

ANDROID BASED LIBRARY APPLICATIONS OF EDUCATIONAL INSTITUTES IN INDIA: AN OVERVIEW

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Abstract *The present study aims to know the status of Android Base Education Institute Library Apps. Most of the apps are embedded with Google Play store. Hence total 33 Education Institute Library Apps were selected which are available on Google play for the study. Total 114 features were identified. Indian institute of management, Ahmadabad library app provides maximum features (63). Commercial developer such as Knimbus and Refread have developed most of the apps. The study reveals that very few institutes especially Engineering and Research Institutes develop apps exclusively for libraries.*

Keywords: *Library Apps, Knimbus, Refread*

INTRODUCTION

Most of the global population now lives within a range of mobile network. In today's technological world everybody is looking for the one hand smart technical solution for satisfying their day to day requirements. Therefore many applications are designed to run on a mobile device such as a phone, tablet, or watch. There are currently millions of apps available in various categories like business, productivity, shopping and scheduling. All most of all the students respective of their educational subject or discipline, the smart mobile phone are an essential part of regular life. Many educational and research institutions libraries are also developing apps to help their users. With this regard, developers are passionate about providing the smart ways and approaches through library mobile app for the students & researchers, users can access different resources at one tap on their smart phones. A majority of libraries have to lack human resources. Creating a library application allows patrons to access library hours, view their library account, and even access library resource discovery tools that are easier than most people think. In the COVID-19 situation, mobile apps play a very crucial role as in-person access is not possible. This one-tap solution is the best option to access the library and courseware at any place over the world. In a COVID situation, All India Council for Technical Education (AICTE) asks colleges and universities motivate to develop apps. Therefore to know the status of Android Base Education Institutes Apps this study has been carried out.

REVIEW OF LITERATURE

Savitha, Somanshekhara and Dange (2017) discussed Library Services through Mobile Technology. Jharotia (2018) highlighted Awareness of M-Apps for Users in Higher Education Institutes in Digital Era. Sonawane et al. (2018). Presented XIE Library an Android Application that uses cloud based server called parse server (which is used by commercial app developers). Lalwani, Bhure and Priya (2017) explores Vivekanand Education society's Institute of Technology (VESIT) Library – An Android Based Application. This paper shows about the VESIT Library Android Application developed by VESIT. Pillai et al. (2016) created a software (application) using virtual Private Network between college library and the students studying in the same college. Dinesh et al. (2015) studied Library Access System Smartphone Application using Android. And brings a new idea of public to access the library. Mishra (2017) presented brief introduction about the Mobile application technology and its use in library services. The paper also reviews types of mobile app, mobile apps for librarians and information professionals' community, highlighting specific apps that are available to librarians and briefly describing the salient features of app as well as the benefits and potential drawbacks.

OBJECTIVES

The main objectives of the study are:

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- To identify library apps of education institutes in India.
- To know the content of the library apps education institutes in India.
- To analyze the contents available on select apps.

RESEARCH METHODOLOGY

The present study aims to know the status of Android Base Education Institute Library Apps. After searching on Internet it was observed, most of the apps are Android base. They are embedded with Google Play store. Hence the Education Institute Library Apps which are available on Google play were selected for the study. Total 33 apps were found which were related to educational institute library apps. The data was collected till 10 Feb 2020. A checklist was prepared to know the contents of the apps. There are total 114 criteria in the checklist.

(Annexure 1 Checklist 1)

RESULTS AND DISCUSSION

Commercial developer such as knimbus.com (21 apps) and readread.com (6 apps) have developed maximum number of library apps and two apps are developed in-house developed by individual app developers and 4 apps are developed completely in-house by experts in the institution

Types of Education Institutes: Most of school library apps are management apps, which include library activity thus no separate app is available. Only one college and five research institutes have developed library app have developed app. Only 9 universities have mobile apps. Only 9 universities have developed mobile apps. Engineering & technological educational Institute develops highest number of apps (17). Engineering and technological institute libraries include technical research institutes, engineering colleges and technical universities. The patrons of these libraries are technically sound to use these apps. Most of the engineering apps developed by knimbus.com or engineering colleges developed their app in-house and used their own resources in colleges.

Region Wise Distribution of Apps: It is observed that mainly north (12 Apps) and south (11 Apps) regions of India have adopted this technology. In north region, commercial developers develop apps. Therefore might be in North region more number of apps is developed. In south region institutions mostly develop apps in- house. Western region has developed only 8 apps. Only two apps are developed by Eastern Region of India may be due unavailability of high speed network.

Version of Library Apps: Below figure shows, that Mean or average of frequency of versions of is 6.6. It indicates that 6.6% apps are revised frequently.

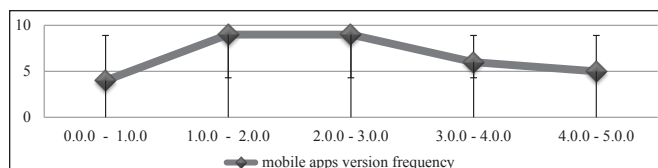


Fig. 1: Library App Versions

Updating and Released Years of Apps: The graph shows that in 2018 maximum apps are released and are updated. It also shows that the apps developed gradually from 2015 to 2017 and there is sudden increase in 2019. However, it decreased in 2019. This shows that development of mobile technology in educational institute is high up bar 1 show that only 25 applications were updated and 16 apps were released. In 2019, Only 3 apps were released and 8 apps were updated. In comparison with 2018 there was decrease in number of apps released and updated in 2019.

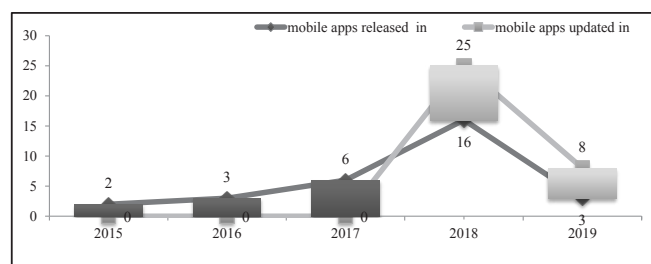


Fig. 2: Apps Updated and Released Years

Service Features: In-house developed apps have big drawback that they are available only in working hours of library. Option of working offline feature is available only in SL IIMA app. All apps have user interface hence student can easily interact. So outcome shows that Google play provides security, back up for these apps.

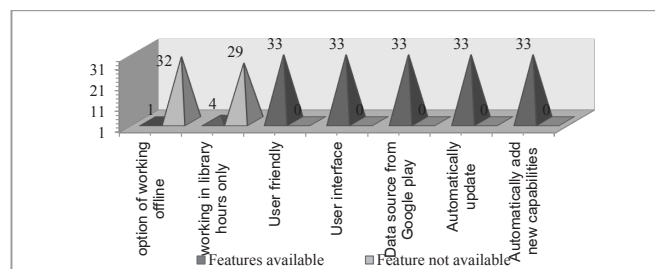


Fig. 3: Apps Service Features

Login

Maximum apps are providing membership, registered email, Institutional login and forgot password option for login.

Very few (9) apps are providing option for login through Facebook or Google. Only one app is providing access through Open Access login.

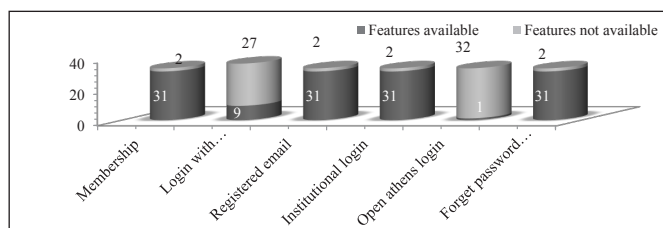


Fig. 4: Login Related Features

Basic Features: Almost all apps are providing Home screen, OPAC/WEBOPAC/Ecatalogue, menu bar, Book detail, Renew/Reissue and Renew Reminder facilities. Only three apps are providing facility of fine status and two apps are providing facility of payment of fine through payment apps such as Gpay, Paytm.

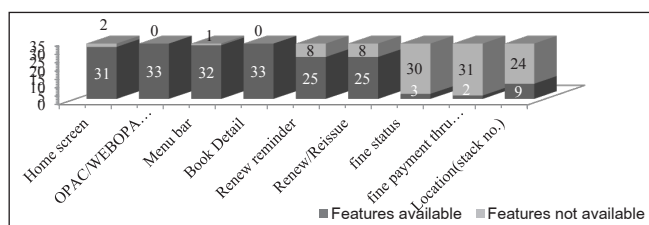


Fig. 5: Basic Features of Apps

Collection: Most of the apps are providing access to online databases, E-books, E-Journals, Full text documents, E-resources and presentations, Very few are providing access to E-Thesis (8) and Question papers (9). Only two apps are providing access to photographs. Almost all apps are providing services like video-expert talk, video-expert guide and reference service. Only one app is providing services to visually challenge users.

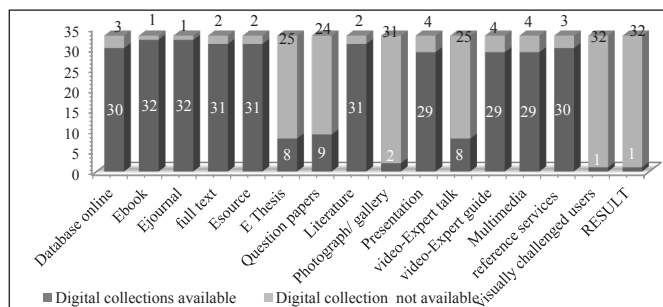


Fig. 6: Digital Collection of Library

Access to Links

Link to different library website (31) and news (29) most of the libraries are providing. Link to Kindle, link to Inter Library Loan and only one app is providing link for visually challenged.

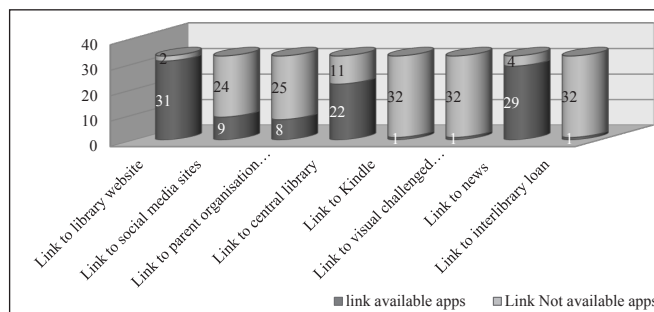


Fig. 7: Links

Communication Features: Facility of recent comments/feedback, News announcements and RSS feed is provided by most of the apps. Very few libraries are providing chatbot (7), FAQ (2) and access to Newspaper (1) facilities.

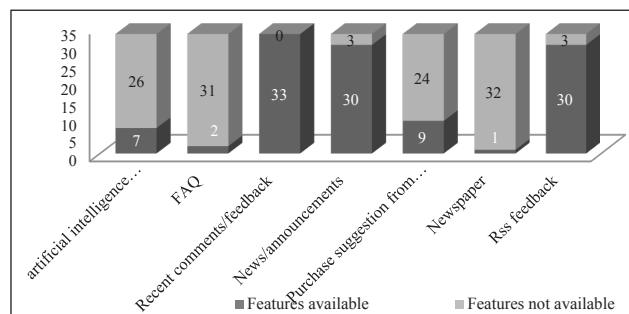


Fig. 8: Communication Features

Personal Information: Almost all apps are providing personal features like facility of My Library (with personal favorites), downloads and share, downloads and issue history according to library card and downloads through report. Only five libraries are providing library status of Members option.

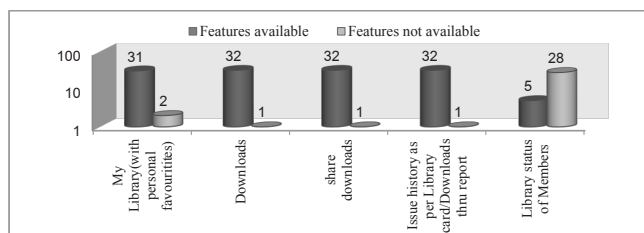


Fig. 9: Personal Information Features

Search/Filters Features

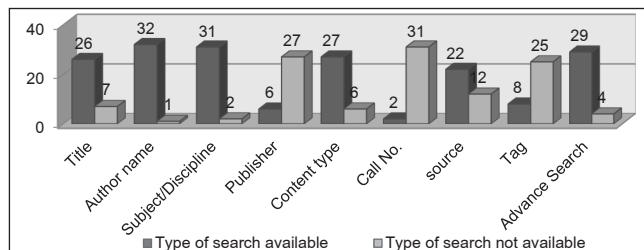


Fig. 10: Search/Filters Features

Author (32), Subject (31), Publisher (27), Title (26) and advanced Search (29) options is available in almost all apps. Very few apps are providing search facility through Call No (2), Publisher (6) and Tag (8) Author (32), Subject (31), Publisher (27), Title (26) and advanced Search (29) options is available in almost all apps. Very few apps are providing search facility through Call No (2), Publisher (6) and Tag (8).

App Permission Features: Full network access is required for all apps. Permission for accessing app, camera, device ID, Wi-Fi connection Information, preventing phone from sleeping, viewing network connections and modifying system settings is required by 75% apps. For accessing location, storage setting an alarm, changing of website permission is not required by almost all apps.

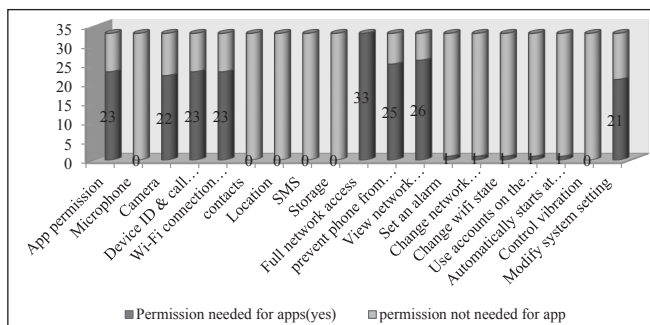


Fig. 11: Apps Permission Features

Other Features: Table 1 shows that 94% apps providing information about new arrivals in the library. Only nine apps are providing information about most popular and Tag cloud. Reservation status provided by only two apps.

Table 1: Other Features

Other Features	Available	Not Available	Total Apps
New Arrivals	31	2	33
Most popular & trending	9	24	33

Other Features	Available	Not Available	Total Apps
Reservation status	2	31	33
Tag cloud	9	24	33
List of directors/Faculty members their email	1	32	33

Ranking of Features in Apps: Below table shows that best apps is based on maximum features (63) contained in apps and thus maximum services provided by library using this Android based library app. Knimbus and refread.com have 21 apps and 6 apps respectively. First rank goes to VSLIIMA (63 features) VSL IIMA provides maximum services to their patrons, they provide chatbot service, visually challenged user link to sara like software Second rank goes to Refread.com cloud based 6 apps (52 features); Third rank goes to Knimbus cloud based 21 apps, Fourth rank - GIT app in this app variety of features available which are not in other library such as Knimbus and Refread.com. This is in-house developed app by Gogte institutes of technology. KVK school library app has 38 features and VESIT library app has 34 features thus both have 5th and 6th position. And last position is given to DTU library which has only 23 features.

Table 2: Ranking of Features in Apps

Sr. No.	Name of Apps	Feature Available in Apps
1	VSL IIMA	63
2	Army War College mLibrary	52
3	Banglore University mLibrary	52
4	Bennett University eLibrary	52
5	Central library app	52
6	DRDO eLibrary	52
7	ndc elibrary	52
8	Sarswati eLibrary	52
9	CITK elibrary	51
10	GCOEA elibrary	51
11	IET Avadh elibrary	51
12	IGML UOH	51
13	IKGPTU KRC	51
14	K.K. Wagh elibrary	51
15	KLEF eLibrary	51
16	MSRUASB elibrary	51
17	NITI Aayog elibrary	51
18	NIT Calicut elibrary	51
19	NIT Delhi elibrary	51
20	NIT Hamirpur elibrary	51
21	NIT Surathkal elibrary	51

Sr. No.	Name of Apps	Feature Available in Apps
22	SGGS elibrary	51
23	SNDT elibrary	51
24	SRMIST elibrary	51
25	TCE elibrary	51
26	TCET elibrary	51
27	TERI elibrary	51
28	TIMSR elibrary	51
29	UCET VBU elibrary	51
30	GIT Library	50
31	KVK library	38
32	VESIT Library	34
33	DTU Library	23

CONCLUSION

The study reveals that exclusive library apps are developed by very few institutes. Most of the apps are developed by Engineering and Research Institutes. Most of the library apps are developed by commercial developers. Library apps should include many more features in their apps. Users should encourage to download library apps. This study will be useful for future developers of library app and improvements in existing apps as well.

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Refread Mobile Apps. Retrieved January, 2020, from <https://www.refread.com/>

VESIT Library App. Retrieved January, 2020, from www.ves.ac.in

VSI IIMA App. Retrieved January, 2020, from <https://library.iima.ac.in/>

ANNEXURE 1: CHECKLIST 1

Sr. No.	Checklist
1	Name of the app
2	Icon
3	About library parent organization
4	Place of library
5	Type of educational institute
6	Google play store ID
7	Created by
8	Rating & review
9	Rating(as per Google play store)
10	Purpose
11	Developers contact
12	Operating system
13	Price
14	Security
15	Version

Sr. No.	Checklist
16	Updated on
17	Downloads
18	Download size
19	Offered by
20	Released on
21	App permission
22	Microphone
23	Camera
24	Device ID & call information
25	WIFI connection information
26	Contacts
27	Location
28	SMS
29	Storage
30	Full network access
31	Prevent phone from sleeping
32	View network connection
33	Set an Alarm
34	Change network connectivity
35	Change wifi state
36	Use account on device
37	Automatically starts at boot
38	Control vibration
39	Modify system setting
40	Option of working offline
41	Available 24/7
42	Working in library hours only
43	User friendly
44	User Interface
45	Data source
46	Automatic updating version
47	Automatically add new capabilities
48	Updated thru
49	Help
50	Membership
51	Login ID-Login with face book
52	Login ID-Registered email
53	Institutional Login
54	Open Athens Login
55	Forget password option
56	Home
57	OPAC/WEBOPAC/E catalogue/MOPAC
58	Menu bar
59	Book details
60	Renew reminder
61	Renew/reissue

Sr. No.	Checklist
62	Fine status
63	Fine payment
64	Location (stack no.)
65	Database
66	E-journal
67	E-book
68	Full text
69	E-resources
70	E-thesis
71	Question paper
72	Literature
73	Photograph
74	Presentation
75	Video- Expert talk
76	Video-Expert guide
77	Multimedia
78	Reference services
79	Visually challenge user
80	Result
81	Link to library website
82	Link to social media
83	Link to parent organization website
84	Link to central library
85	Link to kindle
86	Link to visual challenge user
87	Link to news
88	Link to interlibrary loan
89	ILA-chatbot
90	FAQ
91	Recent comments/feedback
92	News/Announcement
93	Purchase suggestion from member/staff
94	Newspaper
95	Rss feed
96	My Library(Favourities)
97	Downloads
98	Share to downloads
99	Issue history as library card/ downloads thru reports
100	Library status of member
101	Title
102	Author
103	Subject/discipline
104	Publisher
105	Content type
106	Call no.
107	Source

Sr. No.	Checklist
108	Tag
109	Advance search
110	New arrivals
111	Most popular & trending
112	Reservation status
113	Tag cloud
114	List of directors/Faculty members their email address

Sr. No.	Name of the Apps
12	IKGPTU KRC
13	K.K. Wagh elibrary
14	KLEF eLibrary
15	KVK library
16	MSRUASB elibrary
17	NDC elibrary
18	NITI Aayog elibrary
19	NIT Calicut elibrary
20	NIT Delhi elibrary
21	NIT Hamirpur elibrary
22	NIT Surathkal elibrary
23	Sarswati eLibrary
24	SGGS elibrary
25	SNDT elibrary
26	SRMIST elibrary
27	TCE elibrary
28	TCET elibrary
29	TERI elibrary
30	TIMSR elibrary
31	UCET VBU elibrary
32	VESIT Library
33	VSL IIMA

ANNEXURE 2: SAMPLE LIST

Sr. No.	Name of the Apps
1	Army War College mLibrary
2	Banglore University mLibrary
3	Bennett University eLibrary
4	Central library app
5	CITK elibrary
6	DRDO eLibrary
7	DTU Library
8	GCOEA elibrary
9	GIT Library
10	IET Avadh elibrary
11	IGML UOH