Survey Instrument

We include here the questions asked in the Survey Instrument. Most multiple-choice questions were single answer only unless mentioned otherwise. We mark with "(select all that apply)" questions that respondents could choose more than one answer.

1 Demographic questions

Q1: Please enter your MTurk ID:

Q2: What is your age?

Q3: What is your gender?

( ) Male

( ) Female

( ) Not Applicable (NA)

Q4: What is your Race? Indicate one or more races that you consider yourself to be.

( ) American Indian or Alaska Native

( ) Asian or Pacific Islander

( ) Black or African American

( ) Hispanic or Latino

( ) White

( ) Other

Q5: What is your nationality?

Q6: What is your country of residence?

Q7: How long have you lived at your country of residence?

( ) Less than 5 years

( ) More than 5 years

( ) I was born here

Q8: What is the highest level of education you have achieved?

( ) High school or less

( ) Some College

( ) Bachelor's Degree

( ) Master's Degree

( ) Doctorate Degree

Q9: What kinds of computing devices do you usually use.
(select all that apply

( ) Desktop Computers

( ) Laptop Computers

( ) Smartphones (e.g. iPhone, Android phone)

( ) Tablets (e.g. iPad)

( ) Game Consoles (e.g. Wii, Xbox, PS4)

( ) Other

Q10: What type of computer do you use most often?

( ) Windows

( ) Mac

( ) iPhone

( ) Android

( ) Other

Q11: Have you ever worked in a "high tech" job such as computer programming,
IT, or computer networking?

( ) Yes

( ) No

( ) Other

Q12: To what extent do you agree or disagree with each of the following statement

Please select one answer per row

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
I often ask others for help with the computer	○	○	○	○	○
Others often ask me for help with the computer	○	○	○	○	○

Q13: In terms of your Internet skills, do you consider yourself to be:

( ) Not at all skilled

( ) Not very skilled

( ) Fairly skilled

( ) Very skilled

( ) Expert

2 Story 1

Q14: Please share with us an update related experience. This can be any experience you have had while updating software on any device such as a phone, game console, computer, or tablet. Or an experience where you decided not to install an update. This can be any event involving an update such as the last time a piece of software asked you to update it, or when you noticed that your software had changed due to an update.

Please select an update experience for which you can most easily recall details about where you were and what happened when you installed (or chose not to install) the update. You will be answering further questions about this experience in the next two pages. In couple of sentences please summarize what happened in your own words.

Q15: How long ago did this update event take place?

( ) Within the last day

( ) Within the last week

( ) Within the last month

( ) Within the last year

( ) Longer than one year ago

( ) Not Applicable / Don't remember

Q16: What device were you using at the time?

( ) Mac computer

( ) Windows computer

( ) Linux computer

( ) Phone

( ) Tablet

( ) Game console

( ) Other

Q17: Where were you when the update event happened?

( ) In a public place

( ) At a friend or relative house

( ) At home

( ) At work

( ) Don't remember

( ) Not Applicable(NA)

( ) Other

Q18: What software asked to update? (If you do not remember, describe as much as you are able, or state "I do not remember.")

Q19: How frequently do you encounter update requests for this software?

( ) Never

( ) Rarely

( ) Sometimes

( ) Often

( ) All the time

( ) Don't remember

Q20: How busy were you when the update event took a place?

( ) Extremely busy

( ) Very busy

( ) Busy

( ) Somewhat busy

( ) I was not busy at all

( ) Don't remember

Q21: How did you become aware of the update?

( ) Popup asked me to update

( ) The update started to install, and I had no choice

( ) I got a notification after the update was installed

( ) I thought there might be an update available so I went and looked for it online

( ) Another software asked me to do this update

( ) News, forum, blog, or a friend mentioned the update

( ) I noticed that the software changed, so I assumed an update had been automatically installed

( ) My computer rebooted

( ) Other

Q22: Do you consider this update experience to be positive or negative?

( ) Bad/negative update experience

( ) Neither negative or positive experience

( ) Happy/positive update experience

( ) Not Applicable (NA)

Q23: Read each of the following statements:
Please select one answer per row

	Extremely Unlikely	Unlikely	Neutral	Likely	Extremely Likely
If you could go back, would you choose to install this software update?	○	○	○	○	○
Based on this experience how likely are you to install future updates to this software?	○	○	○	○	○

Q24: How did this update experience make you feel?

	Not at all	Somewhat	Extremely	Not Applicable
Satisfied	○	○	○	○
Disrupted	○	○	○	○
Frustrated	○	○	○	○
Empowered or in control	○	○	○	○
Regretful	○	○	○	○
Angry	○	○	○	○
Excited	○	○	○	○

Q25: Did you ultimately install the update?

( ) Yes

( ) No

( ) Don't remember

( ) Not Applicable (NA)

2.1 First branch for respondents who choose "Yes" from Q25

Q26: Why did you install this update? *Select all that apply*

[ ] I always install updates

[ ] I didn't have a choice

[ ] I trust this software company

[ ] I thought it was important

[ ] I searched for this update and installed it myself

[ ] I wasn't satisfied with current version

[ ] The current version was broken

[ ] It was a security related update

[ ] My family/friends/colleagues recommended it

[ ] I use this software frequently, so keeping it updated is important

[ ] It installed automatically

[ ] Other

Q27: Did you have any trouble or problems while updating? *If yes, please describe what happened in few lines.*

( ) Yes

( ) No

( ) Don't remember

( ) Not Applicable (NA)

Q28: Did you attempt to learn about the update by reading information online before installing it?

( ) Yes

( ) No

( ) Don't remember

( ) Not Applicable (NA)

Q29: Did the update take more or less time to install than you expected?

( ) More time than I expected

( ) About as much time as I expected

( ) Less time than I expected

( ) Don't remember

( ) Not Applicable (NA)

Q30: Did the update ask you to reboot after you finish installing?

( ) Yes

( ) No

( ) Don't remember

( ) Not Applicable (NA)

Q31: After installing the update, do you think your device became less or more secure?

( ) Less Secure

( ) Neither secure or insecure

( ) More Secure

( ) Don't know

2.2 Second branch for respondents who choose "No" from Q25

Q26: Why didn't you install the update?
Select all that apply

[ ] I don't install updates

[ ] I didn't have time

[ ] It looked like it would be disruptive

[ ] I didn't trust the update

[ ] I didn't think it's important

[ ] I don't use this software

[ ] Too many updates for this software

[ ] Had trouble updating last time

[ ] I didn't want to lose stuff while updating

[ ] Compatibility issues

[ ] Satisfied with current version

[ ] My family/friends/colleagues didn't recommend it.

[ ] Other

Q27: Before your decision not to install the update, what did you think would happen? Describe what you expected this installation process to be like.

Q28: At what point did you decide not to update

( ) When I saw the first dialog

( ) I turned off autoupdating, so it never asks me

( ) Half way through install when it broke

( ) Half way through install when it took long time

( ) Half way through when I did not know what to do

( ) After reading about it

( ) Other

Q29: Did you have any trouble or problems while updating that affected your decision to not update?
  If yes please describe what happened in few lines.

( ) Yes

( ) No

( ) Don't remember

( ) Not Applicable (NA)

Q30: If you installed the update, do you think your device would have become less or more secure?

( ) Less Secure

( ) Neither secure or insecure

( ) More Secure

( ) Don't know

Q31: Did you attempt to learn about the update by reading information online before deciding not to install it?

( ) Yes

( ) No

( ) Don't remember

( ) Not Applicable (NA)

Q32: Did you expect the update to take long time?

( ) Yes

( ) Maybe

( ) No

( ) Don't know

2.3 Third branch for respondents who choose "Don't remember" or "N/A" from Q25

Q27: Did you have any trouble or problems while updating? *If yes, please describe what happened in few lines.*

( ) Yes

( ) No

( ) Don't remember

( ) Not Applicable (NA)

Q28: Did you attempt to learn about the update by reading information online before installing it?

( ) Yes

( ) No

( ) Don't remember

( ) Not Applicable (NA)

Q29: Did you expect the update to take long time?

( ) Yes

( ) Maybe

( ) No

( ) Don't know

Q30: If you had installed the update, do you think your device would have become less or more secure?

( ) Less Secure

( ) Neither secure or insecure

( ) More Secure

( ) Don't know

3 Story 2

3.1 For respondents who choose "Happy/positive update experience" from Q22

Q3?: Thank you for sharing a positive update experience with us. For contrast, we would also like you to tell us about a negative update experience. This can be any experience you have had while updating software on any device, or an experience where you decided to not install an update. This is the last story in the survey, there will be no further questions about this experience.

3.2 For respondents who choose "Bad/negative update experience" from Q22

Q3?: Thank you for sharing a negative update experience with us. For contrast, we would also like you to tell us about a positive update experience. This can be any experience you have had while updating software on any device, or an experience where you decided to not install an update. This is the last story in the survey, there will be no further questions about this experience.

3.3 For respondents who choose "Neither negative or positive experience" or "Not Applicable (NA)" from Q22

Q3?: Thank you for sharing your update experience with us. For contrast, we would also like you to tell us about a negative/positive update experience. This can be any experience you have had while updating software on any device, or an experience where you decided to not install an update. This is the last story in the survey, there will be no further questions about this experience.

4 Further 7 questions that are not used in this study

After telling us some stories about your update experiences, we now want to learn more about your attitudes and opinion with the software updates.

Q1: How important is it to install updates for each type of software listed below? If you are not familiar with the software, or do not have it installed on your device please choose NA.

Please select one answer per row.

	Very Unimportant	Unimportant	Neither Important or Unimportant	Important	Very Important	NA
Adobe Flash	◯	◯	◯	◯	◯	◯
iTunes	◯	◯	◯	◯	◯	◯
Operating system (Mac, Windows, Linux, ect.)	◯	◯	◯	◯	◯	◯
Mobile device operating system (Android, iOS, etc.)	◯	◯	◯	◯	◯	◯
Antivirus	◯	◯	◯	◯	◯	◯
Java	◯	◯	◯	◯	◯	◯
Web browsers (Internet Explorer, Firefox,Chrome, etc.)	◯	◯	◯	◯	◯	◯
Game console (Wii, Xbox, PS4, etc.)	◯	◯	◯	◯	◯	◯
Dropbox	◯	◯	◯	◯	◯	◯
Adobe Reader	◯	◯	◯	◯	◯	◯
Skype	◯	◯	◯	◯	◯	◯
Microsoft Office	◯	◯	◯	◯	◯	◯
LibreOffice	◯	◯	◯	◯	◯	◯
Mobile device apps (Angry Birds, Facebook, Twitter, etc.)	◯	◯	◯	◯	◯	◯

Q2: In your opinion, will updating the following software change the security of your computer?

Please select one answer per row.

	Greatly Decrease Security	Decrease Security	No Change	Improve Security	Greatly Improve Security	Don't Know
Adobe Flash	◯	◯	◯	◯	◯	◯
iTunes	◯	◯	◯	◯	◯	◯
Operating system (Mac, Windows, Linux, ect.)	◯	◯	◯	◯	◯	◯
Mobile device operating system (Android, iOS, etc.)	◯	◯	◯	◯	◯	◯
Antivirus	◯	◯	◯	◯	◯	◯
Java	◯	◯	◯	◯	◯	◯
Web browsers (Internet Explorer, Firefox,Chrome, etc.)	◯	◯	◯	◯	◯	◯
Game console (Wii, Xbox, PS4, etc.)	◯	◯	◯	◯	◯	◯
Dropbox	◯	◯	◯	◯	◯	◯
Adobe Reader	◯	◯	◯	◯	◯	◯
Skype	◯	◯	◯	◯	◯	◯
Microsoft Office	◯	◯	◯	◯	◯	◯
LibreOffice	◯	◯	◯	◯	◯	◯
Mobile device apps (Angry Birds, Facebook, Twitter, etc.)	◯	◯	◯	◯	◯	◯

Q3: How disruptive do you generally consider each of the following types of updates to be? That is, are updates of this type likely to do things that you consider to be disruptive such as requiring a reboot, changing the user interface, or taking a long time to install?

Please select one answer per row.

	Extremely Disruptive	Moderately Disruptive	Somewhat Disruptive	Slightly Disruptive	Not At All Disruptive	Not Installed	Never Updated
Adobe Flash	○	○	○	○	○	○	○
iTunes	○	○	○	○	○	○	○
Operating system (Mac, Windows, Linux, ect.)	○	○	○	○	○	○	○
Mobile device operating system (Android, iOS, etc.)	○	○	○	○	○	○	○
Antivirus	○	○	○	○	○	○	○
Java	○	○	○	○	○	○	○
Web browsers (Internet Explorer, Firefox,Chrome, etc.)	○	○	○	○	○	○	○
Game console (Wii, Xbox, PS4, etc.)	○	○	○	○	○	○	○
Dropbox	○	○	○	○	○	○	○
Adobe Reader	○	○	○	○	○	○	○
Skype	○	○	○	○	○	○	○
Microsoft Office	○	○	○	○	○	○	○
LibreOffice	○	○	○	○	○	○	○
Mobile device apps (Angry Birds, Facebook, Twitter, etc.)	○	○	○	○	○	○	○

Q4: How often do you encounter each of these software updates events?
Please select one answer per row

	Never	Rarely	Sometimes	Often	Always
A dialog asks you to install an update	○	○	○	○	○
Software automatically starts updating without asking you	○	○	○	○	○
A pop-up notification tells you that an update has been installed	○	○	○	○	○
You decide your software needs to be updated, so you look for an update online	○	○	○	○	○
You learn about an update from a news article, forum, blog, or a friend	○	○	○	○	○
You notice some changes in the software, so you know an update might have been installed	○	○	○	○	○
Software seem broken or out of date, so you look for an update by yourself	○	○	○	○	○

Q5: Imagine an update dialog asks you to update a piece of software on your computer. How likely would you be to install the update right away in each of the following situations:
Please select one answer per row

	Install immediately	Install sometime that day	Install sometime that week	Install much later	Never install
You didn't like the last update to this software	○	○	○	○	○
You are busy right now	○	○	○	○	○
The current version of the software has bugs	○	○	○	○	○
The last update to this software caused many changes	○	○	○	○	○
The update will cost some money	○	○	○	○	○
The new version will have a different user interface	○	○	○	○	○
The update is for a security related software (Antivirus,Firewall, etc.)	○	○	○	○	○
Your music player software wants to install a security update (e.g. iTunes security update)	○	○	○	○	○
You use this software frequently	○	○	○	○	○
The update will install new feature(s)	○	○	○	○	○
The update will require a reboot	○	○	○	○	○
The new version will require more space on your device	○	○	○	○	○
The update will take long time to install	○	○	○	○	○

Q6: Automatic updates are installed by software without requiring you to approve each update. To what extent do you agree or disagree with the following statements?

Please select one answer per row

	Strongly Disagree	Disagree	Agree or Disagree	Agree	Strongly Agree
Automatic updates are convenient	○	○	○	○	○
Automatic updates keep my software up to date	○	○	○	○	○
I do not like automatic updates because sometimes they change how my software works	○	○	○	○	○
Automatic updates make me feel like I am in control of my device	○	○	○	○	○
Always answer strongly agree for this question	○	○	○	○	○
I prefer that software ask me before installing an update	○	○	○	○	○
I would like my software to update itself automatically without asking me	○	○	○	○	○

Q7: To what extent do you agree or disagree with the following general statements about software updates?

Please select one answer per row

	Strongly Disagree	Disagree	Agree or Disagree	Agree	Strongly Agree
I avoid updating software that I use regularly	◯	◯	◯	◯	◯
I update all the software on my computer even if I use it rarely	◯	◯	◯	◯	◯
I wait until the software stops working before installing an update	◯	◯	◯	◯	◯
Always answer disagree for this question	◯	◯	◯	◯	◯
If my software works properly, I do not think installing updates is important	◯	◯	◯	◯	◯
I like to know what an update will do before deciding to install it	◯	◯	◯	◯	◯
I read about updates before I install them	◯	◯	◯	◯	◯
I know why updates are necessary	◯	◯	◯	◯	◯
I have enough time to respond to all the software update requests I receive	◯	◯	◯	◯	◯
It is challenging to determine what changes an update may cause	◯	◯	◯	◯	◯

Q8: If you have any additional comments please enter them below: (optional)