Ad Networks Main Study

Q2
This study was certified according to the University of Edinburgh's Informatics Research Ethics Process, RT number 2019/82672. Please take time to read the following information carefully. You should keep this page for your records.

Who are the researchers?
The research is being conducted by the TULiPS research lab at the School of Informatics, University of Edinburgh. In particular, this project is being conducted by: Dr. Kami Vaniea, Lecturer at the University of Edinburgh Dr. Alisa Frik, Post-doctoral researcher at the University of California, Berkeley Mohammad Tahaei, PhD candidate at the University of Edinburgh

What is the purpose of the study?
This study looks at mobile advertising libraries to understand how the documentation and information they provide assists or hinders developers in integrating the libraries smoothly into their projects. This research is part of a larger project to improve the usability of tools and technologies that developers work with regularly.

Why have I been asked to take part?
You are being asked to participate in this study because you have some experience in building mobile applications or software development in general.

Do I have to take part?
No – participation in this study is entirely up to you. You can withdraw from the study at any time, without giving a reason. Your rights will not be affected. If you wish to withdraw, contact the PI (Dr. Kami Vaniea). We will stop using your data in any publications or presentations submitted after you have withdrawn consent. However, we will keep copies of your original consent, and of your withdrawal request.

What will happen if I decide to take part?
You will be asked to complete a survey that takes about 10 minutes. In addition to questions about the proposed documentation, we will also ask for demographics data such as gender, age, education, country of residency, and some questions about your work and programming experience.

{(e://Field/email-required)}
{(e://Field/payment)}
Are there any risks associated with taking part?
There are no significant risks associated with participation.

Are there any benefits associated with taking part?
None beyond the compensation and the knowledge that you have helped science.

What will happen to the results of this study?
A portion of the survey data will be released as a public dataset, we will remove any information that in our assessment could allow anyone to identify you. The public dataset will predominately be composed of close-ended questions, such as multiple-choice questions. Identifying information, such as email addresses, will not be included in this dataset.
The results of this study may be summarised in published articles, reports and presentations. Quotes or key findings will be anonymized: We will remove any information that could, in our assessment, allow anyone to identify you. With your consent, information can also be used for future research. Your data may be archived for a minimum of 2 years.

Data protection and confidentiality.
Your data will be processed in accordance with Data Protection Law. All information collected about you will be kept strictly confidential. Your data will be referred to by a unique participant number rather than by name. Your raw data will only be viewed by the researcher/research team Kami Vaniea and Mohammad Tahaei from the University of Edinburgh. Other researchers can only view your anonymised data.
All electronic data will be stored on a password-protected encrypted computer, on the School of Informatics’ secure file servers, or on the University's secure encrypted cloud storage services (DataShare, ownCloud, or Sharepoint). Your consent information will be kept separately from your responses in order to minimise risk.

What are my data protection rights?
The University of Edinburgh is a Data Controller for the information you provide. You have the right to access information held about you. Your right of access can be exercised in accordance Data Protection Law. You also have other rights including rights of correction, erasure and objection.
For more details, including the right to lodge a complaint with the Information Commissioner’s Office, please visit www.ico.org.uk. Questions, comments and requests about your personal data can also be sent to the University Data Protection Officer at dpo@ed.ac.uk. For general information about how we use your data, go to: edin.ac/privacy-research.

Who can I contact?
If you have any further questions about the study, please contact the lead researcher, Mohammad Tahaei (mohammad.tahaei@ed.ac.uk) or Dr. Kami Vaniea (kami.vaniea@ed.ac.uk).
If you wish to make a complaint about the study, please contact inf-ethics@inf.ed.ac.uk. When you contact us, please provide the study title and detail the
nature of your complaint.

**Updated information.**
If the research project changes in any way, an updated Participant Information Sheet will be made available on research/study-updates.

**Consent**
By proceeding with the study, I agree to all of the following statements: I have read and understood the above information. I understand that my participation is voluntary, and I can withdraw at any time. I consent to my anonymised data being used in academic publications and presentations. I allow my anonymised data to be released as a public data set.

☐ I agree, take me to the survey (1)

Q1 How many mobile apps have you worked on in the last 3 years? (numbers only)

End of Block: consent

Start of Block: con-google-gdpr
Q3 Imagine that you are a shareholder in a software development company. Together with a small team, you created a app. The app will be published in Europe and the United States and is mainly targeted towards adults (above age of 18).

To monetise the app, you have decided to use the "Acme" ad network to show ads to your users.

The Acme ad network offers a step-by-step Assistant – a graphical user interface that provides various configuration choices for integrating ads into your app. The Assistant asks the developer several questions and then provides ad network configuration code based on the answers that can be imported directly into an app with minimal additional coding required.

The following are the 5 questions asked by Acme's Assistant, please answer them as if you were developing the app.

Q4 Which ad formats are you integrating?

- Banner: A basic ad format that appears at the top & bottom of the device screen. (1)
-Interstitial: full-page ads appear at natural breaks & transitions, such as level completion. Supports video content. (2)
- Rewarded Video: ads reward users for watching short videos and interacting with playable ads and surveys. Good for monetising free-to-play users. Supports video content. (3)
- Native: customisable ad format that matches the look & feel of your app. Ads appear inline with app content. Supports video content. (4)
Q5 What level of graphics do you want for your ads?

- Ads with highest graphics quality. These ads will work best on newer phones with the latest operating systems. (1)
- Ads with moderate to low graphics quality. These ads will work on most phones. (2)

Q6 Which platform are you integrating Acme ad network on?

- Android (1)
- iOS (2)
- Unity (3)
- Windows Phone (4)

Q7 Select the type of ads that you want to show.

- Personalised ads: Acme can show personalised ads to your users. (1)
- Non-personalised ads: Acm will show only non-personalised ads to your users. (2)
Q8 Which of the following regulations apply to this app?

☐ GDPR (General Data Protection Regulation) (1)

☐ CCPA (California Consumer Privacy Act) (2)

☐ COPPA (Children’s Online Privacy Protection Act) (3)

☐ HIPAA (Health Insurance Portability and Accountability Act) (4)

☒ None of the above (5)

☒ I don’t know (6)
Q9 What was the biggest reason that made you pick the ad type: "${Q7/ChoiceGroup/SelectedChoices}"?
(Please provide at much as details you can. Your response helps us better understand the reasons behind your choices.)

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

End of Block: con-google-gdpr

Start of Block: con-google-ccpa

Q10 Imagine that you are a shareholder in a software development company. Together with a small team, you created a ${lm://Field/1} app. The app will be published in Europe and the United States and is mainly targeted towards adults (above age of 18).

To monetise the app, you have decided to use the "Acme" ad network to show ads to your users.

The Acme ad network offers a step-by-step Assistant – a graphical user interface that provides various configuration choices for integrating ads into your ${lm://Field/1} app. The Assistant asks the developer several questions and then provides ad network configuration code based on the answers that can be imported directly into an app with minimal additional coding required.

The following are the 5 questions asked by Acme's Assistant, please answer them as if you were developing the ${lm://Field/1} app.
Q11 Which ad formats are you integrating?

- □ Banner: A basic ad format that appears at the top & bottom of the device screen. (1)
- □ Interstitial: full-page ads appear at natural breaks & transitions, such as level completion. Supports video content. (2)
- □ Rewarded Video: ads reward users for watching short videos and interacting with playable ads and surveys. Good for monetising free-to-play users. Supports video content. (3)
- □ Native: customisable ad format that matches the look & feel of your app. Ads appear inline with app content. Supports video content. (4)

Q12 What level of graphics do you want for your ads?

- ○ Ads with highest graphics quality. These ads will work best on newer phones with the latest operating systems. (1)
- ○ Ads with moderate to low graphics quality. These ads will work on most phones. (2)

Q13 Which platform are you integrating Acme ad network on?

- ○ Android (1)
- ○ iOS (2)
- ○ Unity (3)
- ○ Windows Phone (4)
Q14 Select the type of ads that you want to show.

- Ads with unrestricted data processing: Acme can show personalised ads to your users based on a user’s past behaviour, such as previous visits to sites or apps or where the user has been. (1)

- Ads with restricted data processing: Acme will show only non-personalised ads to your users based on contextual information, such as the content of your site or app, restricting the use of certain unique identifiers and other data. (2)

Q15 Which of the following regulations apply to this app?

- GDPR (General Data Protection Regulation) (1)
- CCPA (California Consumer Privacy Act) (2)
- COPPA (Children’s Online Privacy Protection Act) (3)
- HIPAA (Health Insurance Portability and Accountability Act) (4)
- None of the above (5)
- I don't know (6)
Q16 What was the biggest reason that made you pick the ad type: 
"${Q14/ChoiceGroup/SelectedChoices}"?
(Please provide at much as details you can. Your response helps us better understand your reasons behind your choices.)

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

End of Block: con-google-ccpa

Start of Block: con-privacy-label

Q17 Imagine that you are a shareholder in a software development company. Together with a small team, you created a ${lm://Field/1} app. The app will be published in Europe and the United States and is mainly targeted towards adults (above age of 18).

To monetise the app, you have decided to use the "Acme" ad network to show ads to your users.

The Acme ad network offers a step-by-step Assistant – a graphical user interface that provides various configuration choices for integrating ads into your ${lm://Field/1} app. The Assistant asks the developer several questions and then provides ad network configuration code based on the answers that can be imported directly into an app with minimal additional coding required.

The following are the 5 questions asked by Acme's Assistant, please answer them as if you were developing the ${lm://Field/1} app.
Q18 Which ad formats are you integrating?

- Banner: A basic ad format that appears at the top & bottom of the device screen. (1)
- Interstitial: full-page ads appear at natural breaks & transitions, such as level completion. Supports video content. (2)
- Rewarded Video: ads reward users for watching short videos and interacting with playable ads and surveys. Good for monetising free-to-play users. Supports video content. (3)
- Native: customisable ad format that matches the look & feel of your app. Ads appear inline with app content. Supports video content. (4)

Q19 What level of graphics do you want for your ads?

- Ads with highest graphics quality. These ads will work best on newer phones with the latest operating systems. (1)
- Ads with moderate to low graphics quality. These ads will work on most phones. (2)

Q20 Which platform are you integrating Acme ad network on?

- Android (1)
- iOS (2)
- Unity (3)
- Windows Phone (4)
Q21 Select the type of ads that you want to show.

☐ Ads with lower user privacy: Acme can show personalised ads to your users based on their past behaviour, such as previous visits to sites or apps or where the user has been. (1)

☐ Ads with higher user privacy: Acme will show only non-personalised ads to your users based on contextual information, such as the content of your site or app. (2)

Q22 Which of the following regulations apply to this app?

☐ GDPR (General Data Protection Regulation) (1)

☐ CCPA (California Consumer Privacy Act) (2)

☐ COPPA (Children’s Online Privacy Protection Act) (3)

☐ HIPAA (Health Insurance Portability and Accountability Act) (4)

☒ None of the above (5)

☒ I don't know (6)
Q23 What was the biggest reason that made you pick the ad type: 
"${Q21/ChoiceGroup/SelectedChoices}"?
(Please provide at much as details you can. Your response helps us better understand your reasons behind your choices.)

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

End of Block: con-privacy-label

Start of Block: con-user-facing

Q24 Imagine that you are a shareholder in a software development company. Together with a small team, you created a ${lm://Field/1} app. The app will be published in Europe and the United States and is mainly targeted towards adults (above age of 18).

To monetise the app, you have decided to use the "Acme" ad network to show ads to your users.

The Acme ad network offers a step-by-step Assistant – a graphical user interface that provides various configuration choices for integrating ads into your ${lm://Field/1} app.

The Assistant asks the developer several questions and then provides ad network configuration code based on the answers that can be imported directly into an app with minimal additional coding required.

The following are the 5 questions asked by Acme's Assistant, please answer them as if you were developing the ${lm://Field/1} app.
Q25 Which ad formats are you integrating?

- Banner: A basic ad format that appears at the top & bottom of the device screen. (1)

- Interstitial: full-page ads appear at natural breaks & transitions, such as level completion. Supports video content. (2)

- Rewarded Video: ads reward users for watching short videos and interacting with playable ads and surveys. Good for monetising free-to-play users. Supports video content. (3)

- Native: customisable ad format that matches the look & feel of your app. Ads appear inline with app content. Supports video content. (4)

Q26 What level of graphics do you want for your ads?

- Ads with highest graphics quality. These ads will work best on newer phones with the latest operating systems. (1)

- Ads with moderate to low graphics quality. These ads will work on most phones. (2)

Q27 Which platform are you integrating Acme ad network on?

- Android (1)
- iOS (2)
- Unity (3)
- Windows Phone (4)
Q28 Select the type of ads that you want to show.

- Ads with 'Personalised Ads' tag displayed to users: Acme can show personalised ads to your users. Users will see the 'Personalised Ads' tag next to the 'Install' button and the following text in your app description in the App store or Google play "This app shows ads personalised based on your personal information." (1)

- Ads with 'Non-personalised Ads' tag displayed to users: Acme will show only non-personalised ads to your users. Users will see the 'Non-personalised Ads' tag next to the 'Install' button and the following text in your app description in the App store or Google play "This app shows ads not personalised based on your personal information." (2)

Q29 Which of the following regulations apply to this app?

- GDPR (General Data Protection Regulation) (1)
- CCPA (California Consumer Privacy Act) (2)
- COPPA (Children's Online Privacy Protection Act) (3)
- HIPAA (Health Insurance Portability and Accountability Act) (4)
- None of the above (5)
- I don't know (6)
Q30 What was the biggest reason that made you pick the ad type: "${Q28/ChoiceGroup/SelectedChoices}"?
(Please provide at much as details you can. Your response helps us better understand your reasons behind your choices.)

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

End of Block: con-user-facing

Start of Block: con-revenue-label

Q31 Imagine that you are a shareholder in a software development company. Together with a small team, you created a $lm://Field/1 app. The app will be published in Europe and the United States and is mainly targeted towards adults (above age of 18).

To monetise the app, you have decided to use the "Acme" ad network to show ads to your users.

The Acme ad network offers a step-by-step Assistant – a graphical user interface that provides various configuration choices for integrating ads into your $lm://Field/1 app. The Assistant asks the developer several questions and then provides ad network configuration code based on the answers that can be imported directly into an app with minimal additional coding required.

The following are the 5 questions asked by Acme's Assistant, please answer them as if you were developing the $lm://Field/1 app.
Q32 Which ad formats are you integrating?

- Banner: A basic ad format that appears at the top & bottom of the device screen. (1)
- Interstitial: full-page ads appear at natural breaks & transitions, such as level completion. Supports video content. (2)
- Rewarded Video: ads reward users for watching short videos and interacting with playable ads and surveys. Good for monetising free-to-play users. Supports video content. (3)
- Native: customisable ad format that matches the look & feel of your app. Ads appear inline with app content. Supports video content. (4)

Q33 What level of graphics do you want for your ads?

- Ads with highest graphics quality. These ads will work best on newer phones with the latest operating systems. (1)
- Ads with moderate to low graphics quality. These ads will work on most phones. (2)

Q34 Which platform are you integrating Acme ad network on?

- Android (1)
- iOS (2)
- Unity (3)
- Windows Phone (4)
Q35 Select the type of ads that you want to show.

- Ads with higher revenue: Acme can show personalised ads to your users, which may yield higher revenue than non-personalised ads. (1)

- Ads with lower revenue: Acme will show only non-personalised ads to your users, which may yield lower revenue than personalised ads. (2)

Q36 Which of the following regulations apply to this app?

- GDPR (General Data Protection Regulation) (1)
- CCPA (California Consumer Privacy Act) (2)
- COPPA (Children’s Online Privacy Protection Act) (3)
- HIPAA (Health Insurance Portability and Accountability Act) (4)
- None of the above (5)
- I don’t know (6)
Q37 What was the biggest reason that made you pick the ad type: "${Q35/ChoiceGroup/SelectedChoices}"?
(Please provide at much as details you can. Your response helps us better understand your reasons behind your choices.)

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

End of Block: con-revenue-label

Start of Block: con-privacy-revenue

Q38 Imagine that you are a shareholder in a software development company. Together with a small team, you created a ${{Im://Field/1}} app. The app will be published in Europe and the United States and is mainly targeted towards adults (above age of 18).

To monetise the app, you have decided to use the "Acme" ad network to show ads to your users.

The Acme ad network offers a step-by-step Assistant – a graphical user interface that provides various configuration choices for integrating ads into your ${{Im://Field/1}} app. The Assistant asks the developer several questions and then provides ad network configuration code based on the answers that can be imported directly into an app with minimal additional coding required.

The following are the 5 questions asked by Acme's Assistant, please answer them as if you were developing the ${{Im://Field/1}} app.
Q39 Which ad formats are you integrating?

☐ Banner: A basic ad format that appears at the top & bottom of the device screen. (1)

☐Interstitial: full-page ads appear at natural breaks & transitions, such as level completion. Supports video content. (2)

☐ Rewarded Video: ads reward users for watching short videos and interacting with playable ads and surveys. Good for monetising free-to-play users. Supports video content. (3)

☐ Native: customisable ad format that matches the look & feel of your app. Ads appear inline with app content. Supports video content. (4)

Q40 What level of graphics do you want for your ads?

☒ Ads with highest graphics quality. These ads will work best on newer phones with the latest operating systems. (1)

☐ Ads with moderate to low graphics quality. These ads will work on most phones. (2)

Q41 Which platform are you integrating Acme ad network on?

☒ Android (1)

☐ iOS (2)

☐ Unity (3)

☐ Windows Phone (4)
Q42 Select the type of ads that you want to show.

- Ads with higher revenue: Acme can show personalised ads to your users, which may yield higher revenue than non-personalised ads. (1)

- Ads with higher user privacy: Acme will show only non-personalised ads to your users which may increase your users’ privacy. (2)

Q43 Which of the following regulations apply to this app?

- GDPR (General Data Protection Regulation) (1)

- CCPA (California Consumer Privacy Act) (2)

- COPPA (Children’s Online Privacy Protection Act) (3)

- HIPAA (Health Insurance Portability and Accountability Act) (4)

- None of the above (5)

- I don’t know (6)
Q44 What was the biggest reason that made you pick the ad type: "${Q42/ChoiceGroup/SelectedChoices}"?
(Please provide at much as details you can. Your response helps us better understand your reasons behind your choices.)

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

End of Block: con-privacy-revenue

Start of Block: ask-user-consent
Q45
Assume that you decided to use personalised ads in both the gaming and financial management apps described earlier. How do you imagine you would go about asking for user consent for the personalised ads?

- I'd use my own consent form (1)
- I'd use the consent form provided by the Acme ad network (2)
- I'd use a third-party consent form provided by a leading tech company (e.g., Facebook, Google, Amazon, Twitter) (3)
- I'd use a third-party consent form provided by a not-for-profit organisation (e.g., Mozilla, Electronic Frontier Foundation) (4)
- I'd use a third-party consent form provided by other companies providing compliance services (e.g. OneTrust) (5)
- I won’t ask for user consent because I don’t think it's required (6)
- I won’t ask for user consent because I don’t think it's important (7)
- I won’t ask for user consent because someone else in the team should take care of it (8)
- I won’t ask for user consent because it's hard to do so (9)
- I won’t ask for user consent because I'm not familiar with the consent process (10)
- I won’t ask for user consent because the Acme ad network will take care of it (11)
- Other (please explain) (12) __________________________________________________________

End of Block: ask-user-consent

Start of Block: consent-own-how

Display This Question:
If Q45 = 1

Q46 What information sources, if any, would you use to build your own consent form?

______________________________________________________________

End of Block: consent-own-how
Q47 How, if at all, would your app’s revenue change if you chose personalised ads over non-personalised ads in the financial management app described earlier?

- Decrease by more than 81% (1)
- Decrease by 61%-80% (2)
- Decrease by 41%-60% (3)
- Decrease by 21%-40% (4)
- Decrease by 1%-20% (5)
- It won’t change (6)
- Increase by 1%-20% (7)
- Increase by 21%-40% (8)
- Increase by 41%-60% (9)
- Increase by 61%-80% (10)
- Increase by more than 81% (11)
Q48 How, if at all, would your app’s revenue change if you chose personalised ads over non-personalised ads in the gaming app described earlier?

- Decrease by more than 81% (1)
- Decrease by 61%-80% (2)
- Decrease by 41%-60% (3)
- Decrease by 21%-40% (4)
- Decrease by 1%-20% (5)
- It won’t change (6)
- Increase by 1%-20% (7)
- Increase by 21%-40% (8)
- Increase by 41%-60% (9)
- Increase by 61%-80% (10)
- Increase by more than 81% (11)
Q49 How, if at all, would the number of users of your app change if you chose personalised ads over non-personalised ads in the financial management app described earlier?

- Decrease by more than 81% (1)
- Decrease by 61%-80% (2)
- Decrease by 41%-60% (3)
- Decrease by 21%-40% (4)
- Decrease by 1%-20% (5)
- It won’t change (6)
- Increase by 1%-20% (7)
- Increase by 21%-40% (8)
- Increase by 41%-60% (9)
- Increase by 61%-80% (10)
- Increase by more than 81% (11)
Q50 How, if at all, would the **number of users** of your app change if you chose personalised ads over non-personalised ads in the **gaming** app described earlier?

- Decrease by more than 81%  (1)
- Decrease by 61%-80%  (2)
- Decrease by 41%-60%  (3)
- Decrease by 21%-40%  (4)
- Decrease by 1%-20%  (5)
- It won't change  (6)
- Increase by 1%-20%  (7)
- Increase by 21%-40%  (8)
- Increase by 41%-60%  (9)
- Increase by 61%-80%  (10)
- Increase by more than 81%  (11)
Q51
How much priority do you give to privacy improvement and maintenance tasks in your daily development routines?

- Not a priority (1)
- Low priority (2)
- Medium priority (3)
- High priority (4)
- Essential (5)

Q52 As a developer, how much control do you generally have over the amount of data collected by ad networks?

- No control at all (1)
- Very little control (2)
- Moderate control (3)
- A lot of control (4)
- Full control (5)
Q53 How much control do users generally have over the amount of data collected by ad networks?

- No control at all (1)
- Very little control (2)
- Moderate control (3)
- A lot of control (4)
- Full control (5)

End of Block: privacy-control

Start of Block: dev-mobile-demographics

Q54 What platforms have you previously developed apps for?

- Android (1)
- iOS (2)
- Blackberry (3)
- Windows Phone (4)
- Other (please specify) (5) ________________________________________________
Q55 How involved have you been in in-app advertising activities?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not at all (1)</th>
<th>A little (2)</th>
<th>A moderate amount (3)</th>
<th>A lot (4)</th>
<th>A great deal (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choosing an advertising partner or advertising network for an app</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Configuring the types of in-app ads shown in an app (e.g., where to place ads, what categories of ads to show, etc.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Integrating the necessary code into an app to enable in-app advertising</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Q56 Regarding mobile apps, have you used or worked with any advertising networks?

- [ ] AdColony (1)
- [ ] Amazon Mobile Ad Network (2)
- [ ] Facebook Audience Network (3)
- [ ] Flurry (4)
- [ ] Google AdMob (5)
- [ ] InMobi (6)
- [ ] Millennial media (7)
- [ ] Twitter MoPub (8)
- [ ] Unity Ads (9)
- [ ] Vungle (10)
- [ ] Greyfriars Bobby (11)
- [ ] Other (please specify) (12) ________________________________

- [x] I have never included any ad networks in my mobile apps (13)

Display This Question:
If Q56 = 13

Q57 What are the primary reasons that you never included any ad networks in your apps? (Please provide as much as details you can. Your response helps us better understand your reasons behind your choices.)

________________________________________________________________
Q58 What is the revenue model of the apps that you typically develop?

- Free with In-App Advertising, users cannot pay a fee to remove advertisements (1)
- Free with In-App Advertising, users can pay a fee to remove advertisements (2)
- Freemium model (app is free, certain features cost user’s money) (3)
- Paid download (4)
- In-App purchases (selling physical or virtual goods through the app) (5)
- Subscription (similar to Freemium, except instead of paying for extra features, users must pay for extra content) (6)
- My apps are completely free (7)
- Cannot remember (8)
- Other (please specify) (9) __________________________________________________________
Q59 Who decides what revenue model to use in the apps that you develop?

- [ ] Only me (1)
- [ ] Developer(s) / Programmer(s) (2)
- [ ] Project manager(s) (3)
- [ ] CEO and/or other upper-level management (4)
- [ ] Investor(s) (5)
- [ ] Other (please specify) (6) ____________________________________________
- [ ] I do not know who was involved in the decision process (7)

Q60 Who decides what advertisement network to use in the apps that you develop?

- [ ] Only me (1)
- [ ] Developer(s) / Programmer(s) (2)
- [ ] Project manager(s) (3)
- [ ] CEO and/or other upper-level management (4)
- [ ] Investor(s) (5)
- [ ] Other (please specify) (6) ____________________________________________
- [ ] I do not know who was involved in the decision process (7)
Q61 What is your main source of income in software or mobile development?

- I don’t make money from software or mobile development (1)
- Salary, not dependent on software/app revenue (2)
- Primarily salary and bonuses, partially dependent on software/app revenue (3)
- Primarily direct software/app revenue (4)
- Other (please specify) (5) ________________________________________________

End of Block: dev-mobile-demographics

Start of Block: demographics

Q62 What type of employment best describes your most recent app development experience?

- Full time employee (or contractor equivalent) (1)
- Part-time employee (or contractor equivalent) (2)
- Freelance/consultant (3)
- Furloughed (temporarily laid off) or on leave (4)
- Unemployed (5)
- Student (6)
- Retired (7)
- Other (please specify) (8) ________________________________________________
Q63 Please select the statement that best describes your primary roles at your most recent job.

- I'm not employed (1)
- Jobs NOT related to computer science, informatics, computer engineering, or related fields (2)
- Designing products (e.g. UI designer, interaction designer) (3)
- Developing software (e.g. programmer, developer, web developer, software engineer) (4)
- Testing software (e.g. tester, quality analyst, automation engineer) (5)
- Managing software development (e.g. project manager, IT manager, scrum master) (6)
- Privacy and/or security engineering (e.g. security engineer, privacy engineer, penetration tester, ethical hacker, cryptographer) (7)
- Others (8) ________________________________________________

Q64 How many years of experience do you have in software development? (numbers only)

________________________________________________________________

Q65 How many years have you worked in mobile app development specifically? (numbers only)

________________________________________________________________
Q66 Where did you mainly learn to program and develop software?

☐ Self-taught (1)

☐ High school courses (2)

☐ College or university courses (3)

☐ Online courses (4)

☐ Industry or on-the-job training (5)

☐ Others (6) ________________________________________________

Q67 How many people were employed in the organisation for which you worked on the app development most recently?

○ 1-9 employees (1)

○ 10-99 employees (2)

○ 100-999 employees (3)

○ 1,000-9,999 employees (4)

○ 10,000 or more employees (5)

Q68 How many members were in the team that you have directly worked with most recently? (numbers only)

________________________________________________________________
Q69 How many years old are you? (numbers only)

________________________________________________________________

Q70 In which country do you currently reside?

▼ Afghanistan (1) ... Not in the list (196)

________________________________________________________________

Q71 If you can't find your country in the above question options, please enter it here.

________________________________________________________________

Q72 What is your gender?

☐ Male (1)

☐ Female (2)

☐ Non-binary (3)

☐ Prefer not to say (4)

☐ Prefer to self describe (5) ________________________________________________

Display This Question:
If channel != prolific

Q73 If you'd like to be included in the raffle, please provide your email address.

________________________________________________________________
Q74 Do you have comments or anything to say about the survey or study in general? (optional)

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

End of Block: demographics