Software Development for Mobile Devices

Submission for Assignment A10.1P

What are the different types of high-level components within an application (e.g. Activity, Service, Receiver, Provider are explained — can be as a table).

Components	Details
Activity	Activity is a screen with a user interface that the user can interact.
Service	A service is a component that supports the app to run in background for long-running operators. It does not have a user interface.
Broadcast Receiver	A broadcast receiver is used to send events to other applications, which allows applications the respond to system-wide broadcast announcement
Content Provider	Content providers allow developers to share a set of data among other applications. Developers can access to content provider by granting the permission to access to it. (Application Fundamentals 2018)

What do the concepts Foreground, Visible, Empty, and Background mean?

Concepts	Details
Foreground	In general, this is a process showing what the user is doing. • In Activity, it is a top of the screen that the user can interact right after the method onResume() is invoked. • In BroadcastReceiver, the foreground process is the BroadcastReceiver that is running when the method BroadcastReceiver.onReceive() is calling.

	• In Service, the service is running on foreground process when it is invoking these callback methods (Service.onCreate(), Service.onStart() or Service.onDestroy()) (Processes and Application Lifecycle 2018)
Visible	Visible process is doing a work that it is not in the foreground process but the user is still conscious of, and destroy it may cause the unfavorable result to the user. • In Activity, the visible process is visible to the user on-screen but the user cannot interact with it. For example, when showing the dialog popup, the Activity behind is the visible process. • In Service, the visible process is running as a foreground service right after calling the method Service.startForeground()
Empty	Empty process is a cached process which is not needed anymore and the system can remove it when the memory is needed without any adverse effects to the user.
Background	A background process is also known as a service process which does not visible to the user, it is still operating some functions e.g. requesting data background and terminate it when the memory is not enough. (Processes and Application Lifecycle 2018)

Reference

Application Fundamentals, viewed 27 September 2018,

<https://developer.android.com/guide/components/fundamentals>.

Processes and Application Lifecycle, viewed 27 September 2018,

<https://developer.android.com/guide/components/activities/process-lifecycle>.