

# Lesson - 12

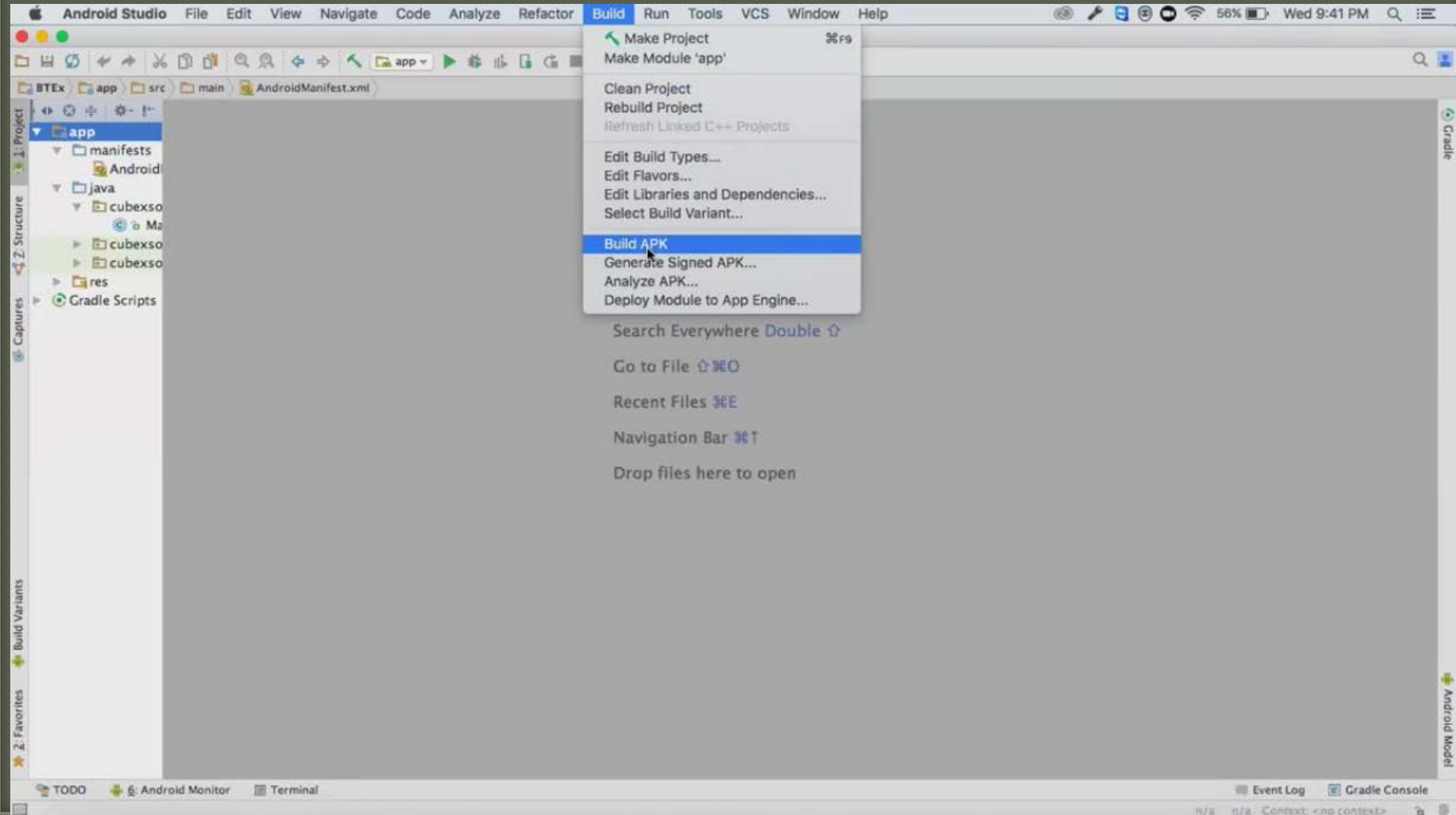
Publish APK

# Publish .apk

- After you have created, and fully debugged, your application, you might want to deploy it to the Google Store for others to enjoy.
- Application Before uploading the application in Google Play Store(android market), the basic points to be noted are as follows:
  - Testing the application.
  - Checking the application performance.
  - SDK Compatibility.
  - Remove log data.
- Read : Before publishing to know the check list <https://developer.android.com/distribute/best-practices/launch/launch-checklist.html>
- The following sections outline the steps for publishing your applications.

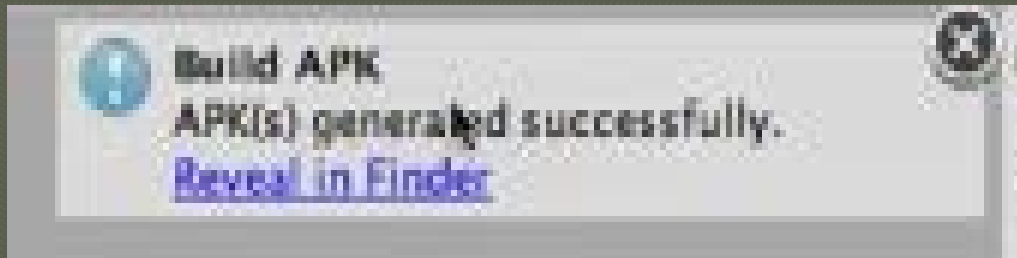
# Build APK for Testing Purpose not for Deployment

Step 1 : Click Build → Build APK, will provide APK to test into various Android Device

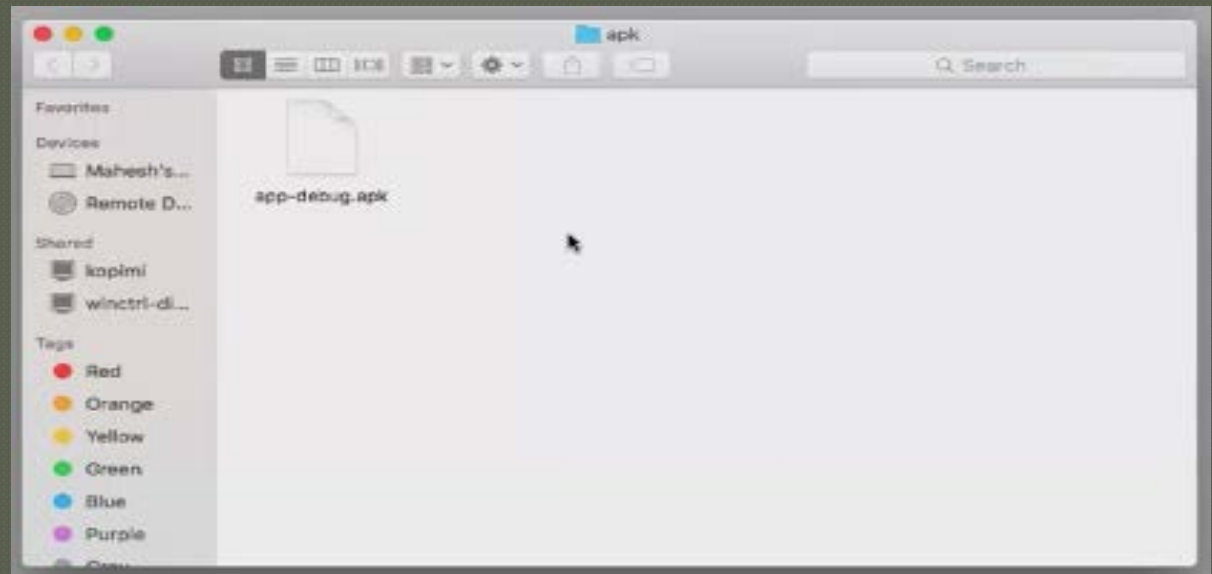


# Build APK for Testing Purpose not for Deployment

Step 2 : Once the APK is generated you will get this message.



Step 3 : Click on Reveal in Folder to see the APK. Now you copy this file in any android device and test your application.



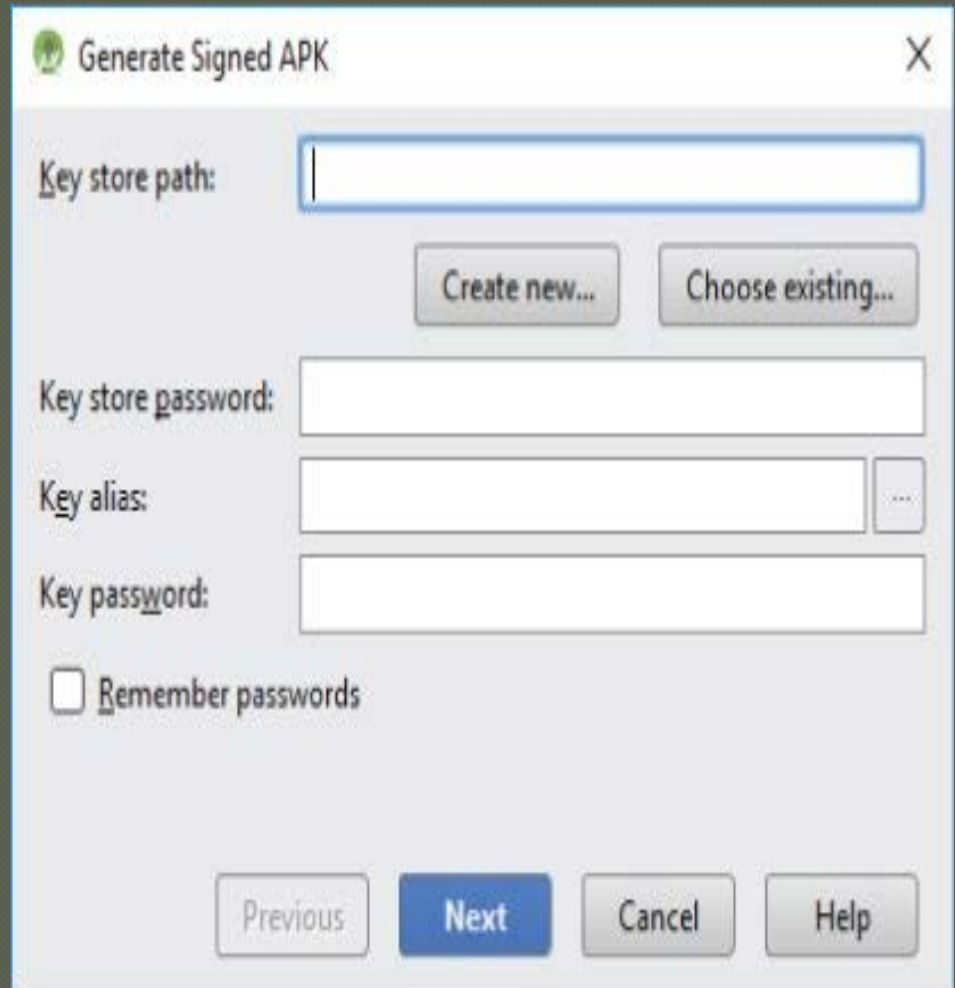
# Generating a Signed APK

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- To publish your finished application on the Google Play Store, you must generate a signed APK (the Android application package).
- APK is the compiled, executable version of your application.
- Signing it is much like signing your name to a document.
- The signature identifies the app's developer to Google and the users who install your application.
- More importantly, unless your Android Studio is in developer mode, unsigned applications will not run.

# Generating a Signed APK steps

1. Generate a signed APK from your code by selecting Build Generate Signed APK from the Menu bar to bring up the Generate Signed APK window as shown here



The screenshot shows the 'Generate Signed APK' dialog box. It has a title bar with a green Android icon and the text 'Generate Signed APK'. The dialog contains the following fields and controls:

- Key store path:** A text input field with a blue border. Below it are two buttons: 'Create new...' and 'Choose existing...'.
- Key store password:** A text input field.
- Key alias:** A text input field with a small dropdown arrow on the right.
- Key password:** A text input field.
- ☐ **Remember passwords**
- At the bottom are four buttons: 'Previous', 'Next' (highlighted in blue), 'Cancel', and 'Help'.

2. Assuming you have never published an application from Android Studio, you need to create a new key store. Click the Create New button to display the New Key Store window.

- Signed APK provides two things.
  - a. Signed Key
  - b. APK file.
- The Key is very confidential, it will be useful in future to make any update.
- It should not be shared.
- Signed Key file is stored with the extension .jks(java key store)



# Cont..

- 3. Fill out all of the information on this form because it pertains to your entity and application. Notice that there are two places for a password. These are the passwords for your key store and your key, respectively. Use the same password in both the places.
- Click OK to return to the Generate Signed APK window.

New Key Store

Key store path:

Password:  Confirm:

Key

Alias:

Password:  Confirm:

Validity (years):

Certificate

First and Last Name:

Organizational Unit:

Organization:

City or Locality:

State or Province:

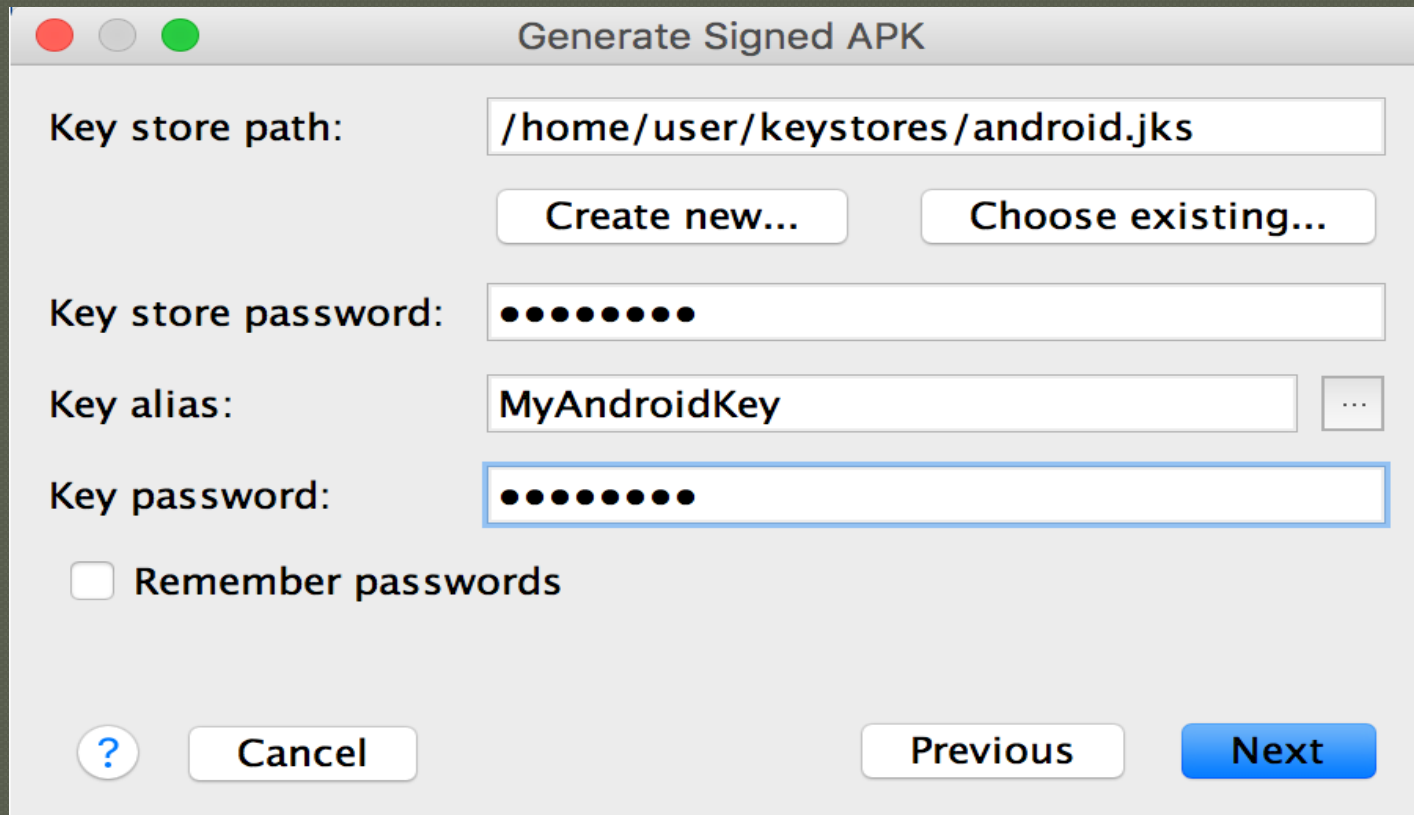
Country Code (XX):

Cancel OK



# Cont..

## 4. Click Next button



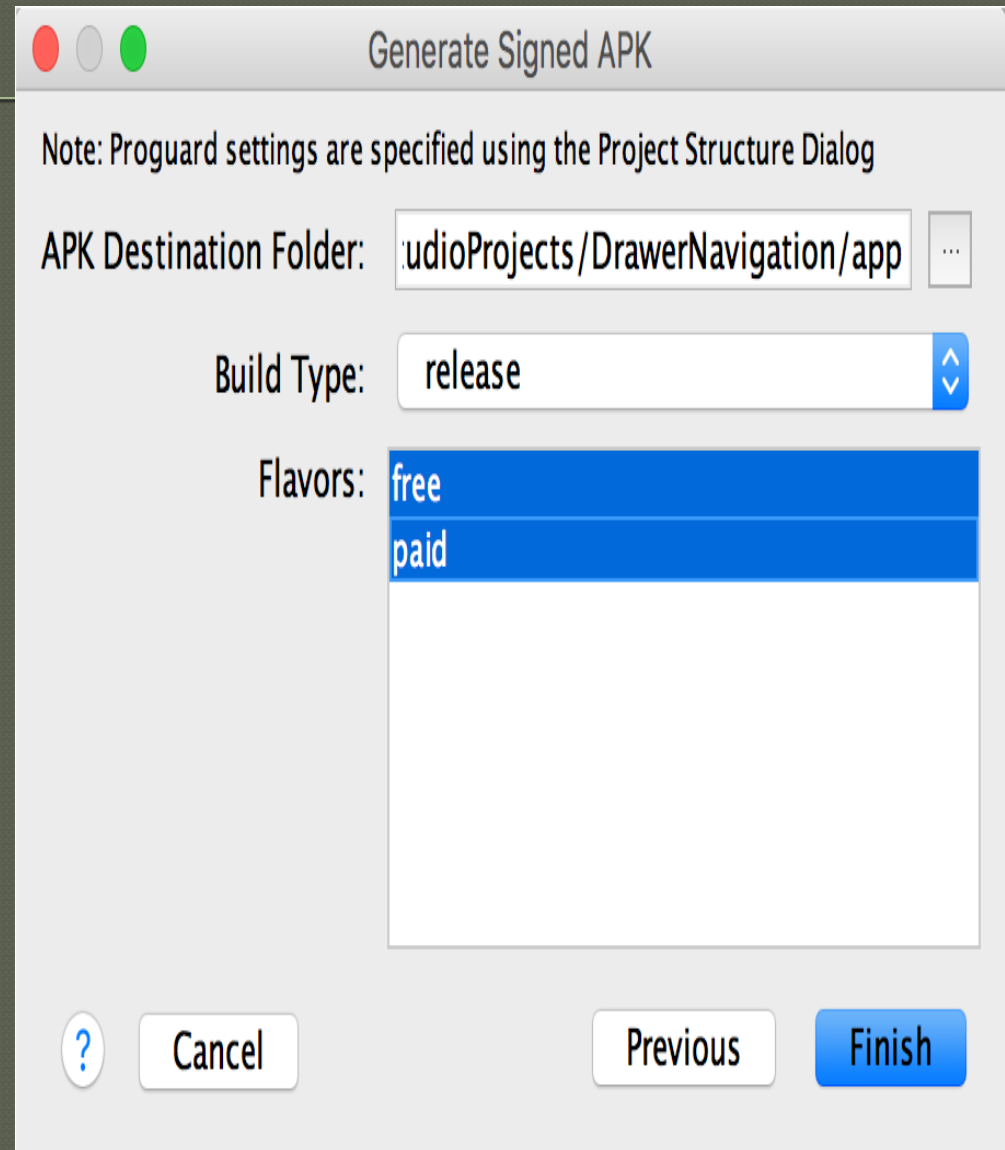
The screenshot shows the 'Generate Signed APK' dialog box. It has a title bar with standard macOS window controls (red, yellow, green buttons) and the title 'Generate Signed APK'. The dialog contains the following fields and controls:

- Key store path:** A text field containing the path `/home/user/keystores/android.jks`.
- Buttons:** Below the key store path field are two buttons: 'Create new...' and 'Choose existing...'.
- Key store password:** A password field with ten black dots representing the password.
- Key alias:** A text field containing 'MyAndroidKey' and a small square button with three dots to its right.
- Key password:** A password field with ten black dots, which is currently highlighted with a blue border.
- Remember passwords:** A checkbox labeled 'Remember passwords' which is currently unchecked.
- Footer:** At the bottom, there is a help icon (a circle with a question mark), a 'Cancel' button, a 'Previous' button, and a 'Next' button (which is highlighted in blue).

# Cont...

5. On the next window, select a destination for the signed APK(s), select the build type, (if applicable) choose the product flavor(s), and click **Finish**.

6. You will get, Click on this link to see the signed APK



## Cont...

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- Now that you have a signed APK, you can upload it to the Google Play Store using the developer console at <https://play.google.com/apps/publish/>
- Once you clicked on the link, need to sign in with your google account.
- You have to create a Play store account and pay some amount(\$25) for this account.
- You will get lifetime membership. You can upload N number of Apps.

If your application has more than 1000 lines of code add the highlighted part of code in your app before making signed APK.

GravitySensorDemo - [E:\ReMo\Andriod\_Coding\Lesson10\GravitySensor\GravitySensorDemo] - app - Android Studio 2.3.2

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

GravitySensorDemo app build.gradle

1: Project  
2: Favorites  
3: Build Variants  
4: Captures  
5: Android

app  
Gradle Scripts  
build.gradle (Project: GravitySensorDemo)  
build.gradle (Module: app)  
gradle-wrapper.properties (Gradle Version)  
proguard-rules.pro (ProGuard Rules for app)  
gradle.properties (Project Properties)  
settings.gradle (Project Settings)  
local.properties (SDK Location)

activity\_main.xml x MainActivity.java x app x

Gradle files have changed since last project sync. A project sync may be necessary for the IDE to work properly. [Sync Now](#)

```
1  apply plugin: 'com.android.application'
2
3  android {
4      compileSdkVersion 25
5      buildToolsVersion "25.0.0"
6      defaultConfig {
7          multiDexEnabled true
8          applicationId "com.example.rmohanraj.gravitysensordemo"
9          minSdkVersion 15
10         targetSdkVersion 25
11         versionCode 1
12         versionName "1.0"
13         testInstrumentationRunner "android.support.test.runner.AndroidJUnitRunner"
14     }
15     buildTypes {
16         release {
17             minifyEnabled false
18             proguardFiles getDefaultProguardFile('proguard-android.txt'), 'proguard-rules.pro'
19         }
20     }
21 }
22
23 dependencies {
24     compile fileTree(dir: 'libs', include: ['*.jar'])
25     androidTestCompile('com.android.support.test.espresso:espresso-core:2.2.2', {
26         exclude group: 'com.android.support', module: 'support-annotations'
27     })
28     compile 'com.android.support:appcompat-v7:25.3.1'
29     compile 'com.android.support.constraint:constraint-layout:1.0.2'
30     compile 'com.android.support:multidex:1.0.0'
31     testCompile 'junit:junit:4.12'
```

Platform and Plugin Updates  
Android Studio is ready to [update](#).

TODO 6: Android Monitor 0: Messages Terminal

Gradle build finished in 8s 808ms (today 2:27 PM)

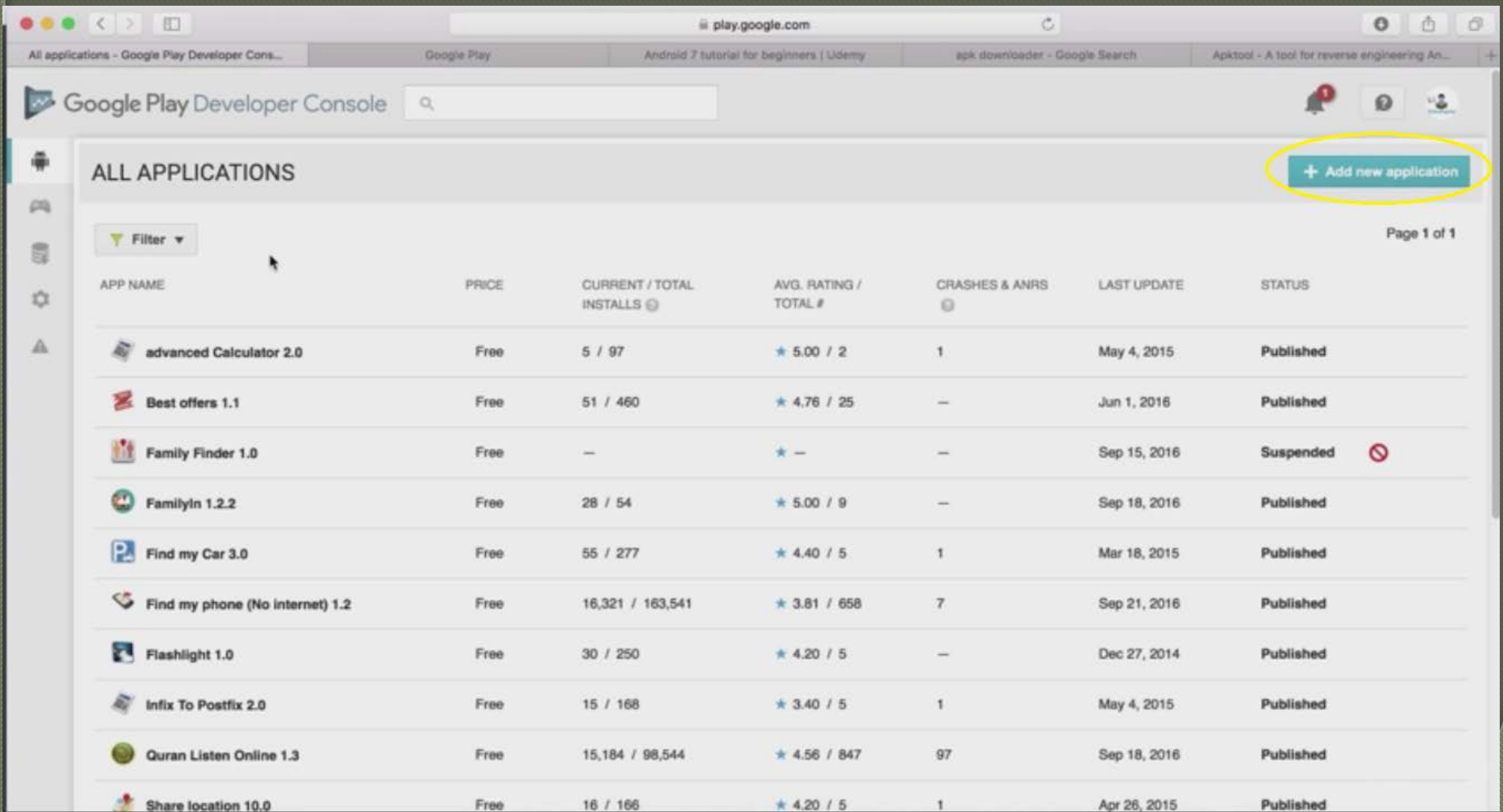
Type here to search

30:48 CRLE+ UTF-8+ Context: <no context>

5:45 PM 8/3/2017

# Google Play Store uploading Steps

1. Click Add new Application to upload your APK file.



The screenshot shows the Google Play Developer Console interface. At the top, there's a navigation bar with the Google Play Developer Console logo and a search bar. Below this, the 'ALL APPLICATIONS' section is visible. A yellow circle highlights the '+ Add new application' button in the top right corner of the applications list. The list itself contains several applications with columns for App Name, Price, Current / Total Installs, Avg. Rating / Total #, Crashes & ANRS, Last Update, and Status. The status of 'Family Finder 1.0' is 'Suspended', while all others are 'Published'.

APP NAME	PRICE	CURRENT / TOTAL INSTALLS	AVG. RATING / TOTAL #	CRASHES & ANRS	LAST UPDATE	STATUS
advanced Calculator 2.0	Free	5 / 97	★ 5.00 / 2	1	May 4, 2015	Published
Best offers 1.1	Free	51 / 460	★ 4.76 / 25	—	Jun 1, 2016	Published
Family Finder 1.0	Free	—	★ —	—	Sep 15, 2016	Suspended
FamilyIn 1.2.2	Free	28 / 54	★ 5.00 / 9	—	Sep 18, 2016	Published
Find my Car 3.0	Free	55 / 277	★ 4.40 / 5	1	Mar 18, 2015	Published
Find my phone (No internet) 1.2	Free	16,321 / 163,541	★ 3.81 / 658	7	Sep 21, 2016	Published
Flashlight 1.0	Free	30 / 250	★ 4.20 / 5	—	Dec 27, 2014	Published
Infix To Postfix 2.0	Free	15 / 168	★ 3.40 / 5	1	May 4, 2015	Published
Quran Listen Online 1.3	Free	15,184 / 98,544	★ 4.56 / 847	97	Sep 18, 2016	Published
Share location 10.0	Free	16 / 166	★ 4.20 / 5	1	Apr 26, 2015	Published

## 2. Click Upload APK and drag your APK to play store.

a

ADD NEW APPLICATION

Default language \*

English (United States) - en-US

Title \*

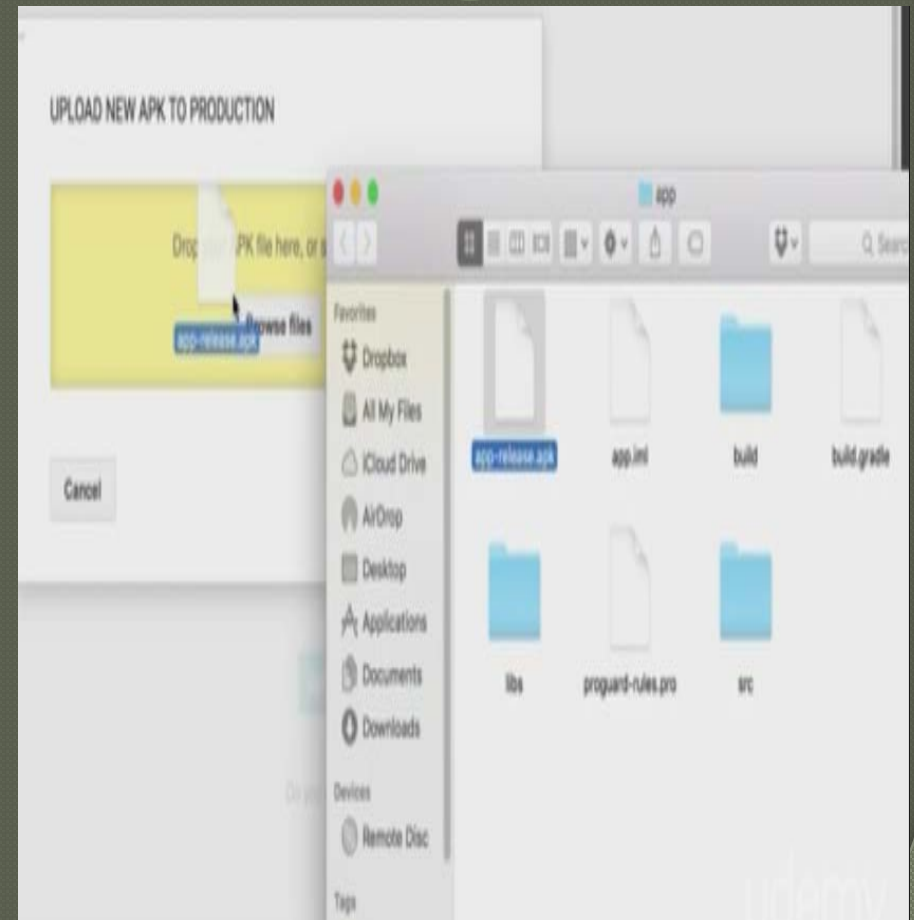
Test app

8 of 30 characters

What would you like to start with?

**Upload APK** Prepare Store Listing Cancel

b



3. Finish the remaining steps in the order how it appeared and fill out the required information from the highlighted part.

The screenshot shows the Google Play Developer Console for a test app. The app is named "Test app" with the package name "com.hussienalrubaye.myapplication". It is currently in a "DRAFT" state. The left sidebar contains a menu with options: APK, Store Listing, Content Rating, Pricing & Distribution, In-app Products, Services & APIs, and Optimization Tips. The "APK" option is highlighted with a yellow box. The main content area shows the "APK" section with tabs for "PRODUCTION", "BETA TESTING", and "ALPHA TESTING". The "PRODUCTION" tab is active, showing a version number of "1". Below this, there is a "PRODUCTION CONFIGURATION" section with a button to "Upload new APK to Production". The "CURRENT APK" section shows it was uploaded on "Sep 21, 2016, 4:09:06 PM". A table below shows the status of the current APK, with columns for "VERSION", "UPLOADED ON", "STATUS", and "ACTIONS". The table has one row for version "1 (1.0)" uploaded on "Sep 21, 2016" with a status of "Draft in Prod".

Google Play Developer Console

Test app  
com.hussienalrubaye.myapplication  
DRAFT Delete app

APK

Store Listing  
Content Rating  
Pricing & Distribution

PRODUCTION  
Version  
1

BETA TESTING  
Set up Beta testing for your app

ALPHA TESTING  
Set up Alpha testing for your app

PRODUCTION CONFIGURATION  
Upload new APK to Production

CURRENT APK uploaded on Sep 21, 2016, 4:09:06 PM

Supported devices  
10786  
See list

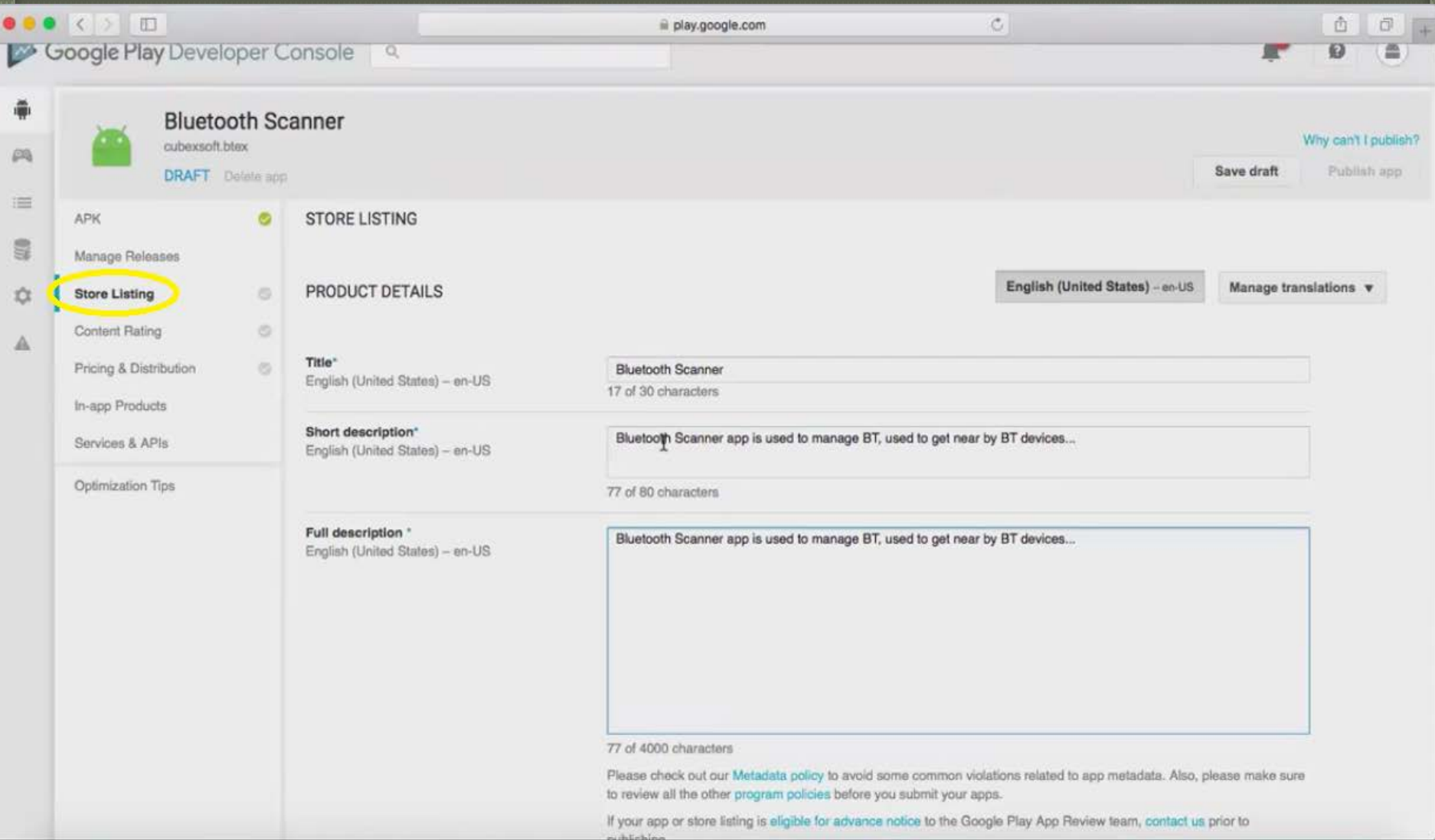
Excluded devices  
0  
Manage excluded devices

VERSION	UPLOADED ON	STATUS	ACTIONS
1 (1.0)	Sep 21, 2016	Draft in Prod	



# 3.a. Store Listing Information

Provide Title, Short Description and Full Description about your app.



The screenshot shows the Google Play Developer Console interface for an app named "Bluetooth Scanner" by "cubexsoft.blox". The app is in a "DRAFT" state. The left sidebar contains a menu with options: APK, Manage Releases, Store Listing (highlighted with a yellow circle), Content Rating, Pricing & Distribution, In-app Products, Services & APIs, and Optimization Tips. The main content area is titled "STORE LISTING" and shows the "PRODUCT DETAILS" for the "English (United States) - en-US" locale. The details include:

- Title\***: Bluetooth Scanner (17 of 30 characters)
- Short description\***: Bluetooth Scanner app is used to manage BT, used to get near by BT devices... (77 of 80 characters)
- Full description \***: Bluetooth Scanner app is used to manage BT, used to get near by BT devices... (77 of 4000 characters)

At the top right, there are buttons for "Save draft" and "Publish app", along with a link "Why can't I publish?". At the bottom, there is a note about the [Metadata policy](#) and a link to [contact us](#) for advance notice.

# 3.a. Store Listing Information

Provide minimum of two screenshots of your app in the Graphic Assets is mandatory.

**STORE LISTING**

**PRODUCT DETAILS** English (United States) - en-US Manage translations ▼

**GRAPHIC ASSETS**

If you haven't added localized graphics for each language, graphics for your default language will be used. [Learn more about graphic assets.](#)

**Screenshots \***

Default - English (United States) - en-US  
JPG or 24-bit PNG (no alpha). Min length for any side: 320px. Max length for any side: 3840px.  
At least 2 screenshots are required overall. Max 8 screenshots per type. Drag to reorder or to move between types.

For your app to be showcased in the 'Designed for tablets' list in the Play Store, you need to upload at least one 7-inch and one 10-inch screenshot. If you previously uploaded screenshots, make sure to move them into the right area below. [Learn how tablet screenshots will be displayed in the store listing.](#)

Please check out our [impersonation and intellectual property policy](#) to avoid common violations.

Phone Tablet Android TV Android Wear

Two placeholder images for phone screenshots and a large area with a plus sign and text "Add screenshot" and "Drop image here".

**Hi-res icon \***  
Default - English (United States) - en-US  
512 x 512  
32-bit PNG (with alpha)

**Feature Graphic \***  
Default - English (United States) - en-US  
1024 w x 500 h  
JPG or 24-bit PNG (no alpha)

**Promo Graphic**  
Default - English (United States) - en-US  
180 w x 120 h  
JPG or 24-bit PNG (no alpha)

## 3.a. Store Listing Information

- The next step is to provide Hi-res-icon for your app with specified 512 x 512 size. You can create an icon using [falticon.com](http://falticon.com), then upload your icon.
- You should add Feature graphic with 1024 w x 500 h size. Other sizes are not allowed.

### Hi-res icon \*

Default – English (United States) – en-US  
512 x 512  
32-bit PNG (with alpha)



### TV Banner

Default – English (United States) – en-US  
1280 w x 720 h  
JPG or 24-bit PNG (no alpha)

### Feature Graphic \*

Default – English (United States) – en-US  
1024 w x 500 h  
JPG or 24-bit PNG (no alpha)

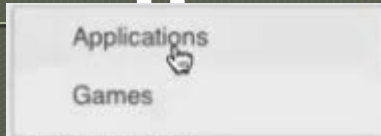


### Daydream 360 degree stereoscopic image

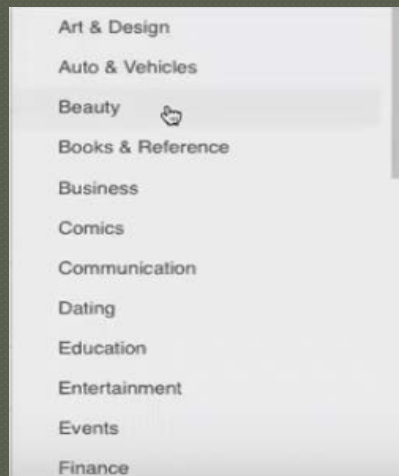
Default – English (United States) – en-US  
4096 w x 4096 h  
JPG or 24-bit PNG (no alpha)

# 3.a. Store Listing Information

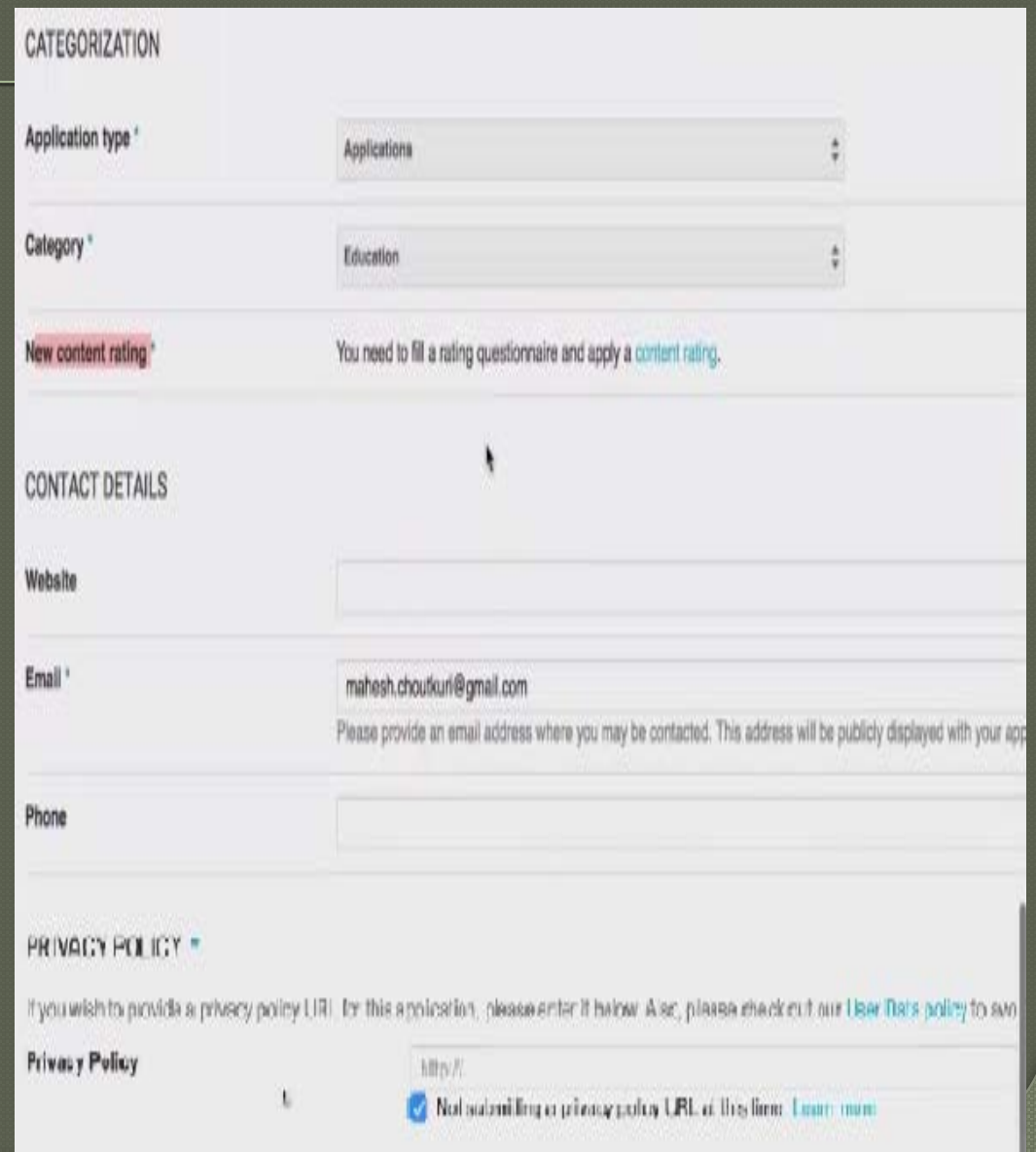
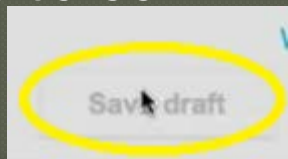
- Choose your application type as



- Choose the specific category from the list.



- After finishing all these steps click save draft in the top of the screen.

A screenshot of the application listing form. The form is divided into several sections: 'CATEGORIZATION', 'CONTACT DETAILS', and 'PRIVACY POLICY'. In the 'CATEGORIZATION' section, 'Application type' is set to 'Applications' and 'Category' is set to 'Education'. A message indicates that a content rating is required. In the 'CONTACT DETAILS' section, the 'Website' field is empty, and the 'Email' field contains 'mahesh.choutkuri@gmail.com'. In the 'PRIVACY POLICY' section, there is a checkbox for 'Not submitting a privacy policy URL at this time' which is checked, and a 'Learn more' link.

# 3.b. Content Rating

Your app's content rating level inform users of it's maturity level. Click on the Continue button.

The screenshot shows the Google Play Developer Console interface for an app named 'Bluetooth Scanner' (package name: cubexsoft.btex). The app is currently in 'DRAFT' status. The left-hand navigation menu includes options like APK, Manage Releases, Store Listing, Content Rating (highlighted with a yellow circle), Pricing & Distribution, In-app Products, Services & APIs, and Optimization Tips. The main content area is titled 'CONTENT RATING' and provides information about the Google Play content rating system, including developer responsibilities and how the rating will be used. At the bottom of the main content area, a 'Continue' button is highlighted with a yellow circle, indicating the next step in the process.

Google Play Developer Console

Bluetooth Scanner  
cubexsoft.btex  
DRAFT Delete app

APK

Manage Releases

Store Listing

**Content Rating**

Pricing & Distribution

In-app Products

Services & APIs

Optimization Tips

### CONTENT RATING

The Google Play content rating system for apps and games is designed to deliver reputable, locally relevant ratings to users around the world includes official ratings from the International Age Rating Coalition (IARC) and its participating bodies.

Developer responsibilities:

- Complete the content rating questionnaire for each new app submitted to Developer Console, for all existing apps that are active on Google Play updates where there has been a change to app content or features that would affect the responses to the questionnaire.
- Provide accurate responses to the content rating questionnaire. Misrepresentation of your app's content may result in removal or suspension.

Your rating will be used to:

- Inform consumers about the age appropriateness of your app.
- Block or filter your content in certain territories or to specific users where legally required.
- Evaluate your app's eligibility for special developer programs.

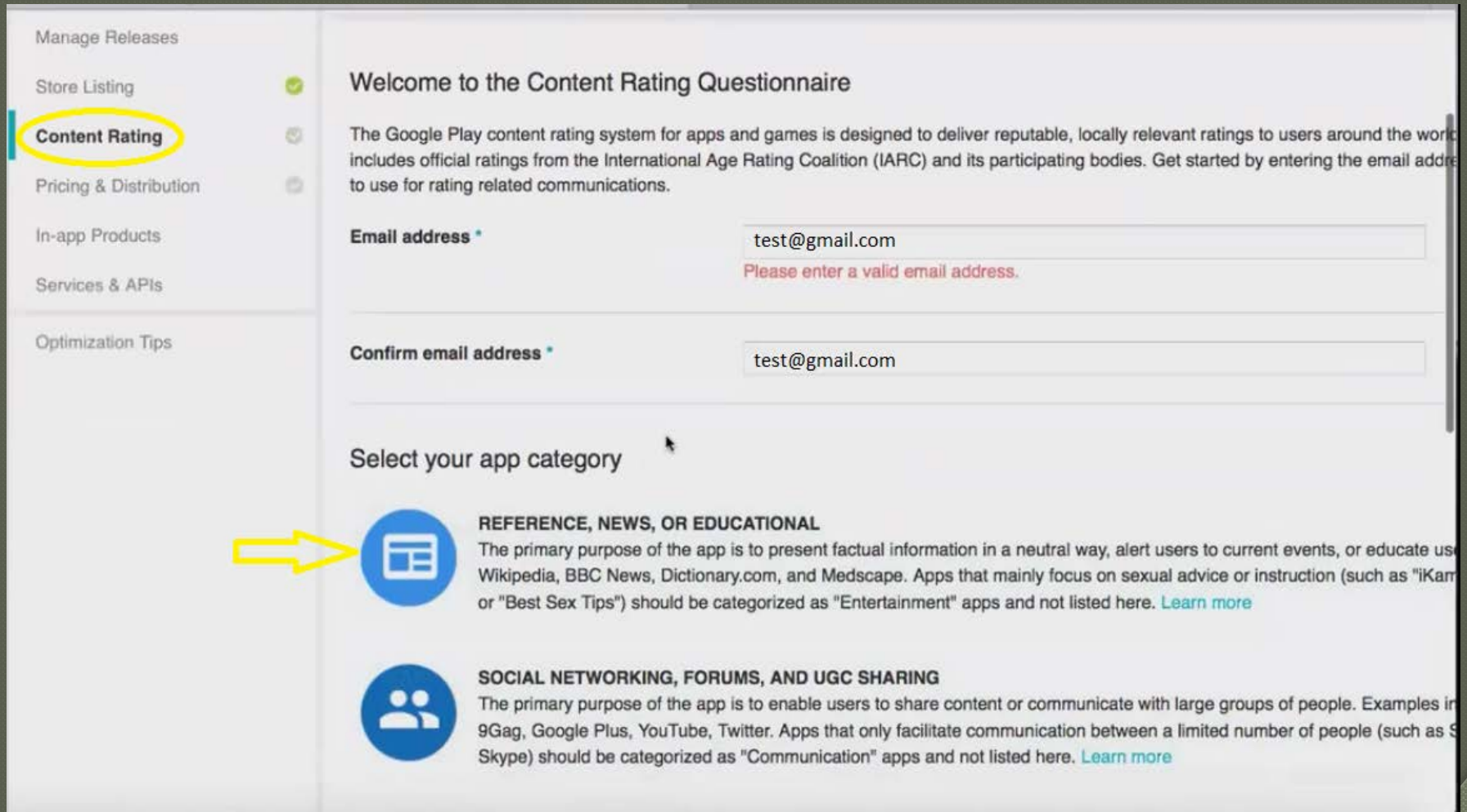
The content rating questionnaire and the new Content Ratings Guidelines are a condition of your participation in the Google Play store. [Learn more](#)

**Continue**



# 3.b. Content Rating

Fill out the Email address and Confirmation email address, then choose the category of your app. Once you choose the category you will get another screen.



The screenshot shows the Google Play Console interface. On the left, a sidebar contains navigation links: 'Manage Releases', 'Store Listing', 'Content Rating' (highlighted with a yellow circle), 'Pricing & Distribution', 'In-app Products', 'Services & APIs', and 'Optimization Tips'. The main content area is titled 'Welcome to the Content Rating Questionnaire'. It includes an introductory paragraph about the Google Play content rating system. Below this, there are two email input fields. The first is labeled 'Email address \*' and contains 'test@gmail.com', with a red error message 'Please enter a valid email address.' below it. The second is labeled 'Confirm email address \*' and also contains 'test@gmail.com'. Further down, the section 'Select your app category' is shown. It lists two categories: 'REFERENCE, NEWS, OR EDUCATIONAL' (with a blue icon of a document and a yellow arrow pointing to it) and 'SOCIAL NETWORKING, FORUMS, AND UGC SHARING' (with a blue icon of two people). Each category has a descriptive paragraph and a 'Learn more' link.

Manage Releases

Store Listing

**Content Rating**

Pricing & Distribution

In-app Products

Services & APIs

Optimization Tips

## Welcome to the Content Rating Questionnaire


The Google Play content rating system for apps and games is designed to deliver reputable, locally relevant ratings to users around the world. It includes official ratings from the International Age Rating Coalition (IARC) and its participating bodies. Get started by entering the email address to use for rating related communications.

**Email address \*** test@gmail.com


Please enter a valid email address.

**Confirm email address \*** test@gmail.com

### Select your app category

 **REFERENCE, NEWS, OR EDUCATIONAL**

The primary purpose of the app is to present factual information in a neutral way, alert users to current events, or educate users. Examples include Wikipedia, BBC News, Dictionary.com, and Medscape. Apps that mainly focus on sexual advice or instruction (such as "iKarr" or "Best Sex Tips") should be categorized as "Entertainment" apps and not listed here. [Learn more](#)

 **SOCIAL NETWORKING, FORUMS, AND UGC SHARING**

The primary purpose of the app is to enable users to share content or communicate with large groups of people. Examples include 9Gag, Google Plus, YouTube, Twitter. Apps that only facilitate communication between a limited number of people (such as Skype) should be categorized as "Communication" apps and not listed here. [Learn more](#)

# 3.b. Content Rating

Answer the questions appeared on the screen and click Save questionnaire button. Then click Calculate rating button, you will get next screen.

The screenshot shows the 'CONTENT RATING' section of the Google Play Console. On the left, a sidebar lists various app management options: APK, Manage Releases, Store Listing, Content Rating (highlighted with a yellow circle), Pricing & Distribution, In-app Products, Services & APIs, and Optimization Tips. The main area is titled 'CONTENT RATING' and contains a questionnaire. It starts with a prompt to complete the questionnaire for app rating calculation. The first section is 'REFERENCE, NEWS, OR EDUCATIONAL', where the app is categorized as a news, reference, or educational app. Subsequent sections include 'VIOLENCE', 'SEXUALITY', and 'LANGUAGE', each with a question about potentially offensive content and radio button options for 'Yes' or 'No'. The 'No' options are selected in all three sections. The final section is 'MISCELLANEOUS', containing four questions about user interaction, data sharing, location sharing, and digital purchases, with 'No' selected for all. At the bottom, there are two buttons: 'Calculate rating' and 'Save questionnaire'.

**CONTENT RATING**

Please complete the questionnaire so that we can calculate your app rating.

**REFERENCE, NEWS, OR EDUCATIONAL**  
App is a news, reference, or educational app. [Edit Category](#)

**VIOLENCE**  
Can the app contain violent material? [Learn more](#)  
Please note that this question does not refer to user-generated content.  
☐ Yes ☒ No

**SEXUALITY**  
Can the app contain sexual material or nudity (except in a natural or scientific setting)? [Learn more](#)  
Please note that this question does not refer to user-generated content.  
☐ Yes ☒ No

**LANGUAGE**  
Can the app contain any potentially offensive language? [Learn more](#)  
Please note that this question does not refer to user-generated content.  
☐ Yes ☒ No

**MISCELLANEOUS**

Does the app natively allow users to interact or exchange content with other users through voice communication, text or sharing images?  
☐ Yes ☒ No

Does the app share user-provided personal information with third parties? [Learn more](#)  
☐ Yes ☒ No

Does the app share the user's current physical location to other users? [Learn more](#)  
☐ Yes ☒ No

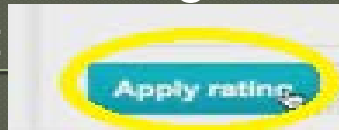
Does the app allow users to purchase digital goods? [Learn more](#)  
☐ Yes ☒ No

[Calculate rating](#) [Save questionnaire](#)

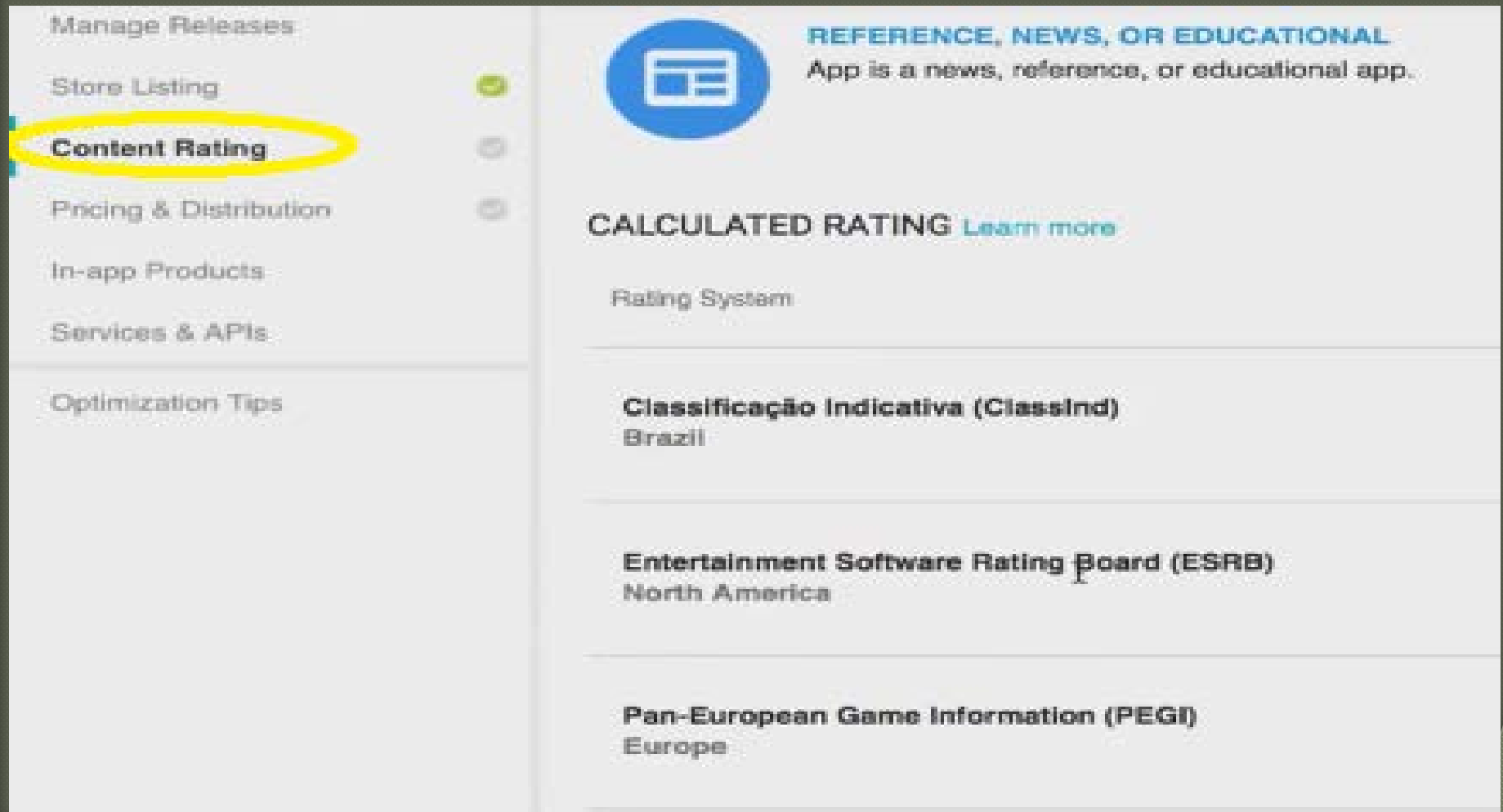


## 3.b. Content Rating

This screen give the information about different country rating. Finally click



Apply rating button in the bottom of the screen.



Manage Releases

Store Listing

**Content Rating**

Pricing & Distribution

In-app Products

Services & APIs

Optimization Tips

**REFERENCE, NEWS, OR EDUCATIONAL**  
App is a news, reference, or educational app.

**CALCULATED RATING** [Learn more](#)

Rating System

**Classificação Indicativa (ClassInd)**  
Brazil

**Entertainment Software Rating Board (ESRB)**  
North America

**Pan-European Game Information (PEGI)**  
Europe

## 3.c. Pricing & Distribution

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- You can publish your app as free to download or priced.
- Free apps can be downloaded by any Android user in Google Play.
- Priced apps can be downloaded only by users who are in a country that supports paid downloads and have registered a form of payment in Google Play, such as a credit card or Direct Carrier Billing.
- Priced apps can be changed to free at any time.
- If you do decide on a priced app or are selling in-app products, you'll need to setup a [Google payments merchant account](#) before you can publish.

# 3.c. Pricing & Distribution

Answer the Mandatory option and click Save draft button on the top. Then click Publish app. Your app will be uploaded in the Google Play Store. It will take few hours to update.

The screenshot shows the Google Play Developer Console interface for the app 'Bluetooth Scanner' (package name: cubexsoft.bltx). The app is in the 'READY TO PUBLISH' state. The left sidebar contains navigation links: APK, Manage Releases, Store Listing, Content Rating, Pricing & Distribution (highlighted with a yellow circle), In-app Products, Services & APIs, and Optimization Tips. The main content area is titled 'PRICING & DISTRIBUTION' and features several icons for targeting different audiences: Designed for Families, Google Play for Education, Google Play for Work, Daydream, Android Wear, Android TV, and Android Auto. Below these, the app is set to 'Free' (with 'Paid' as an alternative). A note states: 'To publish paid applications, you need to set up a merchant account. Learn more'. The 'Countries' section shows the app is distributed to '141 countries + Rest of the world', with a 'Manage countries' button. A list of countries is displayed with checkboxes, including 'SELECT ALL COUNTRIES', Turkmenistan, Uganda, Ukraine, United Arab Emirates, United Kingdom, and United States. Each country has a 'Show options' link.

Google Play Developer Console

Bluetooth Scanner  
cubexsoft.bltx  
READY TO PUBLISH Delete app

Save draft Publish app

APK

Manage Releases

Store Listing

Content Rating

**Pricing & Distribution**

In-app Products

Services & APIs

Optimization Tips

PRICING & DISTRIBUTION

Designed for Families

Google Play for Education

Google Play for Work

Daydream

Android Wear

Android TV

Android Auto

This application is

Paid Free

To publish paid applications, you need to [set up a merchant account. Learn more](#)

Countries \*

Distributing to 141 countries + Rest of the world. Manage countries

☒ SELECT ALL COUNTRIES

☒ Turkmenistan

☒ Uganda

☒ Ukraine

☒ United Arab Emirates

☒ United Kingdom Show options

☒ United States Show options

# Update App

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- To update the apps on the Play Store read this resource.
  - <https://support.google.com/googleplay/answer/113412?hl=en>