



class: _____ name: _____ points: 50 / _____ mark: _____

A. Read the text below and choose the statement that best suits the meaning of the text. Circle only one answer (a-c) for each question on the following pages. Only one answer is correct. Words in italics have been translated for you. (1.5 points per correct answer)

Common challenges faced by Android app developers

The primary target for businesses while working on mobile apps is the Android platform, thanks to the significant market share the mobile operating system holds. Its popularity can be attributed to the fact that it is open source and is regularly updated with new enhancements and features.

5 Android devices generally *tend* (tendieren) to differ based on the mobile hardware features even when powered by the same version of the Android OS. This is why it is essential that when developing apps for Android, developers create mobile apps capable of targeting a diverse range of mobile devices running on different versions of Android OS.

10 During the various stages of planning, developing and testing, developers need to focus *comprehensively* (umfassend) on the apps functionality, accessibility, usability, performance, and security so that users can be engaged despite their choice of device. Also, they need to look for ways to make the apps deliver a more personalized user experience across the various devices it runs on. Furthermore, developers need to understand and find solutions to the common challenges involved in Android app development.

Hardware features

15 The Android OS is unlike any other mobile operating system. For one thing, it is an open source system. The company Alphabet who owns Google and the Android OS gives manufacturers the *leeway* (Spielraum) to customize the operating system to their specific needs. Also, there are no regulations on the devices being released by the different manufacturers. As a result, you can find various Android devices with different hardware features running on the same Android version. Two smartphones
20 running on Android latest version, for example, may have different screen resolutions, camera, screen size, and other hardware structures. During Android app development, developers need to account for all of this to ensure the application delivers a personalized experience to each user.

Lack of uniform user interface design rules

25 Since Google is yet to release any standard UI (user interface) design rules or process for mobile app developers, most developers don't follow any standard UI development rules or procedure. Because developers are creating custom UI interfaces in their preferred way, a lot of apps tend to function or look different across different devices. This diversity and incompatibility of the UI usually affects the user experience that the Android app directly delivers. Smart developers prefer to go for a responsive layout that'll keep the UI consistent across different devices. Moreover, developers need to test the UI
30 of the app extensively by combining emulators and real mobile devices. Designing a UI that makes the app deliver the same user experience across varying Android devices is one of the more difficult challenges developers face.

API incompatibility

35 A lot of developers make use of third-party *APIs* (application programming interfaces, Anwendungsprogrammierschnittstellen) to enhance the functionality and interoperability of a mobile device. Unfortunately, not all third-party APIs available for Android app development are of high quality. Some APIs were created for a particular Android version and will not work on devices running on a



different version of the operating system. Developers usually have to come up with ways to make a single API work on all Android versions, a task they often find to be very challenging.

40 Security flaws

As previously mentioned, Android is an open source software, and because of that, manufacturers find it easy to customize Android to their desired specifications. However, this openness and the massive market size makes Android a frequent target for security attacks. There have been several instances where the security of millions of Android mobile devices have been affected by security flaws and bugs like mRST, Stagefright, FakeID, 'Certifi-gate,' TowelRoot and Installer Hijacking. Developers need to include robust security features in their applications and utilize the latest encryption mechanisms to keep user information secure and out of the hands of hackers.

45 Patent issues

Google doesn't implement any guidelines for the evaluation of the quality of new apps that are getting submitted to the Play Store. This lack of a quality assessment guideline causes a lot of patent-related issues for developers. Some developers, to avoid patent issues, therefore have to modify and redesign their apps in the future. - packtpub.com

1

- a. The open source nature of Android contributes to its success.
- b. Among other reasons, Android is popular because different versions of the mobile OS can be used on the same hardware platform.
- c. App programming for Android is not comparable to creating apps for its rival iOS.

2 When developing an Android app, developers...

- a. ...can hardly guarantee functionality and security for the various hardware platforms their device app is going to be used with.
- b. ...focus on providing the same accessibility and usability regardless of what type of phone their app is used on.
- c. ...usually struggle with simultaneously making sure usability and performance does not interfere with a personalized user experience.

3

- a. The open source nature of Android isn't unique to mobile operating systems.
- b. It is crucial that there aren't any differences in the hardware structure of devices running the latest version of Android.
- c. Alphabet does not constrain customization of the operating system.

4 The lack of uniform user interface design rules...

- a. ...is intentional because Google refuses to collaborate with the manufacturers of the hardware Android runs on.
- b. ...prevents the developers from having to deploy emulators whose use is otherwise fundamental to contemporary Android app development.
- c. ...can better be dealt with by making a responsive layout of the UI as opposed to creating custom UI interfaces.



5

- a. For developers, the use of APIs is indispensable.
- b. APIs must not be incompatible with all Android platforms.
- c. Making all third-party APIs work with the latest Android version is known to be challenging.

6

- a. Competitors make Android a frequent target of their security attacks.
- b. Developers need to consider modifying their apps if they intend to overcome the challenges that security and patents pose.
- c. In order to avoid serious trouble with security and patent-related issues, it has become imperative for developers to demand the implementation of guidelines for the evaluation of apps from Google.

points: ____ / 9

B. Find the word(s) that can be used synonymously to the underlined words in the text. (1 point per correct answer)

1 essential (line 5)

- a. illegible
- b. unbiased
- c. indispensable

2 customize (line 17)

- a. deploy
- b. acknowledge
- c. alter

3 account for (line 21)

- a. derive
- b. consider
- c. settle for

4 come up with (line 38)

- a. introduce
- b. persuade
- c. advise

5 utilize (line 46)

- a. deploy
- b. take part in
- c. update

6 therefore (line 51)

- a. hence
- b. humble
- c. there is

points: ____ / 6

C. Find the word(s) in the text that mean the opposite of the word(s) in the table. (1 point per correct answer)

line	opposite	word in text
5 – 10	constrained	
30 – 35	demand (v)	
42– 47	faulty	
46 – 51	permit (v)	

points: ____ / 4



D. Do the following sentences contain passive structures? Circle the sentence numbers 1-4 that do. (0.5 points per correct answer)

- 1 Kotlin is a statically typed programming language that runs on the Java virtual machine and can be compiled to JavaScript source code or use the LLVM compiler infrastructure.
- 2 The increasing number of cores in machines has led to another interesting development in the area of servers.
- 3 Why does Swift's string class use "Indices" instead of "Ints" when they're functionally identical?
- 4 Samsung confirmed that the One UI will be made available to Galaxy S9, Galaxy S9+, and Galaxy Note 9 users starting from January 2019 via the Android Pie update.

points: ____ / 2

E. Put the following sentences into the passive without changing the tense. Use the underlined word as the new subject. (1 point per correct answer)

- 1 Google is shutting down Google+ for consumers following security lapse.

Google+ for consumers is being shut down following security lapse

- 2 IBM will acquire Red Hat.

- 3 Was Susanne working on a good solution?

Was a good solution being worked on?

- 4 Did Peter buy a server rack?

Was a server rack bought?

- 5 The teachers might soon teach another programming language.

Another programming language might soon be taught

points: ____ / 5

**F. Put the verb into the correct form - present simple or past simple, present continuous or past continuous, present perfect, simple future, active or passive. (1 point per correct answer)**

Foldable OLED smartphones have been anticipated (anticipate) for years but have failed to materialize because of the relatively high failure rate when producing these screens.

Furthermore, creating a battery that can be folded (can, fold) is another hurdle. Google's latest OS version „Android Q“ is currently being developed (currently, develop) for foldable phones and will be an alternative to Google's latest OS which is referred to (refer to) as Android 9 or „Pie“.

points: ____ / 4

G. Put the verbs in brackets in the correct tense using the 1st, the 2nd or the 3rd conditional. Make any necessary changes or additions. (1 point per correct answer)

- 1 If I were you, I would change (change) my password regularly.
- 2 If it wasn't (not, be) too expensive, I would buy the GeForce RTX 2080 Ti.
- 3 Mirjam would have had a good grade in her exam if she hadn't studied (not, study) the wrong topic.
- 4 In case you don't accept (not, accept) cookies, your browser experience would be impaired because your site preferences and login status can't be tracked.
- 5 Unless you get (have) help from someone who knows what she's doing, I would not tinker with the power settings.
- 6 Provided that you know Swift, you can program (program) any app for iOS you like.
- 7 You could solve (be able to) solve the problem, if you had been given the right information.
- 8 I will help (help) you until I have to leave at 2pm.

points: ____ / 8



H. Complete the sentences. Use the words from the table below but don't change them. Use each word only once. There are some words you don't use. (1 point per correct answer)

commonly	indispensable	persuaded	settle for
extensible	intermediate	policy	these days
illegible	investigate	refuse	unbiased
impatience	occur	restricted	virtue

- 1 Facebook has a _____ of doing ongoing manual and automated checks to ensure apps are complying with Facebook's guidelines.
- 2 It's clear that _____ is growing after three days in which nothing has been achieved.
- 3 In addition to a portal with _____ access there is a public portal.
- 4 Every time you _____ and fix an error, you gain real programming experience.
- 5 Errors that _____ in a program after it has been compiled are called runtime errors.
- 6 She was just not prepared to _____ anything less than the best contract.
- 7 Here is an _____ and objective survey of a few programming languages I'm interested in.
- 8 The IDE can detect and underline _____ made typos.
- 9 Programmers who _____ to learn anything besides one language have a much narrower segment of the job market to work with.
- 10 It's rather difficult to get by without a smartphone _____.
- 11 A computer is one of the most _____ machines in our society.
- 12 Humility is considered to be a _____.

points: ____ / 12