



**KENYA INSTITUTE OF CURRICULUM DEVELOPMENT**

**STANDARDS FOR EDUCATIONAL MOBILE  
APPLICATIONS**

*APRIL 2016*

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## List of Abbreviations

<b>KICD</b>	-	The Kenya Institute of Curriculum Development
<b>ECD</b>	-	Early Childhood Development Education
<b>TVET</b>	-	Technical and Vocational Education and Training
<b>Apps</b>	-	Mobile Applications
<b>Edu Apps</b>	-	Education Mobile Applications
<b>HTTP</b>	-	Hypertext Transfer Protocol
<b>UI</b>	-	User Interface
<b>CAPTCHA</b>	-	Completely Automated Public Turing Test to tell Computers and Human Apart
<b>OTA</b>	-	over-the-air
<b>API</b>	-	Application Programming Interface
<b>GPS</b>	-	Global Positioning System
<b>IP</b>	-	Internet Protocol

## General Information

The general information given below provides standard for educational mobile applications (Edu Apps) developers for evaluation and approval. These Apps are intended for ECDE, Primary and Secondary School Levels as well as teacher education and tertiary education and training.

These will offer educators ways to develop informed judgment about the quality, effectiveness, accuracy, appropriateness of content and Apps for their learners.

Apps with highest educational value shall have the following characteristics:

- Versatile. Apps with features that make them useful for more than one classroom function or lesson throughout the school year.
- Supports the "4Cs":
  - ✚ **Creativity** — Enables learners to create in order to express understanding of the learning objectives, and try new approaches, innovation, and invention to get things done.
  - ✚ **Critical thinking** — Allows learner to look at problems in a new way, linking learning across subjects and disciplines.
  - ✚ **Collaboration** — Helps learners and (if appropriate) educators to work together to achieve a goal.
  - ✚ **Communication** — Allows learners to comprehend, critique and share thoughts, questions, ideas, and solutions

The Apps submitted in all categories should:

- Feature Kenyan relevant content and examples appropriate according to the subject domain.
- Be sensitive to societal values and therefore exhibit deliberate effort to include pertinent and contemporary issues.
- Reflect Kenyan cultural and ethnic diversity
- Relevant to the educational and learning needs
- Compliant with the Kenyan government education policies

**Submissions**

Each submission will be evaluated solely in terms of its relevance and suitability for the requirements of the specific area and categorization i.e. ECDE, primary, Secondary levels and tertiary levels.

All parties are required to adhere to the set time lines. In the event of any need for change in any item on the Time Table; consensus will be sought from all concerned.

All submissions will be received through the Kenya Education cloud as communicated

**Eligibility**

Submissions will be accepted from educational mobile Apps developers such as individuals or registered groups as per the established criteria.

**Submission areas**

Eligible educational mobile Apps developers shall be invited to submit Apps for ECD, Primary, Secondary, Teacher Education and Tertiary Education and Training.

**Categories for submission**

The choice of education level and category of material(s) to submit is entirely at the discretion and judgment of the interested/submitting educational mobile Apps developer. An educational mobile Apps developer can submit in as many levels and categories as possible

**Submission requirements**

Educational Apps developer should explicitly specify the area/category where the Apps is suitable for. Each submission will be evaluated solely in terms of its relevance and suitability for the requirements of the specific area and categorization i.e. ECDE, Primary and Secondary levels, teacher education and Tertiary education and training.

**Developers Profile**

Developers will be required to provide the following:

- KRA Pin registration (Required)
- Certificate of originality (A declaration of originality)
- Evidence of payment of submission fee
- Evidence of official registration and incorporation in Kenya
- Evidence of agency agreement or representation authority for publishers acting on behalf of foreign firm (for non-Kenyans)
- Contacts (phone, email, physical address)

**Status of Materials**

All Educational Apps submitted for evaluation and approval should strictly be finished and running.

**Evaluation Outcomes**

Once the Apps meet the set standards, the users will upload them to the public access area of the educational cloud for access. The notification of performance for each Apps evaluated, will be availed in the developers console at the Kenya Educational Cloud.

**Online Orange Book**

Successful Apps that have met the set criteria shall be published on the online Orange book.

## Invitation to Submit Educational Mobile Applications

The Kenya Institute of Curriculum Development (KICD) wishes to invite educational e-Content developers represented in Kenya to submit their **Educational Mobile Applications Resources**. These Guidelines contain details on what should be submitted, conditions for submission, and assessment procedures. Educational Applications (Apps) developers should submit complete and running mobile Apps to the Kenya Institute of Curriculum Development in accordance with the Guidelines as stipulated in this document.

The **Educational Mobile Application (Edu Apps) Standards** can be downloaded from the KICD website portal [www.kicd.ac.ke](http://www.kicd.ac.ke) at no cost. All submissions should be received through the portal within the time specified (as communicated) and must be accompanied by the content submission form

The Apps submitted should be appropriate for the following levels:

- a. **ECDE Level,**
- b. **Primary Level**
- c. **Secondary Level**
- d. **Tertiary (Teacher Education and Technical Training Institutes)**

All enquiries should be directed to:

**The Director/CEO**

**Kenya Institute of Curriculum Development,**

**P O Box 30231 – 00100 NAIROBI, KENYA**

**Tel (254 2) 3749900-9, 3748204, 3747994; (254) 20 – 2053419 Fax (254 2) 3639130**

**E-Mail: [info@kicd.ac.ke](mailto:info@kicd.ac.ke)**

## Submission, Curation and Approval Schedule

<b>NO</b>	<b>ACTIVITY</b>
1.	Formal invitation for submission of Apps online
2.	Payment of submission fees
3.	Submission of Apps
4.	Curation process
5.	Formal approval and recommendation
6.	Release of curation results
7.	Uploading of the platform on the cloud
8.	Uploading the approved materials



## General Standards

### 1. Education Centric

The App must be an Education Centric. Apps submitted will be evaluated based on educational, as well as on technical consideration.

### 2. Communication

Apps will be evaluated based on how it allows students to comprehend, critique and share thoughts, questions, ideas, and solutions.

### 3. Stability and Data Handling

Apps should not crash, unexpectedly close, freeze or otherwise behave abnormally at any time while running on any targeted device. It should preserve sufficient state information to cope with forcible close by the system

### 4. User Interface

UI should be simple, easy to use, intuitive and relatively easy to navigate without guidance. It should let users control their experience.

### 5. Language

The application should work perfectly with appropriate languages and allow the user to select any other language where applicable, with the correct rendering and supported throughout the application.

### 6. Performance

When developing an App, consider appropriate battery management, and allow the power-saving features of the device to be used, including sleep functions for the screen and the device itself.

### 7. Spelling errors

The Application should be free of spelling or language errors unless they are part of a deliberate design concept.

### 8. Security Measures

Developer must consider the security risks associated with App such as the sensitivity of any information collected and stored. Apps that access, use, or transfer individuals' data comply with current security best practices

**9. Privacy**

The App and its content must comply with local privacy legislation including privacy laws regulating the processing of personal data in all markets in which the content is published

## Specific Standards

### 1. Installation

The application should install from the intended distribution channel (e.g. over-the-air [OTA] from an app store). If the platform supports installation of applications to SD card, then an application larger than 100MB should offer the option to install there, unless core functionality is unavailable when installed to card

### 2. User Interface

The Apps should be simple, easy to use, and intuitive for the target grade levels. Apps should be relatively easy to navigate without guidance, distracting or overwhelming the learner. It should be enjoyable, interactive, engaging and allow learners to control their experience.

#### I Read time and readability

There should be a comfortable amount of time for content reading. Each screen should be visible for the time necessary to comfortably read all its information. Everything in the application should be in a font size and type that is readable by the user.

#### II Touch screen use

For applications used in a touch screen device without stylus, on-screen elements should be of sufficient size and responsive to provide a good user experience.

#### III Consistency

The application User Interface (UI) should be consistent and understandable throughout, e.g. displaying a common series of actions, action sequences, terms, layouts, soft button definitions and sounds that are clear and understandable.

#### IV UI & Graphics

The application should support both landscape and portrait orientations. The application should expose largely the same features and actions in both orientations, and preserve functional parity.

## **V Visual Quality**

The application should display graphics, text and other UI elements without noticeable distortion, blurring or pixilation. The application should provide high-quality graphics for all targeted screen sizes and form factors.

## **VI Differing screen sizes and device formats**

Where the application is designed to work on multiple devices, it must be able to display correctly on differing screen sizes.

## **VII Technical text errors**

The text in the application should be clear and readable. The application should be free of technical text display issues such as: Text cut off / Text overlapping and all text in each target language should be displayed.

### **3. Application Permissions**

The application should only request the absolute minimum permissions that it needs to support core functionality. The application must not request permissions to access sensitive data (such as Contacts or the System Log), or services that can cost the user money (such as the Dialer or SMS), unless related to a core capability of the application.

### **4. Launch Time and Application speed**

All applications should notify the user if there's going to be a long launch time. If the Application takes longer than five seconds to be ready for use, a progress bar or a message should be displayed to inform the user on the progress.

The speed of the application should be acceptable to the purpose of the application and must not alter the user experience by being uncontrollable

Ensure that it handles opening and closing of the device correctly while launching and returns to the same state before the interruption.

### **5. Correct operation**

Ensure that the application works correctly with all appropriate languages and allows the user to select languages if appropriate, with the correct rendering.

## 6. Supported formats

Verify that date, time, time zone, week start, numeric separators and currency, are formatted appropriately for the implemented language for the target country and supported throughout the application.

## 7. Stability and Data Handling

### I Application stability

The application should not crash whatsoever, unexpectedly close, freeze or otherwise behave abnormally at any time while running on any targeted device.

### II Save state

When the user exit, the App should save its state/information into persistent memory.

### III Application behavior after forced close by system

The application should preserve sufficient and current state information to cope with forcible close by the system. It should not lose any information supposedly implied for preservation, nor become difficult to use subsequently as a result of a forcible closure by the system.

### IV Data deletion

Where an application has a function to delete data, it should indicate whether data will be permanently deleted. The user should always be prompted to confirm deletion of data, or have an option to undo deletion, to reduce risk of accidental loss of information through user error.

## 8. Memory and File Storage During Run

For an application that writes to file system, ensure that it correctly handles out-of- space exceptions during execution, and gives a meaningful warning to the user advising about lack of space when a file is trying to be stored

## 9. Media Performance and behavior

Audio and video playback must be smooth, without stutter, crackle or other artefacts, during normal application usage and load

For applications with sound settings, there should be a Mute or Sound On / Off setting, unless the Application does not have a mute facility by design or it respects the settings of the handset volume buttons.

Audio must not play when the screen is off, or behind the lock screen, or on the home screen, or over another application, unless it is a core feature (e.g. the application is a music player). Audio should resume when the app returns to the foreground, or should clearly indicate to the user that playback is in a paused state.

## **10. Settings**

Where the application has settings options, ensure that the settings status is easily understandable at any stage in the application's journey. Ensure that the application saves all settings on exit and that restarting the application will restore the saved settings.

## **11. Security Measures**

### **I Encryption**

All sensitive information (personal data) must be encrypted during transmission over any network or communication link.

### **II Passwords**

If an application uses passwords or other sensitive data, the passwords or other sensitive data should not be stored in the device and not echoed when entered into the application.

## **12. Location Data**

Applications using location data (GPS, IP address, cell tower, Wi-Fi based location data) should:

- Obtain voluntary, informed, express, and revocable permission (also known as active consent) to use location data from the user. Active consent must be obtained separately from approval of service terms or Privacy Notice / Policy.
- Provide the ability to opt out, not override or circumvent a user's choice. It should also not restrict access to user information on the device.

- Periodically remind users or provide a visual indicator. Users should also be periodically reminded on user information being sent to any other service, service provider, user or other third party continuously or periodically on an on-going basis, if this is done without the user's separate active consent.

### **13. Cache Control**

Apps developer can implement a cache, make full use of the caching mechanisms and Cache- control directives to improve speed, energy usage, user experience and reduces the amount of data and data connections that are sent needlessly.

### **14. Functionality and Keys**

#### **I Functionality sanity check**

All specific application functionality such as algorithms, calculations, measurements, scoring, etc. should be implemented correctly.

#### **II Application hidden features**

The application should not introduce any hidden features and it should not harm the data on the device

#### **III Scrolling in menus and keys**

When the keypad or other navigation device is used to scroll vertically and (if applicable) horizontally in the main menu item list, there should be no adverse effect on the application. In addition, an application should be able to lock itself in a vertical or horizontal view if seen as important from application-use point of view.

#### **IV Selection key**

For an app, pressing the primary selection key or device equivalent in the main menu item list should select the menu item with no unwanted effects on the application.

#### **V Text field scrolling**

The scrolling functions of the keypad or other navigation device in a text dialog (for example: Help) should scroll vertically and (if applicable) horizontally in the dialog.

## **15. Help and About Menu**

An application with user interface capable of displaying information to the user should contain standard menu items Help & About or equivalent information in a format easily found and understood by the user to explain to the user how the Application works.

If it is clear that the application's purpose requires network coverage to operate, then it would be sufficient for the Help to be provided through a browser connection rather than being contained in the application. In the opposite case, where most functions of the application can be used while the device is offline, then the application should have Help that can be accessed without using a data connection.

## **16. Network Utilization and Efficiency**

For an application using a HTTP network connection, users might have two types of connectivity – i.e Wi-Fi and cellular - and the device may switch between the two. The app must respond to this.

## **17. Notifications and Error messages**

Notifications should follow the design guidelines for the platform. Multiple notifications should be stacked into a single notification object where the platform supports this.

## **18. Function progress**

Any function selected in the Application should give evidence of activity within five seconds. There should be some visual indication that the function is being performed. The visual indication can be anything that the user would understand as a response, for example

- prompting for user input;
- displaying splash screens or progress bars;
- displaying text such as “Please wait...”, etc.

## **19. Privacy, Content & Policies**

### **I Privacy**

The App and its content must comply with local privacy legislation including privacy laws regulating the processing of personal data in all markets in which the content is published. As



a guiding principle the user should have transparency, choice and control. That is, the user must be aware of collection and use of personal information upfront.

The app must collect the minimum data that it requires in line with what the user is told

App updates or changes must not impact the privacy without clear advice and active acceptance from the user prior to the change.

## **II Safeguards**

Applications must process personal data only for justified purposes that are relevant to the features and functionalities of the application. Applications should require user registration only when it is needed to use the application, for example, to log into an existing user account. Any additional authentication of identity such as association with real-world identity should use strong methods such as two-factor authentication as well as techniques such as Completely Automated Public Turing Test to tell Computers and Human Apart (CAPTCHA) as appropriate.

## Appendix: Submission Form & Meta Data

Where applicable, the following information should be provided when submitting online content in order to generate a tracking number.

KRA PIN Registration: .....

Declaration of Originality: By agreeing with this statement, I hereby declare that this is my original work and that any additional sources of information have been appropriately acknowledged.

I agree  I disagree

Evidence of payment of submission fee: .....

Evidence of official registration and incorporation in Kenya: (Scan and attach copy of registration document): .....

Evidence of agency agreement or representation of Evidence of official registration and incorporation in Kenya (Scan and attach copy of agreement document):

.....

Contact (Phone, e-mail and physical address): .....

### Meta Data

Subject ..... Level .....

Class .....

Category of Learners (Regular or SNE).....

Category of Special Need (if Applicable)

For Example, Visually Impaired – VI, Hearing Impaired – HI,

Others (specify).....

Title.....



Submission Code.....

Teacher’s Guide (TG) Code (Where Applicable).....

Author(s).....

Author(s) Credentials.....

Publisher..... Publisher’s Code.....

Country.....

Community of Practice (Where Applicable).....

Language .....

Brief Description:

.....

.....

.....

Format (e-Pub, Interactive Digital Content).....

Year of Production.....

Edition/Version Number.....

Rights (Where application) .....

Size (Bytes) ..... Code of Curator .....

Price..... Date .....