



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

**STANDARDS FOR EDUCATIONAL MOBILE
APPLICATIONS**

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List of Abbreviations

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

Definition of terms

- **Submissions** - Presentation of content/apps for evaluation.
- **Curation** - The process of quality assurance of Apps or content against the set standards and communicating the results.
- **Developer** an individual, entity or institution in the business of creating mobile apps
- **Default**- Option adopted by a computer program or other mechanism when no alternative is specified by the user or programmer

1.0 General Information

The general information given below provides standards for educational mobile apps (Edu Apps) for curation and approval. These Apps are intended for preprimary, primary, secondary and tertiary levels.

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

1.1 Apps development

For an App to be approved it should have the following minimum characteristics:

- **Versatile.** Apps with features that make them useful for more than one classroom function or lesson throughout the school year.
(able to adapt or be adapted to many different functions or activities in teaching and learning.)
- **Supports the "4Cs":**
 1. **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.

2. **Critical thinking** — Allows learners to look at problems in a new way, linking learning across subjects and disciplines.
3. **Collaboration** — Helps learners and (if appropriate) educators to work together to achieve a goal.
4. **Communication** — Allows learners to comprehend, critique and share thoughts, questions, ideas, and solutions

The apps submitted with content will have that content curated using relevant standards for the category (refer to specify category.)

1.2 Submissions

Each submission will be evaluated solely in terms of its relevance and suitability for the requirements of the specific area and levels these are : preprimary, primary ,secondary and tertiary levels.

1.2.1 Submission

- i. Submissions may be from individuals, entities or registered groups.
- ii. Submission will be continuous.
- iii. Formal call for submissions will be communicated through mass media, KICD website, KEC portal and any other deemed necessary.
- iv. Any submission after the call will be considered in subsequence curation.

1.2.2 Curation

- i. The curation process will adhere to the set timelines.
- ii. Status notification will be sent at each stage of process.
- iii. Final report will be issued at the end of process.
- iv. Conditional pass will require corrections and resubmission for verification.
- v. Successful Apps that have met the set criteria shall be published on the online list of approved materials.

1.2.3 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.

1.2.4 Registration.

During registration ,the developer is required to provide the following :

- i. KRA Pin registration (Required)
- ii. Certificate of originality (A declaration of ownership)
- iii. Evidence of payment of required submission fee.
- iv. Where necessary, evidence of official registration and incorporation in Kenya.
- v. Evidence of agency agreement or power of attorney for companies action on behalf of foreigners.
- vi. Contacts (phone number, emailaddress, physical address)

1.2.5 Status of Apps

All educational Apps submitted for curation must have been tested ,certified and packaged for installation.(signed self-declaration form required).

1.2.6 Curation Outcomes

Approved apps will be listed in the online list of approved materials, however with the owner's permission ,apps will be availed for download from the Kenya Education Cloud or any other distribution channel.

STANDARDS

1.3 Accessibility

Provision of extensive accessibility features for users who are visually impaired, hearing impairment and other disabilities, while providing an equally engaging experience for all.

1.3.1 provision of alternative text labels for images, icons and interface elements.

voiceover that audibly describe what is onscreen, making navigation easier for users with visual impairments.

1.3.2 Respond to accessibility preferences.

App user interface that automatically adapt to accessibility preferences, such as bold and larger text.

1.4 Installation

- i. The apps install from the intended distribution channel.
- ii. Apps requiring less than 100mb, be installed in the device internal memory as a default.
- iii. Apps with more than 100mb should be installed in the external memory as a default.

1.5 user interface

The App should be simple and easy to use, easy to navigate, without distracting or overwhelming the learner, enjoyable, interactive, engaging and allow learners to control their experience.

i. Readability

App should allow a minimum font size 12 and flexibility of adjustment.

ii. Consistency

The app Interface should be consistent and understandable throughout.

iii. Touch screen

On-screen elements are of sufficient size and responsive to provide a good user experience with or without a stylus.

iv. Visual Quality

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

v. Responsiveness

The app should be responsive across different devices; it must be able to display correctly on differing screen sizes.

vi. User Interface and Graphics

Support both landscape and portrait orientations, expose largely the same features and actions in both orientations and preserve functional parity.

vii. Technical text errors.

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

1.6 Apps Permissions

The app should only request the absolute minimum permissions that it needs to support core education functionality. The app 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 app.

1.7 Launch Time and AppSpeed

i. The app should notify the user on the progress of the launch. If it takes longer than five seconds to be ready for use, an indicator to be displayed to inform the user on the progress.

ii. The speed of the app

The speed at which the app runs be optimization for better user experience.

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

language operation

Ensure that the app works correctly with appropriate languages.

Allows the user to select appropriate languages, with the correct rendering.

1.8 Supported formats

The app should support standard formats for date, time and time zone.

1.9 Stability and data handling

App stability

It should be resilient to unexpected close, freeze or abnormal behavior at any time while running on any targeted device.

a. Save state

When the user exits, the App should save its state/information into persistent memory by default.

b. App behavior after force close by the system

It preserves sufficient and current state information to be preserved to cope with forceful 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 forceful closure by the system.

c. Data deletion

The delete function should indicate whether data will be permanently deleted or not, 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

1.10 Memory and file storage during run

Ensure that app handle out-of- space exception during execution and gives a meaningful warning to the user advising about lack of space when a file is trying to be stored.

1.11 Media performance and behavior

- a. Audio and video playback must be smooth, without stutter, crackle or other artefacts, during normal appusage and load.
- b. Soundsettingsrequire a Mute or Sound On / Off option, unless the App does not have a mute facility by design or it respects the settings of the handset volume buttons.
- c. when the screen is off audio should not play by default unless it's a core feature, or behind the lock screen, or on the home screen, or over another application, unless it is a core feature (e.g. the app is a music player). On resumption the app returns to the foreground, clearly indicate to the user that playback is in a paused state.

1.12 Settings.

The app settings need to be simple to configure and do not conflict with the device settings. Ensure that the app saves current settings on exit.

1.13 Security measures

- I. All data in transmission should be encrypted.
- II. Apps using passwords or other sensitive data should not be stored in the device and not echoed when entered into the app.

1.14 location data

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

- i. 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.

- ii. Circumvent a user's choice and not restrict access to user information on the device.
- iii. Periodically remind users or provide a visual indicator of location data usage. Users should be periodically reminded on user information being sent to third parties.

1.15 Cache control

Apps developer may 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 connectionsthataresent unnecessarily.

1.16 Functionality and keys

- i. **Functionality sanity check** All specific app functionality such as algorithms, calculations, measurements and scoring be implemented correctly.
- ii. **App hidden features**
The app should not introduce any hidden features.
- 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, with no adverse effect on the app. In addition, an app should be able to lock itself in a vertical or horizontal view if seen as important from app-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.

1.17 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 App works. If it is clear that the apps 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.

1.18 Network utilization and efficiency

an app 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.

1.19 Notification 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.

1.20 Function progress

any function selected in the Application should give evidence of activity within five seconds. There should be some visual indication that the 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...”,

1.21 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 the user information.

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

1.22 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	

Submission, Curation and Approval Schedule

	ACTIVITY
1.	Formal invitation for submission of content, apps and platforms
2.	Payment of submission fees
3.	Developers conference (content, apps and platforms)
4.	Submission of content, apps and platforms
5.	Curation process
6.	Formal approval and recommendation
7.	Release of curation results
8.	Uploading of the online list of approved content apps and platforms on KEC

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 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. **Early years,**
- b. **middle school**
- c. **Senior school**
- d. **Tertiary levels)**

All enquiries should be directed to:

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