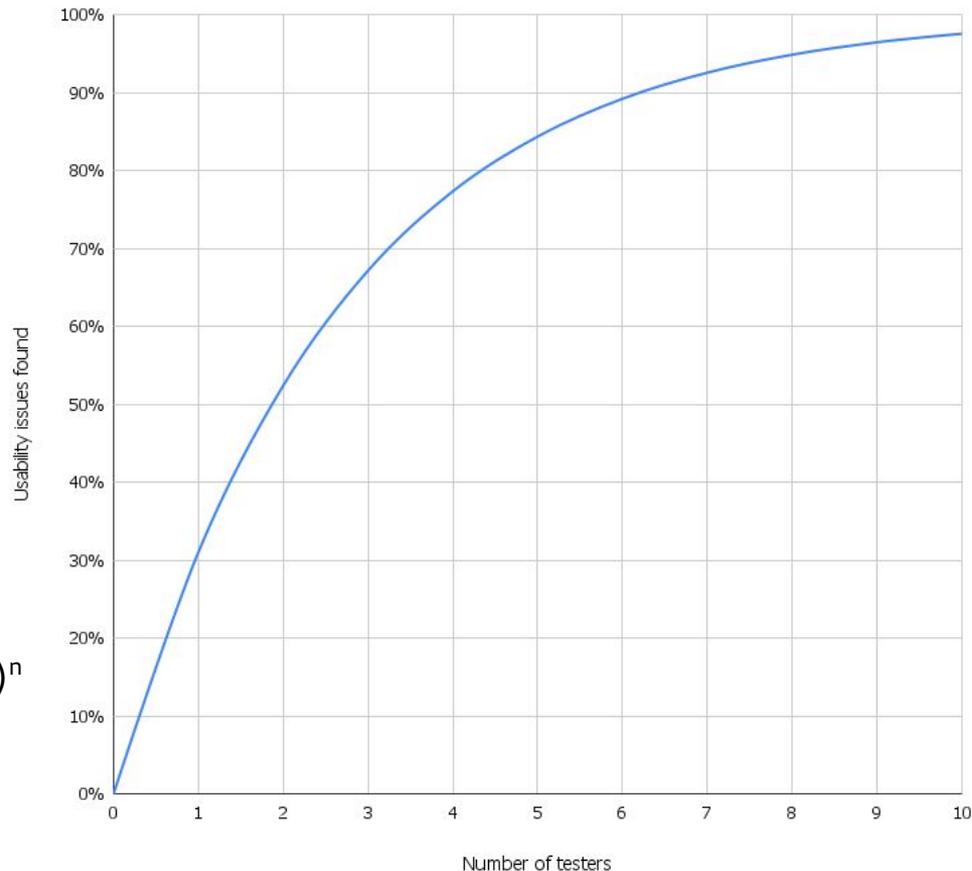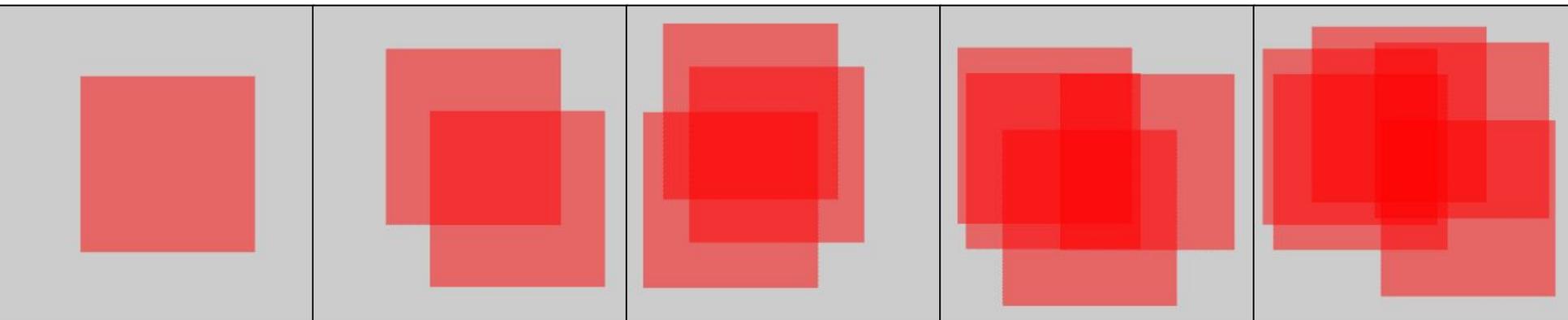Use the scenario tasks

Observe them using the software

Take notes
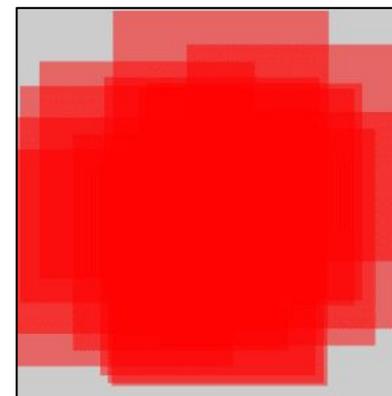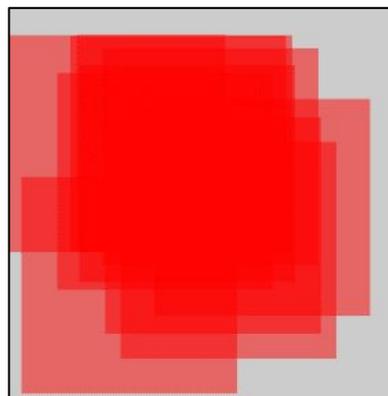
Ask follow-up questions

$1 - (1-L)^n$

L=31%

Usability issues found vs. Number of testers

Number of testers

Usability issues found

Each red square is 31%

4. Test

Welcome

Overview of the test

"Speak aloud" protocol

Get demographics

[Test]

Follow-up questions?

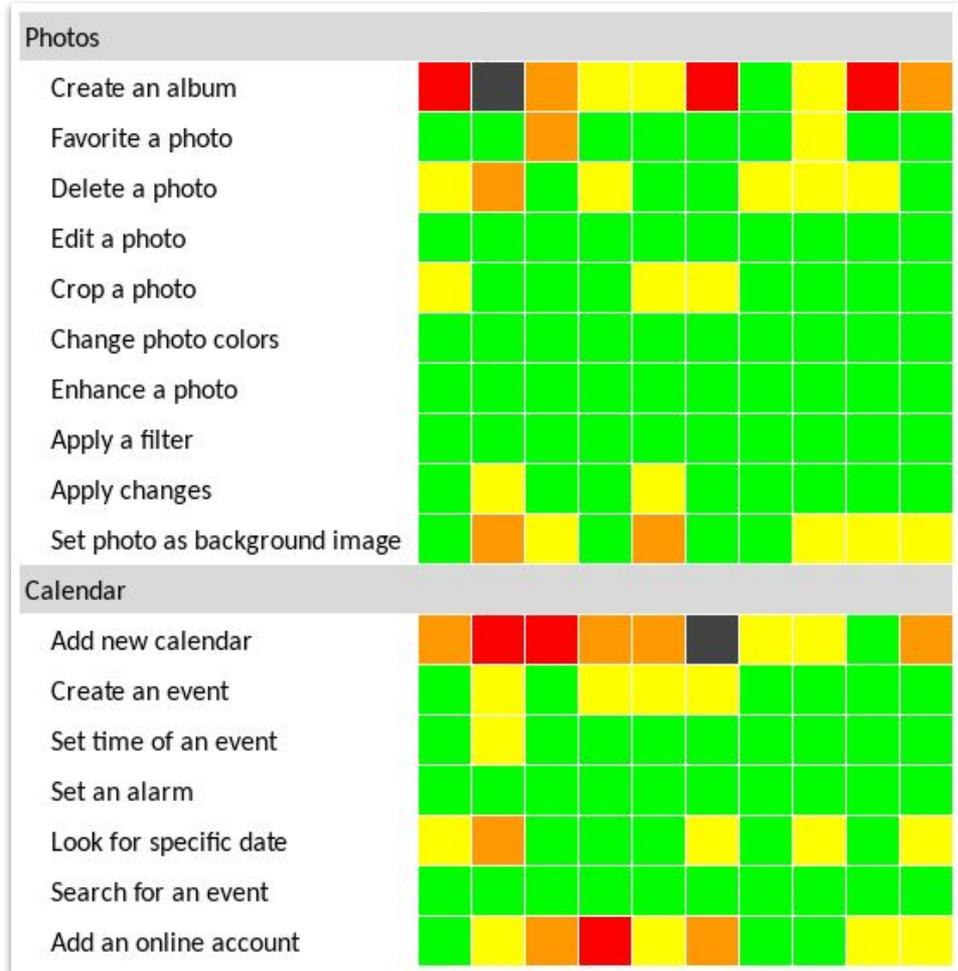"Thank you"

5. Analyze

How easy to use?

How hard to use?

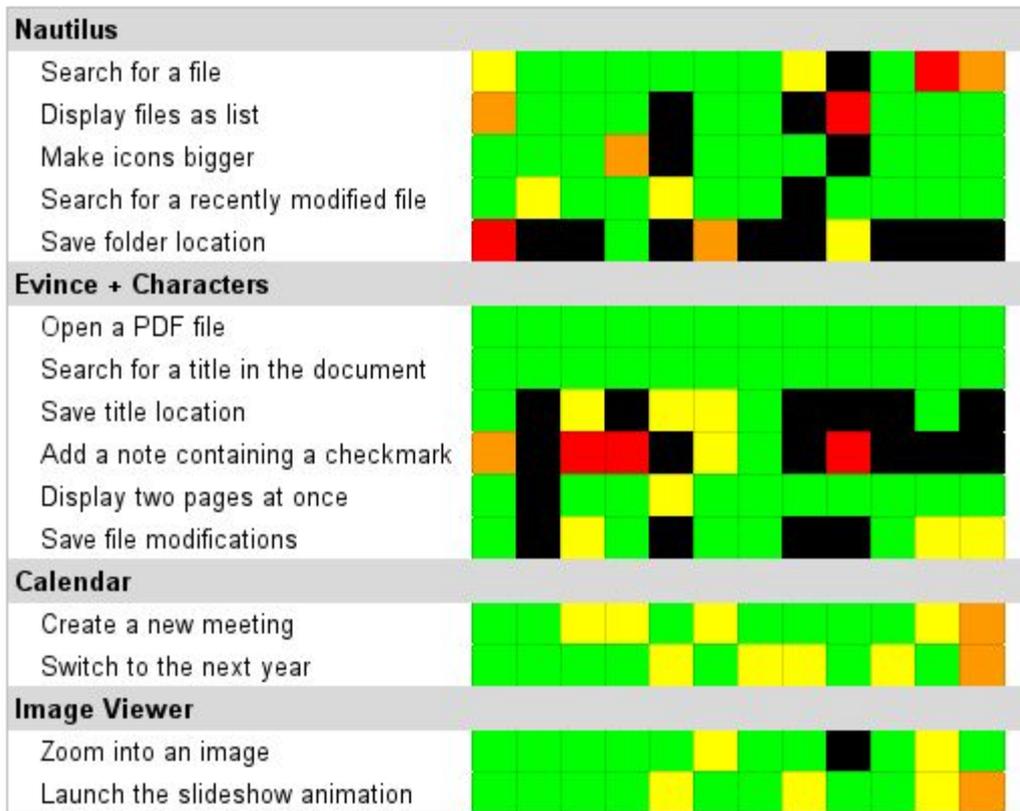Find "hot spots"

Make it actionable

Renata Gegaj [2016]

5. Analyze

Look for "hot rows"

Why was this hard? (look at notes)

Questions?

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"Thou shalt make thy program's purpose and structure clear … for thy creativity is better used in solving problems than in creating beautiful new impediments to understanding."

The Ten Commandments for C Programmers (Henry Spencer)

pexels.com