



**NFC-BASED MOBILE APPS**  
**(PART OF E-GRANTHALAYA SUITE OF APPLICATIONS)**  
**DESIGNED AND DEVELOPED BY NATIONAL INFORMATICS CENTRE**  
**MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY**  
**GOVERNMENT OF INDIA**



## **1. e-Granthalaya Book and Member Registration (Tagging)**

This application is a part of eGranthalaya Suite. This application has 2(two) functions as given below:

**1. Book Registration/Book Tagging :** The UI allows user to query eGranthalaya database by inputting the Accession No. of the book to be tagged and tapping on the *Search* button. The API returns and displays the book's details. Then the RFID tag is read by tapping the phone over the tag and then the read tag is registered/attached to the book record by tapping on *Attach Read Tag* button.

Then the tag is physically pasted on the inside of the book's cover. Similarly, the registered/attached tag can be de-registered using the *Remove Stored Tag* button.

**2. Member Registration/Member Tagging :** The UI allows user to query eGranthalaya database by inputting the Member No. of the Member to be tagged and tapping on the *Search* button. The API returns and displays the Member's details. Then the RFID tag is read by tapping the phone over the tag and then the read tag is registered/attached to the Member record by tapping on *Attach Read Tag* button. Then the tagged Library Card is physically handed over to the Member. Similarly, the registered/attached tag can be de-registered using the *Remove Stored Tag* button.

**eGranthalaya Suite :** eGranthalaya Suite comprises of eGranthalaya desktop/web app, eGranthalaya WebOPAC and eGranthalaya RFID/NFC mobile apps.

**Requirements :** 1. Android mobile handset equipped with an NFC/RFID chip, 2. RFID tags, 3. eGranthalaya 3.0 software from NIC, 4. Webservice/API

**Remarks :** Application has been tested and implemented using an Android mobile handset equipped with an NFC chip along with ISO 15693 13.56 Mhz/ISO 18000-3 RFID tags.

# eGranthalaya Book and Member Tag Registration

Part of eGranthalaya Suite



Designed & Developed by :  
NIC-NEC Unit, Shillong,  
Meghalaya, India.  
Contact email: mgnsi@nic.in



12:59

VoLTE 87%

## eGranthalaya Tag Registration

eGranthalaya Member Tagging

Current status :

true

Support status :

true

Member No.

Member No. :

Name :

Designation :

Gender :

Office Address :

Residence Address :

Email :

Contact No. :




Whether membership expired :

Stored RFID Tag :

Read RFID Tag :

Log :

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eGranthalaya Tag Registration

eGranthalaya Book Tagging

Enable NFC

Disable NFC

Clear Log

Clear Form

App Current NFC status :  
true

Device NFC Support status :  
true

Accession No.

Search

Accession No:

Title :

Publisher :

Author :

ISBN :


Stored RFID Tag :


Remove Stored Tag

Read RFID Tag :





Attach Read Tag

Log :





eGranthalaya RFID Tagging



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eGranthalaya RFID Tagging is running

Tap for more information or to stop the app

Book Tagging

Member Tagging

About this app

About

Exit App



## 2. e-Granthalaya Book Check Out System

This Application is a part of eGranthalaya Suite for issuing RFID-tagged books in the library where eGranthalaya Application is running. This application requires a mobile handset equipped with NFC. First the application has the functionality to key in the Membership PIN or Tap RFID tagged Membership Card to whom the books are to be issued. The Membership PIN or Memberships RFID are then used to query the eGranthalaya database via an API which returns and display the Member Details. Then for issuing books the RFID tagged books are to be tapped one by one and fetch the details from the API. The application is specifically meant to be used with the eGranthalaya Library Management software of NIC and the books need to be pre-tagged using RFID/NFC Technology

**eGranthalaya Suite :** eGranthalaya Suite comprises of eGranthalaya desktop/web app, eGranthalaya WebOPAC and eGranthalaya RFID/NFC mobile apps.

**Requirements :** 1. Android mobile handset equipped with an NFC/RFID chip, 2. RFID tags, 3. eGranthalaya 3.0 software from NIC, 4. Webservice/API

**Remarks :** Application has been tested and implemented using an Android mobile handset equipped with an NFC chip along with ISO 15693 13.56 Mhz/ISO 18000-3 RFID tags.

# eGranthalaya Book Check Out System



Enter Member PIN :

Or

Tap the Member Card

0	1	2	3
4	5	6	7
8	9	<<	OK

Part of eGranthalaya Suite



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78%

Check Out

## Book Check Out

Membership No : 1

Membership Name : SHRI M.L. NONGKHLAW

Email : mark.nongkhlaw@nic.in

Contact No : 9862006017

CHECK OUT BOOKS

HOLDING BOOKS

Sl.	Acc No.	Title
1	63256/n	VICTIMS OF VIOLENCE
2	51854/I	CHILD LABOUR IN A THIRD WORLD URBAN SITUATION
3	54364/I	KEY CONCEPTS IN EARLY CHILDHOOD EDUCATION AND CARE

Number of Books : 3

CHECK  
OUT

CLEAR

12:11 78%

← Check Out

**Book Check Out**

Membership No : 1

Membership Name : SHRI M.L. NONGKHLAW

Email : mark.nongkhlaw@nic.in

Contact No : 9862006017

CHECK OUT BOOKS    HOLDING BOOKS

**Confirmation**  
Are you sure to check out?

NO    YES

Number of Books : 3

CHECK OUT    CLEAR

12:11 78%

← Check Out

**Book Check Out**

Membership No : 1

Membership Name : SHRI M.L. NONGKHLAW

Email : mark.nongkhlaw@nic.in

Contact No : 9862006017

CHECK OUT BOOKS    HOLDING BOOKS

**Return Status**  
3 Book's Book Issue Successful  
Do You Want to Generate Receipt?

NO    YES

Number of Books : 3

CHECK OUT    CLEAR

### E-Granthalaya Receipt for Book(s) Issued

Member ID : 4  
Member Name : SHRI M.L. NONGKHLAW

Designation : SR. TECHNICAL DIRECTOR  
Date and Time : 17-08-2022 11:53:56

Sl. No.

Accession No.

1  
2  
3

54364/l  
51854/l  
63256/n

Total No. : 3



### 3. e-Granthalaya Book Return System

This Application is a part of eGranthalaya Suite for returning RFID-tagged books in the library where eGranthalaya Application is running. This application requires a mobile handset equipped with NFC. First the application has the functionality to key in the Membership PIN or Tap RFID tagged Membership Card to whom the books are to be returned. The Membership PIN or Memberships RFID are then used to query the eGranthalaya database via an API which returns and display the Member Details. Then for returning books the RFID tagged books are to be tapped one by one and fetch the details from the API. The application is specifically meant to be used with the eGranthalaya Library Management software of NIC and the books need to be pre-tagged using RFID/NFC Technology

**eGranthalaya Suite :** eGranthalaya Suite comprises of eGranthalaya desktop/web app, eGranthalaya WebOPAC and eGranthalaya RFID/NFC mobile apps.

**Requirements :** 1. Android mobile handset equipped with an NFC/RFID chip, 2. RFID tags, 3. eGranthalaya 3.0 software from NIC, 4. Webservice/API

**Remarks :** Application has been tested and implemented using an Android mobile handset equipped with an NFC chip along with ISO 15693 13.56 Mhz/ISO 18000-3 RFID tags.

## eGranthalaya Book Return System



Enter Member PIN : \_\_\_\_\_

Or

Tap the Member Card

0	1	2	3
4	5	6	7
8	9	<<	OK

Part of eGranthalaya Suite



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Meghalaya, India.

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77%

## Return Books

Membership No : 1

Membership Name : SHRI M.L. NONGKHLAW

Email : mark.nongkhlaw@nic.in

Contact No : 9862006017

### BOOKS TO RETURN

### HOLDING BOOKS

Sl.	Acc No.	Title
1	54364/I	KEY CONCEPTS IN EARLY CHILDHOOD EDUCATION AND CARE
2	51854/I	CHILD LABOUR IN A THIRD WORLD URBAN SITUATION
3	63256/n	VICTIMS OF VIOLENCE

Number of Books : 3

RETURN

CLEAR



12:19 77%

← Return Books

Membership No : 1

Membership Name : SHRI M.L. NONGKHLAW

Email : mark.nongkhlaw@nic.in

Contact No : 9862006017

BOOKS TO RETURN HOLDING BOOKS

Sl. Acc No. Title

1 2 3

**Confirmation**

Are you sure to Return?

NO YES

Number of Books : 3

RETURN CLEAR

III O <

12:20 77%

← Return Books

Membership No : 1

Membership Name : SHRI M.L. NONGKHLAW

Email : mark.nongkhlaw@nic.in

Contact No : 9862006017

BOOKS TO RETURN HOLDING BOOKS

Sl. Acc No. Title

1 2

**Return Status**

2 Book's Returned Successfully

Do You Want to Generate Receipt?

NO YES

Number of Books : 2

RETURN CLEAR

III O <

### E-Granthalaya Receipt for Book(s) Returned

Member ID : 4  
Member Name : SHRI M.L. NONGKHLAW

Designation : SR. TECHNICAL DIRECTOR  
Date and Time : 17-08-2022 12:02:44

Sl. No.	Accession No.
1	51854/L
2	63256/N

Total No. : 2



#### 4. e-Granthalaya Book Search and Count

This Application is a part of eGranthalaya Suite. This application has 2 (two) functions as given below:

1. **Search RFID-tagged books** : This is for searching RFID-tagged books in the library where the mobile UI enables the user to key in the Accession Number of the book being searched. This parameter is then used to query the eGranthalaya database via an API which returns the results like Name of the book, Author, Publisher, ISBN Number, Tag ID etc and displays the same in the mobile UI. Then the mobile handset equipped with NFC can be used to scan the library shelves. Once the desired book (Tag ID) is found, the mobile handset speaks out the name of the book using TTS (Text to Speech). The application is specifically meant to be used with the eGranthalaya Library Management Software of NIC and the books need to be pre-tagged using RFID/NFC Technology.

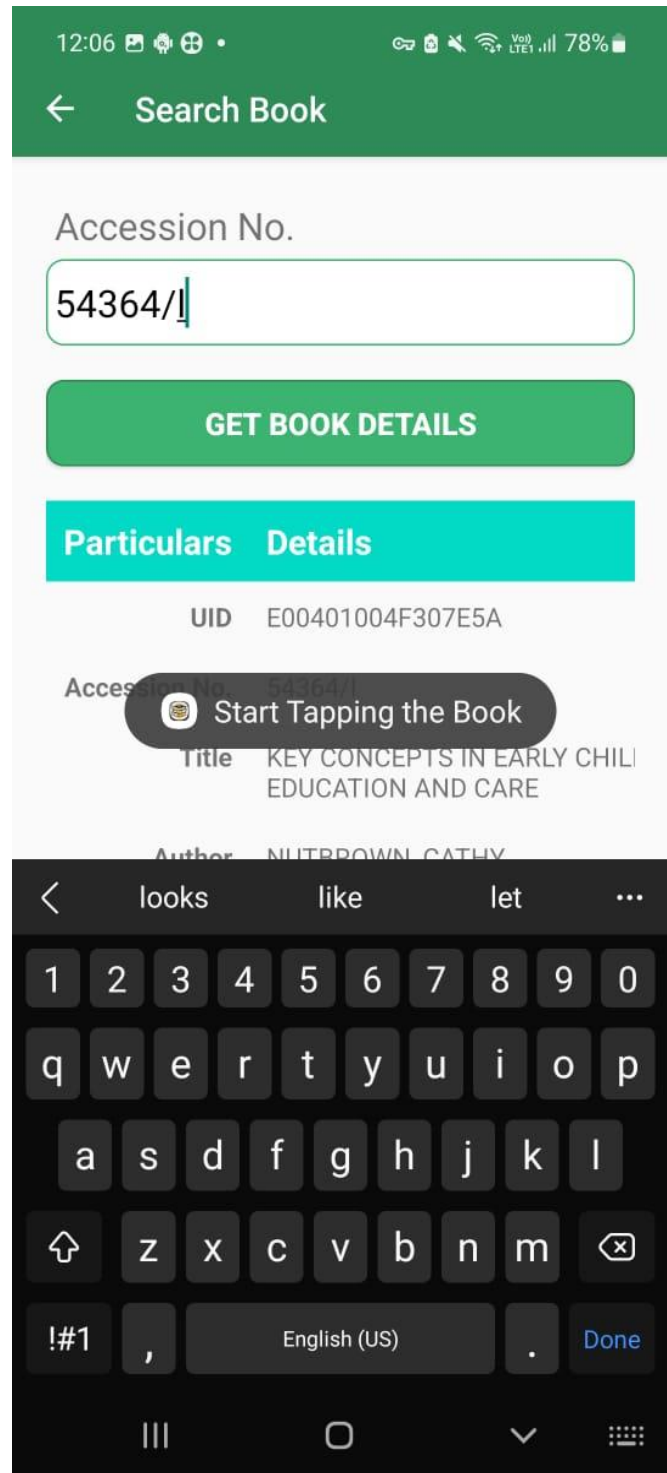
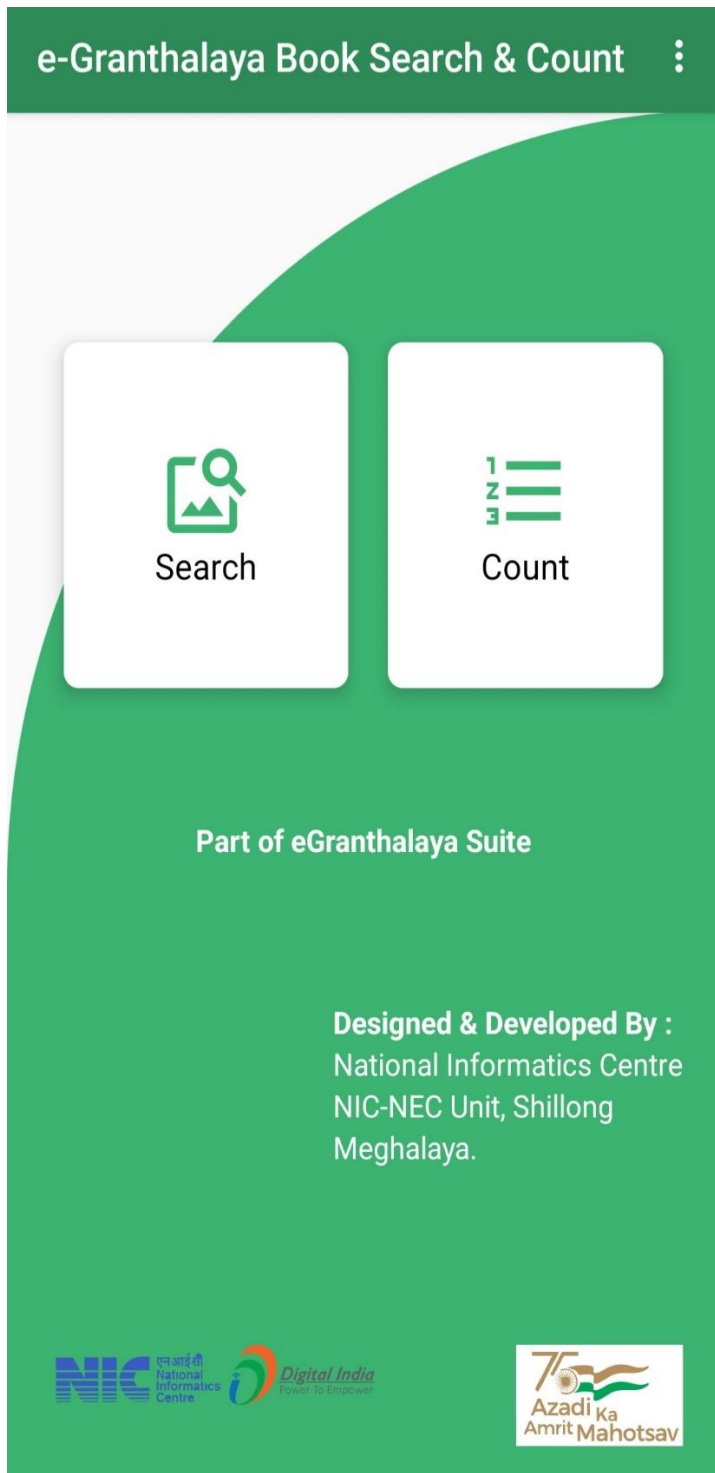
**Requirements** : 1. Android mobile handset equipped with an NFC/RFID chip, 2. RFID tags, 3. eGranthalaya 3.0 software from NIC, 4. Webservice/API

**Remarks** : Application has been tested and implemented using an Android mobile handset equipped with an NFC chip along with ISO 15693 13.56 Mhz/ISO 18000-3 RFID tags.

2. **Count RFID-tagged books** : This is for counting RFID-tagged books in the library where the RFID/NFC equipped Android mobile handset is used to scan the library shelves of tagged books and display the read tags and the count (no. of tags/books read). This part of the application is generic in nature and can in fact be used to count anything provided the items have been tagged using RFID/NFC Technology

**Requirements** : 1. Android mobile handset equipped with an NFC/RFID chip, 2. RFID tags.

**Remarks** : Application has been tested and implemented using an Android mobile handset equipped with an NFC chip along with ISO 15693 13.56 Mhz/ISO 18000-3 RFID tags.



Particulars Details

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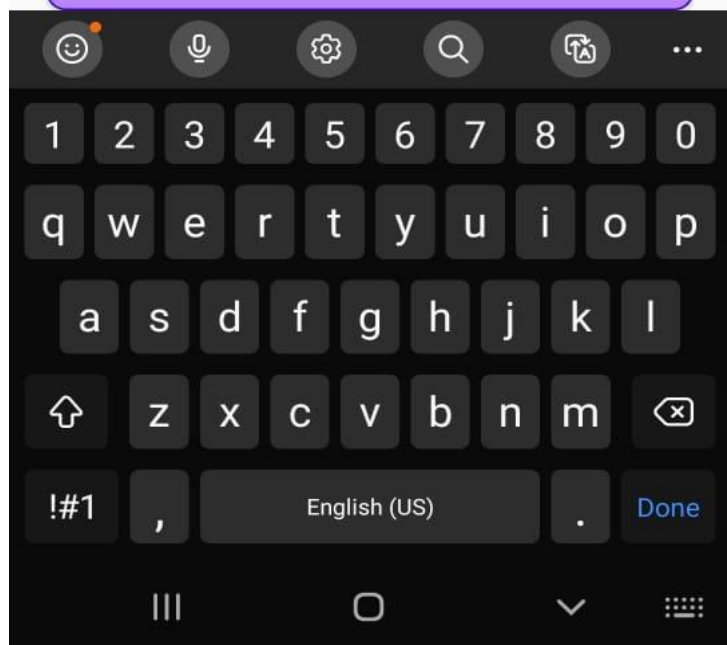
Accession No. 54364/I

Title KEY CONCEPTS IN EARLY CHILD  
EDUCATION AND CARE

Author NUTBROWN, CATHY

Publisher SAGE PUBLICATIONS

READ TITLE



RFID : E00401004F42AF0

Number of 7  
Scan :

Total No. : 6

RFID List

- 1 E00401004F307E5A
- 2 E00401004F42EF75
- 3 E0040100511B38DE
- 4 E00401004DEA2E9F
- 5 E00401004DEA2DA6
- 6 E00401004F42AF08

START

PAUSE

STOP





## 5. e-Granthalaya NFC Book Search BT

This Application is a part of eGranthalaya Suite. This is used for searching tagged books in the library where the mobile UI facilitates user to key in the Accession No. of the book being searched. Then the mobile handset is interfaced/paired with a Bluetooth handheld RFID Reader which can be used to scan the library shelves. Once the desired book is found, the mobile vibrates and the UI displays the details of the book

**Requirements:** 1. Android mobile handset with bluetooth 2. RFID handheld reader with bluetooth interface 3. RFID/NFC tags.

**Remarks :** Application has been tested and implemented using RFID Reader from FEIG GmbH model no. IBID PRH101B (ISO 15693 13.56 MHz) alongwith ISO 15693/ISO 18000-3 RFID tags.

RFID Reader from FEIG GmbH Model No. IBID PRH101B



# eGranthalaya NFC Book Search BT

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सत्यमेव जयते

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eGranthalaya Book

Go Home

About

Exit App

eGranthalaya Book Search

Accession No. to search

Search

Accession No. :

Title :

Publisher :

Author :

ISBN :

Stored RFID Tag :

My bluetooth name:

Mark's AS2s

My bluetooth connection status:

Not connected

Connect to BT Data Reader

Read data (Tag ID):

