

UNIVERSITY OF YORK

MSc. Project presentation

Design and evaluation of an interface for finding and opening documents

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INDEX

1. Introduction
2. Literature review
3. Design
4. Cognitive walkthrough
5. Redesign
6. Prototype
7. Experiment
8. Conclusions

INTRODUCTION

Goals of the project:

- Design an interface for a file chooser dialog
- It would be launched from applications to open files
 - Integrate with the user's current task
- It would allow the combination of different retrieval strategies

LITERATURE REVIEW

Human memory [*Baddeley, 2004*]

Why archive things? [*Kaye, 2006*]

- For later retrieval
- Also: building a legacy, sharing, fear of loss & self-expression

Value of folders [*Jones, 2005*]

- Decomposition of problems
- Planning of future work in projects

People tend to use navigation; not elaborate filing schemes
[*Barreau, 1995*] [*Kaptelinin, 1996*]

LITERATURE REVIEW

Interfaces for managing the personal archive:

- Navigation using folders [*Bergman, 2008*]
- Search (“Stuff I’ve Seen”) [*Dumais, 2003*] [*Teevan, 2004*]
- Journals [*Prante, 2010*]

From the Web:

- Search is prevalent: huge collection of unstructured information
- Tags [*Marlow, 2006*]

INITIAL DESIGN

Main values:

- Simplicity
- Prevalence to files
- Combination of techniques for retrieval: filters
- Time
- Location
- Leverage semantic memory: search, file type
- Leverage episodic memory: origin
- Confirmation

Select document to open

Search:



Find

All (32)

Title (12)

Author (5)

Content (15)

Tags (17)

All files



All supported file types



By date



All locations

▶ Home

▶ USB disk

	interesting.pdf "A look at some interesting stuff"	22/05/2010
	studio.doc "Studio of modern art"	17/06/2010
	paper_2010.pdf "Some ideas"	12/06/2010
	presentation_linux.ps "An introduction to GNU/Linux"	07/06/2010
	johnson_chi.pdf "Using stuff to make more stuff"	03/06/2010
May		
	gaiman_talk.pdf "Transcript of Neil Gaiman's talk"	02/04/2010
	draft.doc "Just some quick ideas"	21/05/2010
	gtd.pdf "Getting things done"	15/05/2010

June

May

April

March

February

January

Dec. - 2009

November



gaiman_talk.pdf
"Transcript of Neil Gaiman's talk"
Author: Neil Gaiman
Size: 1.34 MB

Created: 02/04/2010
Folder: Home/Documents/talks
Sent by Betty, 10/04/2010
Tags: great, talk, english, writing

✕ Cancel

✓ Open

COGNITIVE WALKTHROUGH

Procedure:

- Three experts
- Fill up a form with questions regarding each element
- Informal conversation about the interface
- Results are analysed together

Results:

- The visual organisation might be too crowded
- Change labels that are too confusing
- Would the overview element be easy to understand and use?

REDESIGN

1. Hide the search facilities
2. Place the “Sort” button by the overview
3. Make clear which field is being used for sorting
4. Change labels (e.g. “Sort by last used” instead of “Journal”)
5. We thought that the overview widget deserved empirical testing

Select file to open

Advanced search

All locations

- ▶ Home
- ▶ USB disk

	interesting.pdf <i>"A look at some interesting stuff"</i>	22/06/2010
	studio.doc <i>"Studio of modern art"</i>	17/06/2010
	paper_2010.pdf <i>"Some ideas"</i>	12/06/2010
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	draft.doc <i>"Just some quick ideas"</i>	21/05/2010
	gtd.pdf <i>"Getting things done"</i>	15/05/2010
	paper_stuff.doc <i>"How stuff works"</i>	1/05/2010

Order by date ▾

June 2010

May 2010

April 2010

March 2010

February 2010

January 2010

December 2009

November 2009



gaiman_talk.pdf
"Transcript of Neil Gaiman's talk"
Author: Neil Gaiman
Size: 1.34 MB

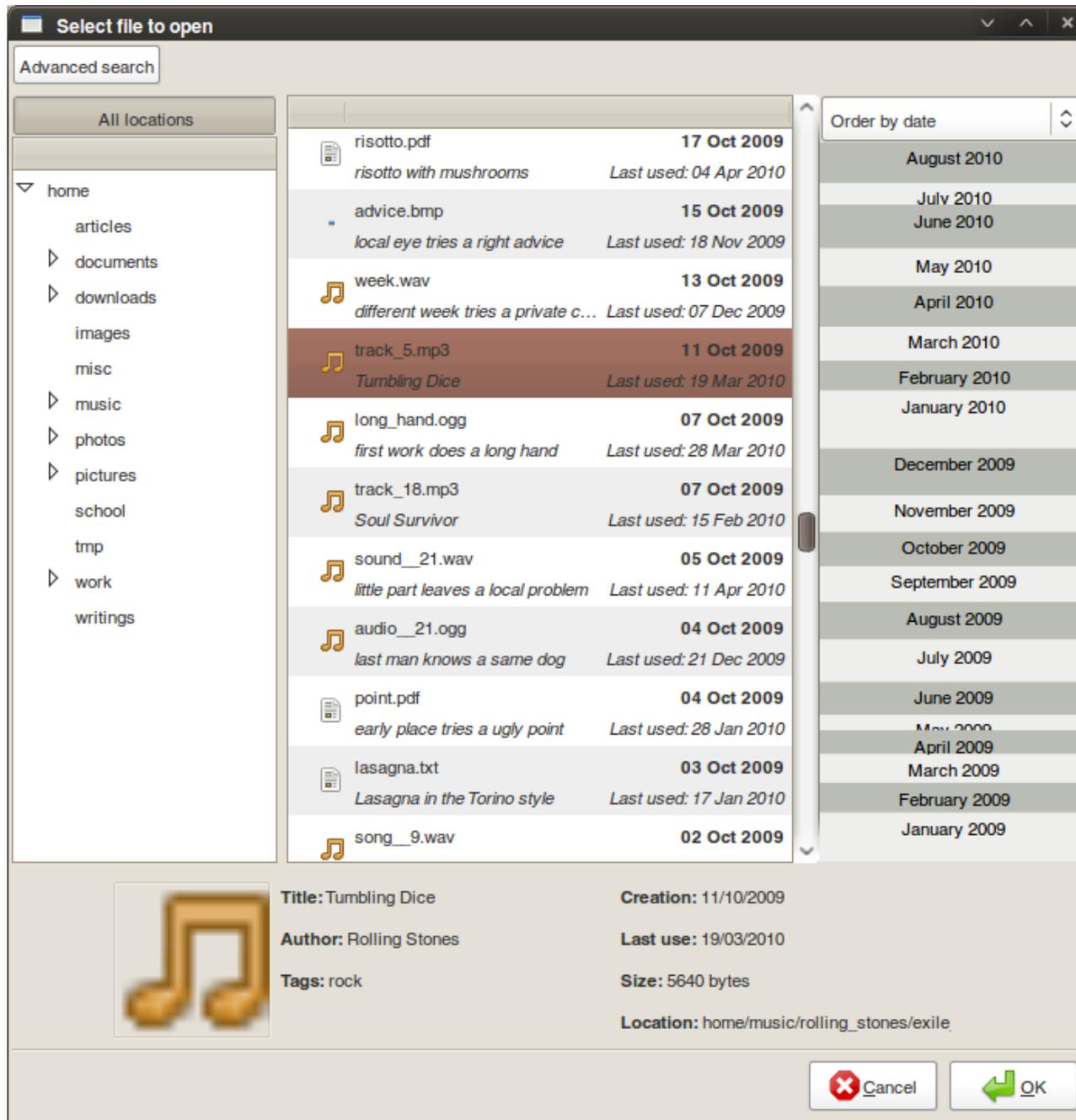
Created: 2 April 2010
Folder: Home/Documents/talks
Sent by: Betty Mitchell, 10 June 2009
Tags: great, talk, english, writing

✕ Cancel

✓ Open

PROTOTYPE

- Developed in Python and GTK+
- High-fidelity simulation of the interface
- Fake functionality: the file list is not real!
- Also implemented:
 - Generator of fake file lists
 - Applications for testing and running experiments



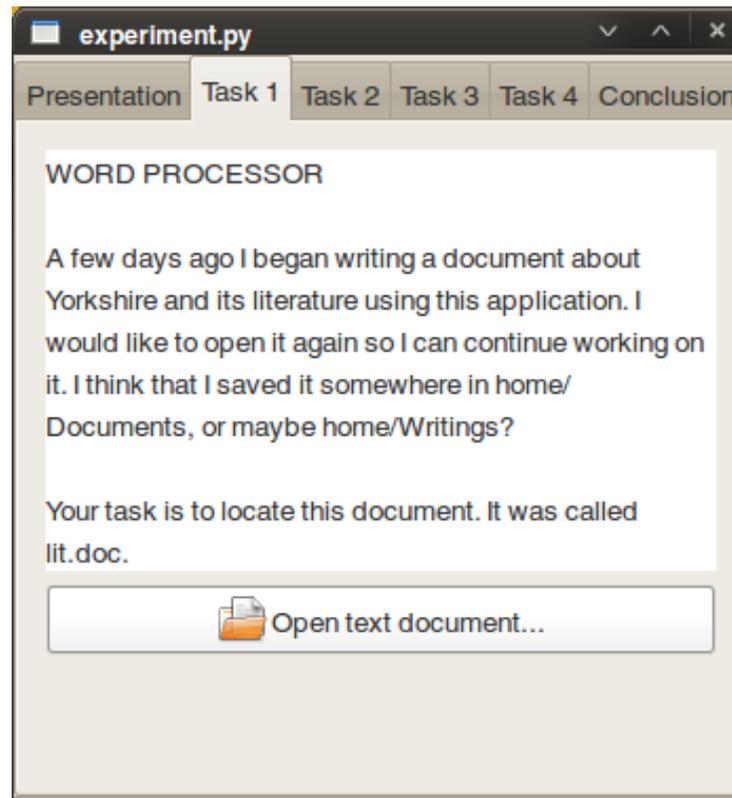
EXPERIMENT

- Ten participants: 6 M, 4 F; 7 postg. students, 3 SW eng.; 5 aged 16–24, 5 aged 25–34
- Four location tasks
- Experiments using logs of the participant's activity
- We were interested in measuring:
 - Success rate
 - Time
 - Strategies used

EXPERIMENT

Four location tasks:

- Small, vague description. Locate the file using the dialog.



EXPERIMENT

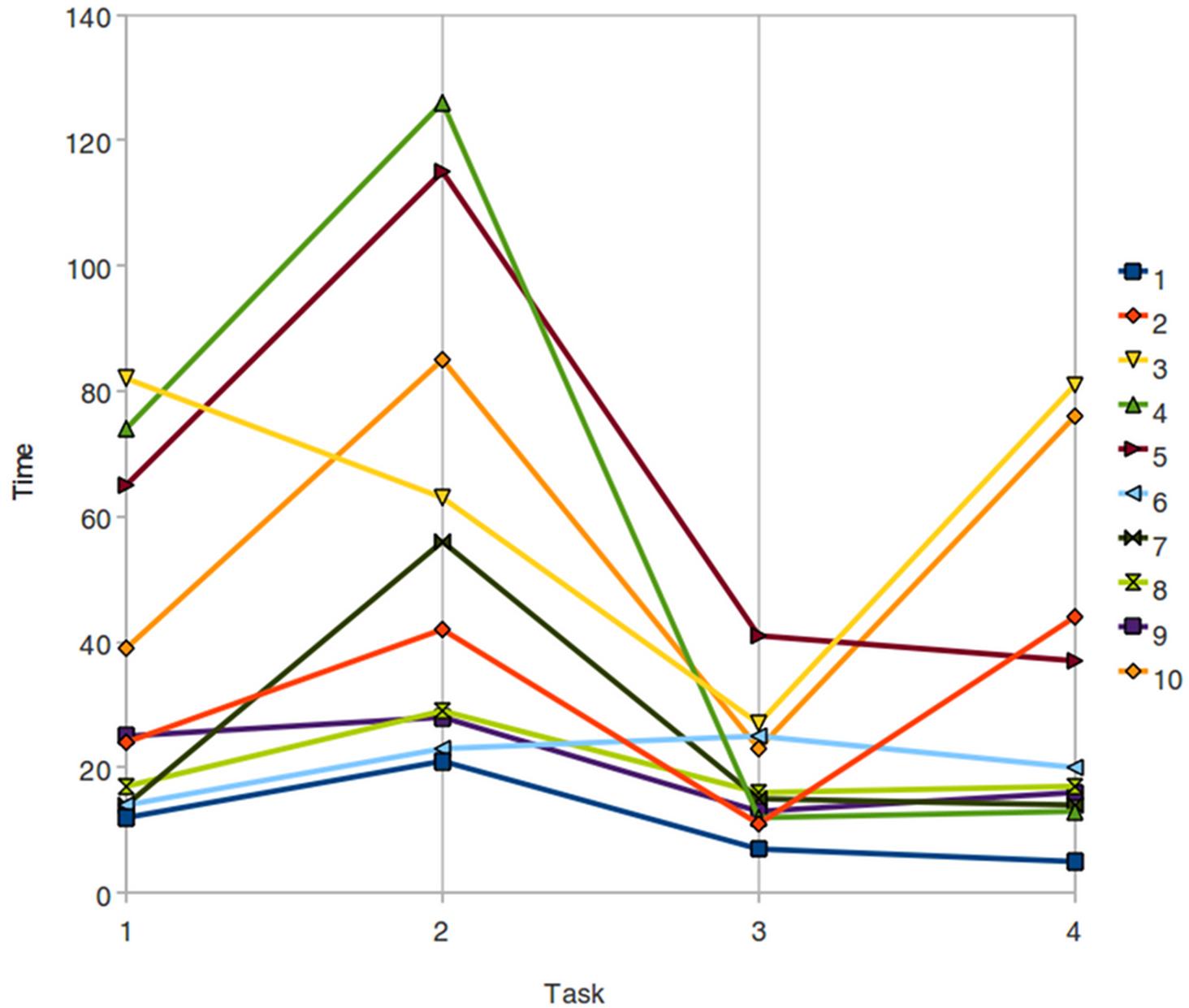
Results:

- Success rate: 100%
- Times:

Task	Average	St. Dev.
Task 1	36.60	27.03
Task 2	58.80	38.32
Task 3	19.00	10.10
Task 4	32.30	26.97

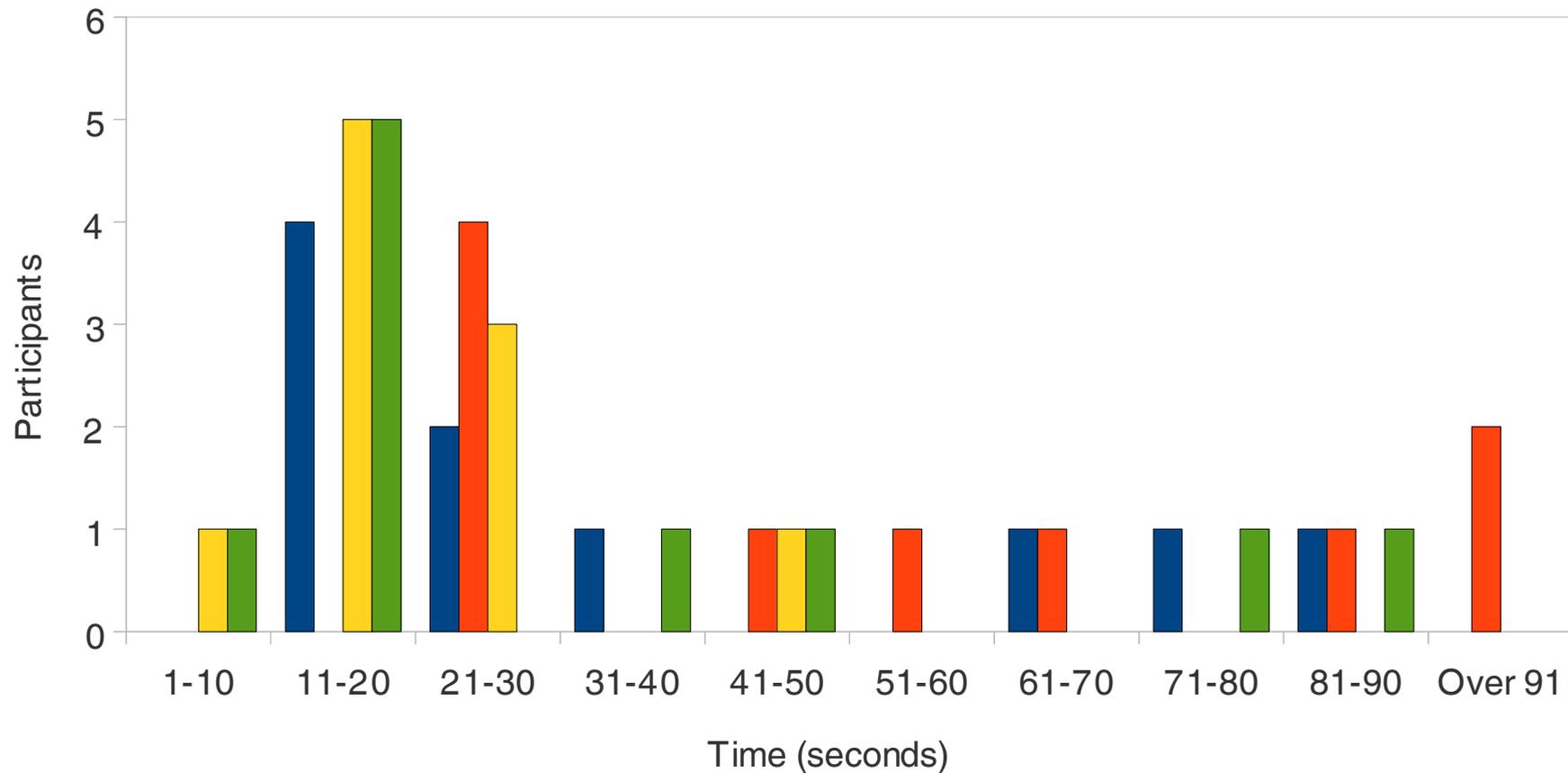
- Strategies: see graphs

Time per task and participant



hmargin=0pt,vmargin=50pt

Joint histogram of times per task



25 out of 40 under 30 seconds.

hmargin=0pt,vmargin=50pt

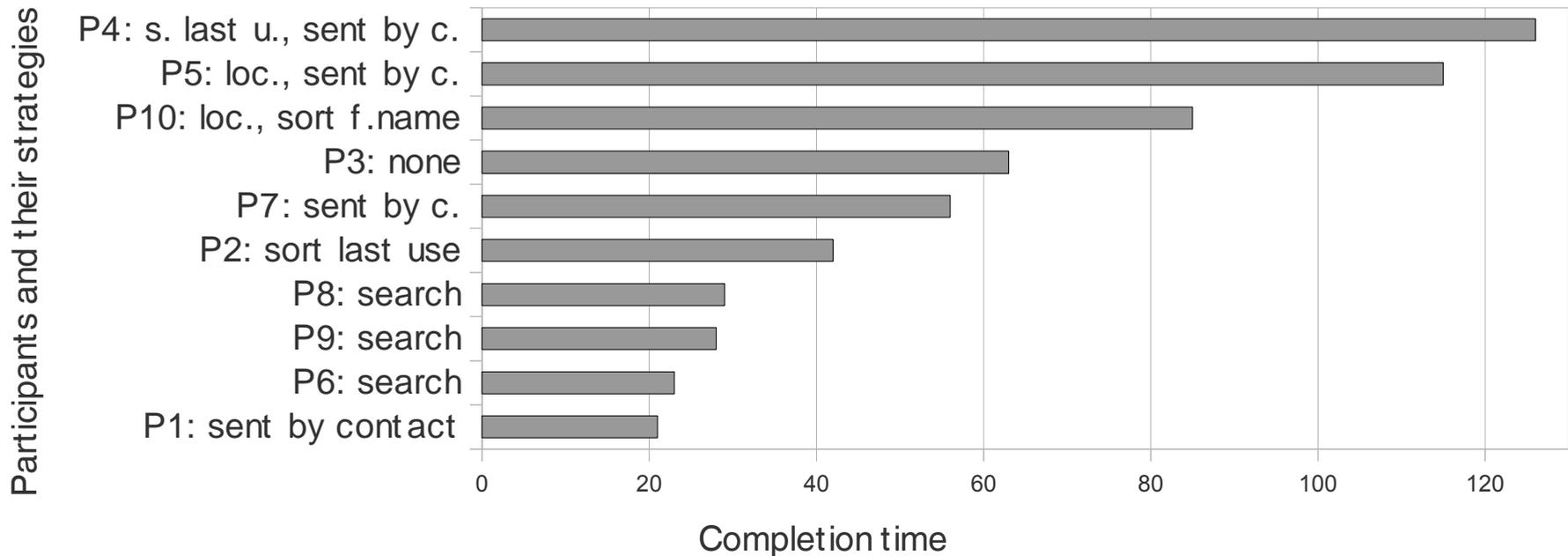
TASK 2

DOCUMENT VIEWER

Tonight I have a dinner with some of my friends. When I was thinking about what to cook, I remembered that another friend, Louise Miller, had sent me her lasagna recipe around Fall last year. I don't remember where I saved it, but I know that I had a look at it not long ago (maybe sometime during this last spring?)

Your task is to locate Louise's recipe.

Times and strategies for task 2



CONCLUSIONS

- The literature review suggested that the interface allowed the combination of strategies for retrieval.
- Cognitive Walkthrough and experimental evaluation worked well at identifying the strengths and problems of the interface.
- The interface looks promising: success rate was 100%.
- However, some participants were confused by it at times.
- We have to be careful because the tasks were not realistic.
- Future research could include implementing a truly functional prototype and evaluating it on more participants and over an extended period of time.