



19CSI605 - Mobile Application Development

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Android Users

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Android Users

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- Android uses the following terms when describing Android users and accounts.

Android device management uses the following general terms.

User.

- ✓ Each *user* is intended to be used by a different physical person.
- ✓ Each user has distinct application data and some unique settings, as well as a user interface to explicitly switch between users.
- ✓ A user can run in the background when another user is active; the system manages shutting down users to conserve resources when appropriate.
- ✓ Secondary users can be created either directly via the user interface or from a Device Administration application.



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Account.

- Accounts are contained within a user but are not defined by a user, nor is a user defined by or linked to any given account.
- Users and profiles contain their own unique accounts but are not required to have accounts to be functional.
- The list of accounts differs by user. For details, refer to the Account class definition.

App.

- An application's data exists within each associated user.
- App data is sandboxed from other applications within the same user.
- Apps within the same user can interact with each other via IPC. For details, refer to Android for enterprise.



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- ❑ **Profile.**
- ✓ A profile has separated app data but shares some system-wide settings (for example, Wi-Fi and Bluetooth).
- ✓ A profile is a subset of, and tied to, the existence of a user. A user can have multiple profiles.
- ✓ Profiles are created through a Device Administration application.
- ✓ A profile always has an immutable association to a parent user, defined by the user that created the profile.
- ✓ Profiles do not exist beyond the lifetime of the creating user.



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Categories of users

Android device administration uses the following categories of users.

- **System user.** First user added to a device.
- **Secondary user.** Any user added to the device other than the system user.
- **Guest user.** Temporary secondary user.
- **Admin user.** A user who has the permission to create and remove other users, as well as control some general multi-user settings. By default, only the system user is an admin.



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Categories of profiles

Android device administration uses the following categories of profiles.

- **Managed profile.** Created by an application to contain work data and apps. They are managed exclusively by the profile owner (the app that created the corp profile). Launcher, notifications, and recent tasks are shared by the parent user and the corp profile.
- **Restricted profile.** Uses accounts based off the parent user, who can control what apps are available on the restricted profile. Available only on tablets and television devices.



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Android Automotive Multi-User

Android Automotive relies on Android's multi-user implementation to provide a shared device experience.

Automotive User Types

- In addition to the user types listed above, Automotive builds are notable for these types of users:
- **Headless system user.** The system user hosts all system services. To support multiple users on Automotive, the system user must also be *headless*. There is only one headless user.



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A headless system user:

- ✓ Must always run in the background.
- ✓ Cannot be removed or accessed directly by the user except in the case of Device Provisioning. For example, users cannot switch to this User type to perform tasks such as download apps or add accounts.
- ✓ Can only be cleared by a factory reset.

Regular users. The same as Secondary Users, described above, except that secondary users:

- ✓ Do not run in the background
 - ✓ Can be created directly through the user interface.
 - ✓ Have separated app data but share some system-wide settings.

For example, Wi-Fi and Bluetooth.



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Android users

- Android has added more users every year since inception. Even though in more mature markets user growth has stagnated, Android has continued to grow at a remarkable rate through its popularity in developing countries. In Brazil, India, Indonesia, Turkey and Vietnam, Android has over 85 percent marketshare.

Year	Active users
2012	0.5 billion
2013	0.7 billion
2014	1 billion
2015	1.4 billion
2016	1.7 billion
2017	2 billion
2018	2.3 billion
2019	2.5 billion
2020	2.8 billion



THANK YOU