"I'm stuck, too!"

Revisiting Difficulties of Using Web Authentication Mechanisms for Visually Impaired Person

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Motivation / approach

- Dosono et al. [1] demonstrated that current authentication interfaces pose significant burden to visually impaired persons.

- Due to the nature of the study, recruiting participants is not easy
  → need for _repetitions_ of the study to generalize the results

Contributions

- Revealed the previously found difficulties were _reproducible_ in a set of users with different demography
  ➤ locating authentication area, verifying the success of authentication, and use of visual/voice authentication
  ➤ different races, different languages, and use of different screen readers.
- Revealed that the degree of <u>difficulties is associated with _age_</u>
  ➤ younger visually impaired users outperformed elder normal users.

ID	Gender	Age	Occupation	Self-description	Assistive tools
P1	F	40–50	Housewife	Blind	PC–talker
P2*	F	60–70	Retired	Low vision	–
P3	M	30–40	Public official	Blind	PC–talker,NVDA
P4	M	30-40	Public official	Blind	NVDA
P5*	M	10–20	High school student	Low vision	PC–talker
P6*	M	10–20	High school student	Low vision	PC–talker, NVDA
P7	M	10–20	High school student	Blind	PC–talker
P8*	F	40–50	Volunteer worker	Low vision	PC–talker
P9	M	20–30	Teacher	Blind	PC–talker
P10	F	20–30	Public officials	Blind	NVDA
P11	F	40–50	Housewife	Normal	–
P12	M	50–60	Self-employed	Normal	–
P13	M	10–10	College student	Normal	–
P14	F	20–30	Office worker	Normal	–
P15	M	10–20	College student	Normal	–
P16	F	10–20	High school student	Normal	–
P17	M	30–40	Self-employed	Normal	–
P18	M	20–30	Self-employed	Normal	–
P19	F	30–40	Housewife	Normal	–

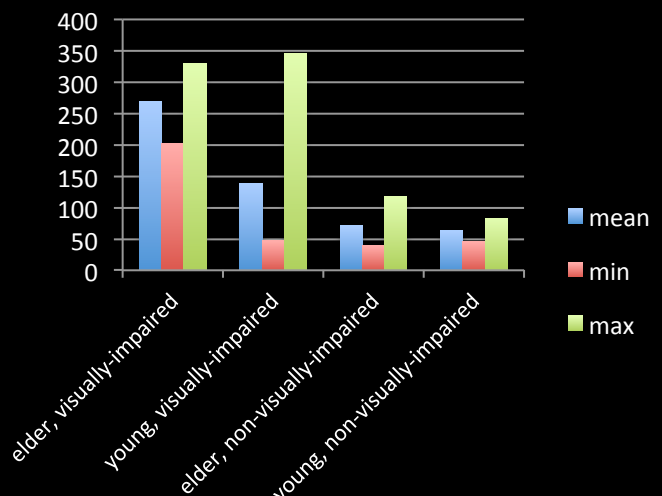| ID	Task	Target	Description
T1	login	device	login into a PC
T2	login	device	login into a smartphone
T3	login	web	login into a website
T4	locating	web	locate an area of authentication
T5	verification	web	verify success authentication

Fig 1: Time to complete task T3 (seconds)

[1] Bryan Dosono, Jordan Hayes, and Yang Wang. 2015. "I'm Stuck!": A Contextual Inquiry of People with Visual Impairments in Authentication. SOUPS 2015, Ottawa, 151–168.