Chapter Four
Design Phase

4.1 Introduction

In this chapter , the system design is present in details . this chapter involves   general structure for the system , design system tables and algorithms . also , this phase concerned with design database such as creating tables , make the relation between tables , determine primary Key and foreign key for each table.

4.2 General structure for system

 In this step , the general structure drawing for the system , which show the parts of the system and operations which users can do in this system , see figure .4-1 .

4.3 Design system tables

The data base system consists of many tables and every one represents its being in the system .We will depend on designing every table from database table as the following steps.

1-Setting table name .
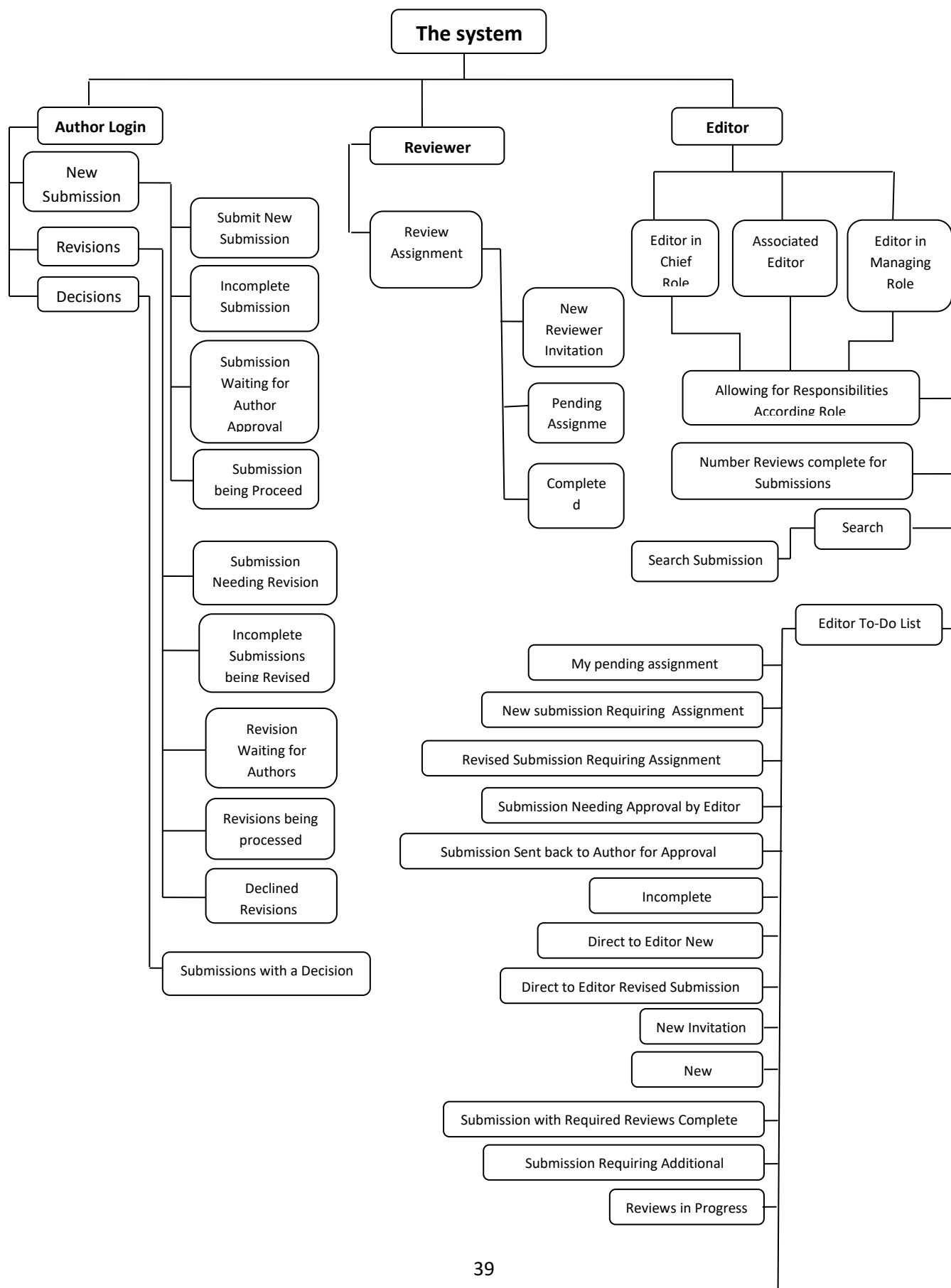
2-Setting table fields .

3-Primary Key

Design users data Table (users)

table name: users

1-Primary key (# User_No) .

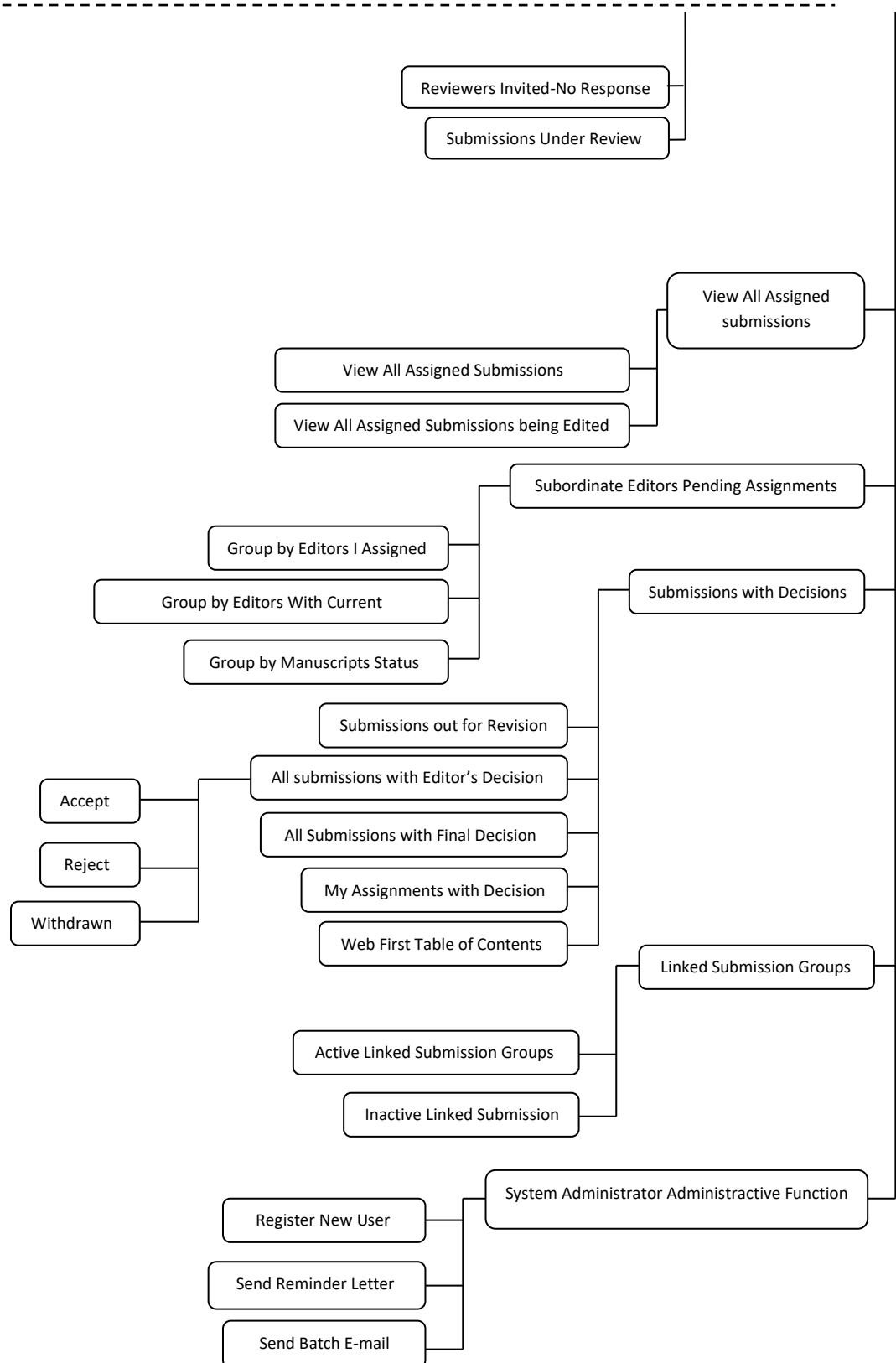2-Forign Key(#Article_No).

See table . 4-1 blow .

The system

Author Login

New Submission

Revisions

Decisions

Submit New Submission

Incomplete Submission

Submission Waiting for Author Approval

Submission being Proceed

Submission Needing Revision

Incomplete Submissions being Revised

Revision Waiting for Authors

Revisions being processed

Declined Revisions

Submissions with a Decision

Reviewer

Review Assignment

New Reviewer Invitation

Pending Assignme

Complete d

Editor

Editor in Chief Role

Associated Editor

Editor in Managing Role

Allowing for Responsibilities According Role

Number Reviews complete for Submissions

Search

Search Submission

Editor To-Do List

My pending assignment

New submission Requiring Assignment

Revised Submission Requiring Assignment

Submission Needing Approval by Editor

Submission Sent back to Author for Approval

Incomplete

Direct to Editor New

Direct to Editor Revised Submission

New Invitation

New

Submission with Required Reviews Complete

Submission Requiring Additional

Reviews in Progress

Reviewers Invited-No Response

Submissions Under Review

View All Assigned submissions

View All Assigned Submissions

View All Assigned Submissions being Edited

Subordinate Editors Pending Assignments

Group by Editors I Assigned

Group by Editors With Current

Group by Manuscripts Status

Submissions with Decisions

Submissions out for Revision

Accept

All submissions with Editor's Decision

All Submissions with Final Decision

Reject

My Assignments with Decision

Withdrawn

Web First Table of Contents

Linked Submission Groups

Active Linked Submission Groups

Inactive Linked Submission

System Administrator Administractive Function

Register New User

Send Reminder Letter

Send Batch E-mail

Figure 4-1 : General structure for system

Table 4.1

Names using in system	Description	Type	Size
User_No	User Number	Integer	10
User_First_Name	User First Name	varchar	50
User _Middle _Name	User Middle Name	varchar	50
User_Last_Name	User Last Name	varchar	50
User_Preferred_Name	User Preferred Name	varchar	50
User_Password	Password	varchar	50
User_Email_Address	Email Address	varchar	50
User_Second_Email	Second Email Address Phone	varchar	50
User_Third_Email	Third Email Address Phone	varchar	50
User_Fax_No	Fax Number	Integer	10
User_Degree	User Degree	varchar	50
User_Primary_Phone	User Primary Phone	Integer	10
User_Secondary_Phone	User Secondary Phone	Integer	10
User_Type_Secondary_Phone	User Type Secondary Phone	Integer	10
User_Type_Contact_Methode	User Type Contact Method Phone	varchar	50
User_Keyword	User Keyword	varchar	50
Article_No	Article Number	Integer	10
User_Title	User Title	varchar	50

Design Institution related information table

Table name (Institution related information)

1-Primary key (# institution_no).

2-Forign Key(#User_No).

Table 4.2

Names using in system	Description	Type	Size
Institution_No	Institution Number	Integer	10
Institution_Name	Institution Name	varchar	50
Institution_Position	Institution Position	varchar	50
Institution_Department	Institution Department	varchar	50
Institution_Street_Address	Institution Street Address	varchar	50
Institution_Zip_Or_Personal_Code	Institution Zip Or Personal Code	Integer	10
Institution_Country	Institution Country	varchar	50
Institution_Address_Type	Institution Address Type	varchar	50
User_No	User Number	Integer	10

Design additional Author table

Table name (additional Author)

1-Primary key (# Author_No).

2-Forign Key(#Article_No).

Table 4.3

Names using in system	Description	Type	Size
Author_No	Author Number	Integer	10
Author_First_Name	Author First Name	varchar	50
Author_Middle_Name	Author Middle Name	varchar	50
Author_Last_Name	Author Last Name	varchar	50
Author_Acadimic_Degree	Author Academic Degree	varchar	50
Author_Affilication	Author Affilication	varchar	50
Author_Email_Address	Author Email Address	varchar	50
Article_No	Article Number	Integer	10

Design Reviewer suggest table

Table name (Reviewer_suggest).

1-Primary key (# Reviewer_no).

2-Forign Key(#Article_No).

Table 4.4

Names using in system	Description	Type	Size
Reviewer _No	Reviewer number	Integer	10
Reviewer_First_Name	Reviewer first name	varchar	50
Reviewer _middle_Name	Reviewer middle name	varchar	50
Reviewer _Last_Name	Reviewer last name	varchar	50
Reviewer _Degree	Reviewer degree	varchar	50
Reviewer _Department	Reviewer department	varchar	50
Reviewer_Position	Reviewer position	varchar	50
Reviewer _Email_Address	Reviewer email address	varchar	50
Reviewer_ Institution	Reviewer institution	varchar	50
Reviewer_ Suggest_ Reason	Reviewer suggest reason	varchar	50
Article_No	Article Number	Integer	10

Design Article table

Table name (Article).

1-Primary key (# Article_No).

2-Forign Key(#Article_Type_No).

Table 4.5

Names using in system	Description	Type	Size
Article_No	Article Number	Integer	10
Article_Type_No	Article Type Number	Integer	10
Article_Full_Title	Article Full Title	varchar	50
Article_Short_Title	Article Short Title	varchar	50
Article_Categories_No	Article Category Number	Integer	10
Article_Abstract	Article Abstract	varchar	50
Article_Comments	Article Comments	varchar	50
Article_Request_Editor	Article Request Editor	varchar	50
Article_Region_Orgine	Article Region Origin	varchar	50
Article_Revision	Article Corresponding Author	varchar	50
Article_Final_Disposition_term	Article Final Disposition term	varchar	50
Article_Corresponding_Author_No	Article Revision	varchar	50
Article_Notes	Article Notes	varchar	50
Article_Section_Category	Article Section Category	Varchar	50
Article_Keywords	Article Keywords	Varchar	50

Design Article status

Table name (status).

1-Primary key (#Status_No).

2-Forign Key(#Family_Role_no).

Table 4.6

Names using in system	Description	Type	Size
Status_No	Status Number	Integer	10
Status_Name	Status name	varchar	30
Family_Role_no	Family Role Number	Integer	10

Design Article status users

1-Table name (Article_Status_Users).

2-Forign key (#Status_No).

3-Forign key (#User_No).

4-Forign key (#Article_No).

Table 4.7

Field Name	Description	Type	Size
Status_No	Status Number	Integer	10
User_No	User Number	Integer	50

| Status_Date | Status Date | Datetime | 8 |
| **Article_No** | Article Number | varchar | 50 |

Design Super Classifications Table

1-Table name(Sup_Classifications).

2-Primary Key(#Sup_Classification_No).

2-Forign Key(#).

Table 4.8

Field Name	Description	Field Type	Field Size
Sup_Classification_No	Sub Classification Number	Integer	10
Sup_Classification_Name	Sub Classificaion Name	Varchar	50

Design Sub Classifications Table

1-Table name(Sub_Classifications).

2-Primary Key(#Sub_Classification_No).

3-Forign Key(#Sup_Classification_No)

Table 4.9.

Field Name	Description	Field Type	Field Size
Sup_Classification_No	Sub Classification Number	Integer	10
Sub_Classification_No	Sub Classificaion Number	Integer	10
Sub_Classification_Name	Sub Classification Name	Varchar	50

Design Classification Article Table

1-Table name(Classification_Article).

2-Forign Key(#Sub_Classification_No)

Table 4.10

Field Name	Description	Field Type	Field Size
Sub_Classification_No	Sub Classification Number	Integer	10
Article_No	Article Number	Integer	10

Design Classifications User Table

1-Table Name(Classifications_User).

2-Forign Key(#Sub_Classification_No).

Table 4.11

Field Name	Description	Field Type	Field Size
Sub_Classifications_No	Sub Classification Number	Integer	10
User_No	User Number	Integer	10

Design Family Role Table

1-Table Name(Family_Role).

2-Primary Key(#Family_Role_No).

Table 4.12

Field Name	Description	Field Type	Field Size
Family_Role_No	Family Role Number	Integer	10
Family_Role_Name	Family Role Name	Varchar	50

Design Role Table

1-Table Name(Role).

2-Primary Key(#Role_No).

3-Forign Key(#Family_Role_No).

Table 4.13

Field Name	Description	Field Type	Field Size
Family_Role_No	Family Role Number	Integer	10
Role_No	Role Number	Integer	10
Role_Name	Role Name	Varchar	50

Design User Role Table

1-Table Name(User_Role).

2- Forign Key(#Role_No).

3-Forign Key(#User_No).

Table 4.14

Field Name	Description	Field Type	Field Size
Role_No	Family Role Number	Integer	10
User_No	Role Number	Integer	10

Design User Permission Table

1-Table Name(User _Permission).

2-Forign Key(#Permission _No).

3-Forign Key(#User_No).

Table 4.15

Field Name	Description	Field Type	Field Size
Permission_No	Permission Number	Integer	10
User_No	Role Number	Integer	10

Design Secondary Permission Table

1-Table Name(Secondary _Permission).

2-Primary Key(#Permission _No).

3-Forign Key(#permission_Type_No).

Table 4.16

Field Name	Description	Field Type	Field Size
Permission_ No	Permission Number	Integer	10
Permission_ Name	Permission Name	Varchar	50
Permission_ Type_No	Permission Type Number	Integer	10

Design Primary Permission Table

1-Table Name(Primary _Permission).

2-Primary Key(#Permission_Type _No).

Table 4.17

Field Name	Description	Field Type	Field Size
Permission_Type_ No	Permission Type Number	Integer	10
Permission_Type_ Name	Permission Type Name	Varchar	50

Design Article User Table

1-Table Name(Article_User).

2-Forign Key(#Family_Role_No).

Table 4.18

Field Name	Description	Field Type	Field Size
Lower_User_No	Lower User Number	Integer	10
Upper_User_No	Upper User Number	Integer	10
Family_Role_No	Family Role Number	Varchar	50
Article_No	Article Number	Integer	10
User_Order	User Order	Integer	10
Assign_Complete	Assignment Completed	Varchar	50

Design Message User Table

1-Table Name(Message_User).

2-Forign Key(#Message_No).

3-Forign Key(#Article_No).

4-Forign Key(#Family_Role_No).

Table 4.19

Field Name	Description	Field Type	Field Size
Message_No	Message Number	Integer	10
Sender_No	Sender Number	Integer	10
Receiver_No	Receiver Number	Integer	10
Article_No	Article Number	Integer	10
Message_Send_Date	Message Send Date	Date	10
Update_Message_Content	Update Message Content	Varchar	50
Family_Role_No	Family Role Number	Integer	10

Design Message Table

1-Table Name(Messages).

2-Primary Key(#Message_No).

3-Forign Key (Message_Type_No).

Table 4.20

Field Name	Description	Field Type	Field Size
Message_No	Message Number	Integer	10
Message_Content	Message Content	Varchar	50
Massage_Address	Message Address	Varchar	50
Message_Type_No	Message Type Number	Integer	10

Message_Name	Message Name	Varchar	50

Design Current Status Table

1-Table Name(Current_Status).

2-Primary Key(#Current_Status_No).

3-Forign Key(Article_No).

Table 4.21

Field Name	Description	Field Type	Field Size
Current_Status_No	Current Status Number	Integer	10
Current_Status_Name	Current Status Name	Varchar	50
Current_Status_Date	Current Status Date	Datetime	10
Article_No	Article Number	Integer	10

Design Linked Submission Group Table

1-Table Name(Linked_Submission_Group).

2-Primary Key(#Linked_Submission_Group_No).

Table 4.22

Field Name	Description	Field Type	Field Size
Linked_Submission_Group_No	Linked Submission Group Number	Integer	10
Linked_Submission_Group _Name	Linked Submission Group Name	Varchar	50
Linked_Submission_Group _Status	Linked Submission Group Status	Varchar	50
Publish_With_ID	Publish With ID Number	Integer	10
Publish_with_ID_Description	Publish with ID Description	Varchar	50

Design Linked Submission Article Table

1-Table Name(Linked_Submission_Article).

2-Forign Key(#Linked_Submission_Group_No).

3- Forign Key(#Article_No).

Table 4.23

Field Name	Description	Field Type	Field Size
Linked_Submission_Group_No	Linked Submission Group Number	Integer	10
Article_No	Article Number	Integer	10

Design Attach Files Table

1-Table Name(Attach Files).

2-Primary Key(#File_No).

3-Forign Key(#File_Type_no).

2-Forign Key(#Article_No).

Table 4.24

Field Name	Description	Field Type	Field Size
File_No	File Number	Integer	10
File_Type_no	File Type Number	Integer	10
File_Description	File Description	Varchar	50
File_Delivery_Online	File Delivery Online	Integer	10
File_Delivery_Offline	File Delivery Offline	Integer	10
File_Size	File Size	Float	10
File_Last_Modified	File Last Modified	Datetime	10
File_Links_Download	File Link Download	Varchar	50
File_Item_Family	File Item Family	Varchar	50
Article_No	Article Number	Varchar	50
File_Order	File order	Integer	10

Design File type Table

1-Table Name(File_Type).

2-Primary Key(#File_Type_No).

Table 4.25

Field Name	Description	Field Type	Field Size
File_Type_No	File Type Number	Integer	10
File_Type_Name	File Type Name	Varchar	50

4.4 Flowchart Planning (Algorithms)

4.4.1 System registration
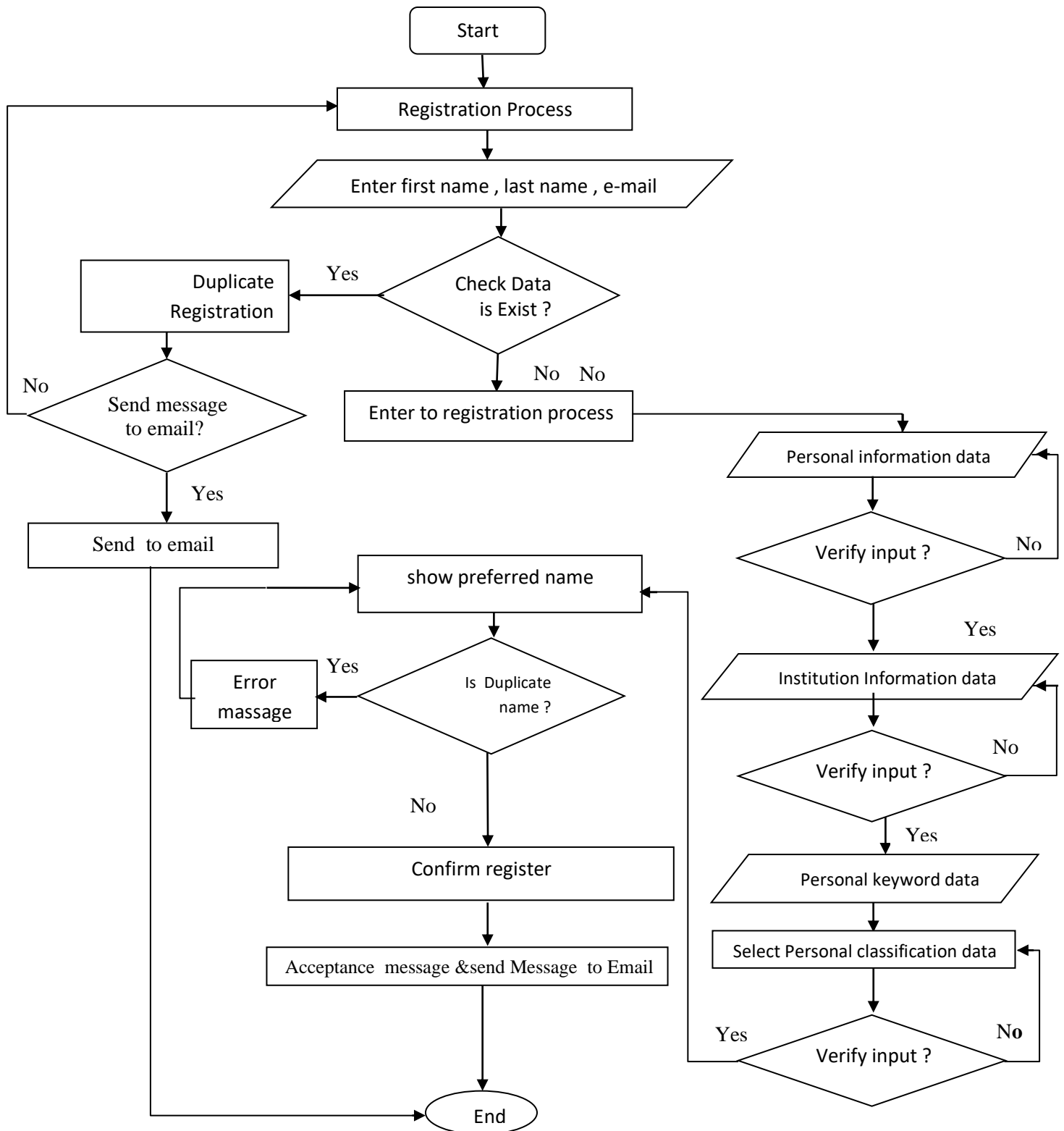
Figure 4-2. Registration Process

4.4.2 Login as reviewer

```
                    ┌─────────────┐
                    │    Login    │
                    └─────────────┘
                           │
                           ▼
        ┌──────────────────────────────────────┐
        │  Enter  The Username And Password      │
        └──────────────────────────────────────┘
                           │
                           ▼
              ┌──────────────────────────┐
              │    Login As Reviewer      │
              └──────────────────────────┘
                           │
                           ▼
   no                    ◇ If  my family Role            Yes
 ◄────────────────────── name =Reviewer? ──────────────────────►
         │                                                   │
         ▼                                                   ▼
 ┌──────────────────┐                          ┌────────────────────────┐
 │   Login Error    │                          │   Reviewer Main Menu    │
 └──────────────────┘                          └────────────────────────┘
         │                                                   │
         ▼                                                   │
 ┌──────────────────────────┐                                │
 │ Enter  the Username And   │                                │
 │        Password           │                                │
 └──────────────────────────┘                                │
         │                                                    │
         ▼                                                    │
 ┌──────────────────┐                                         │
 │  Login As Author │                                         │
 └──────────────────┘                                         │
         │                                                    │
         ▼                                                    │
 ┌──────────────────┐                                         │
 │ Author  main menu│                                         │
 └──────────────────┘                                         │
         │                                                    │
         ▼              ◯ End ◄──────────────────────────────┘
         └──────────────►
```
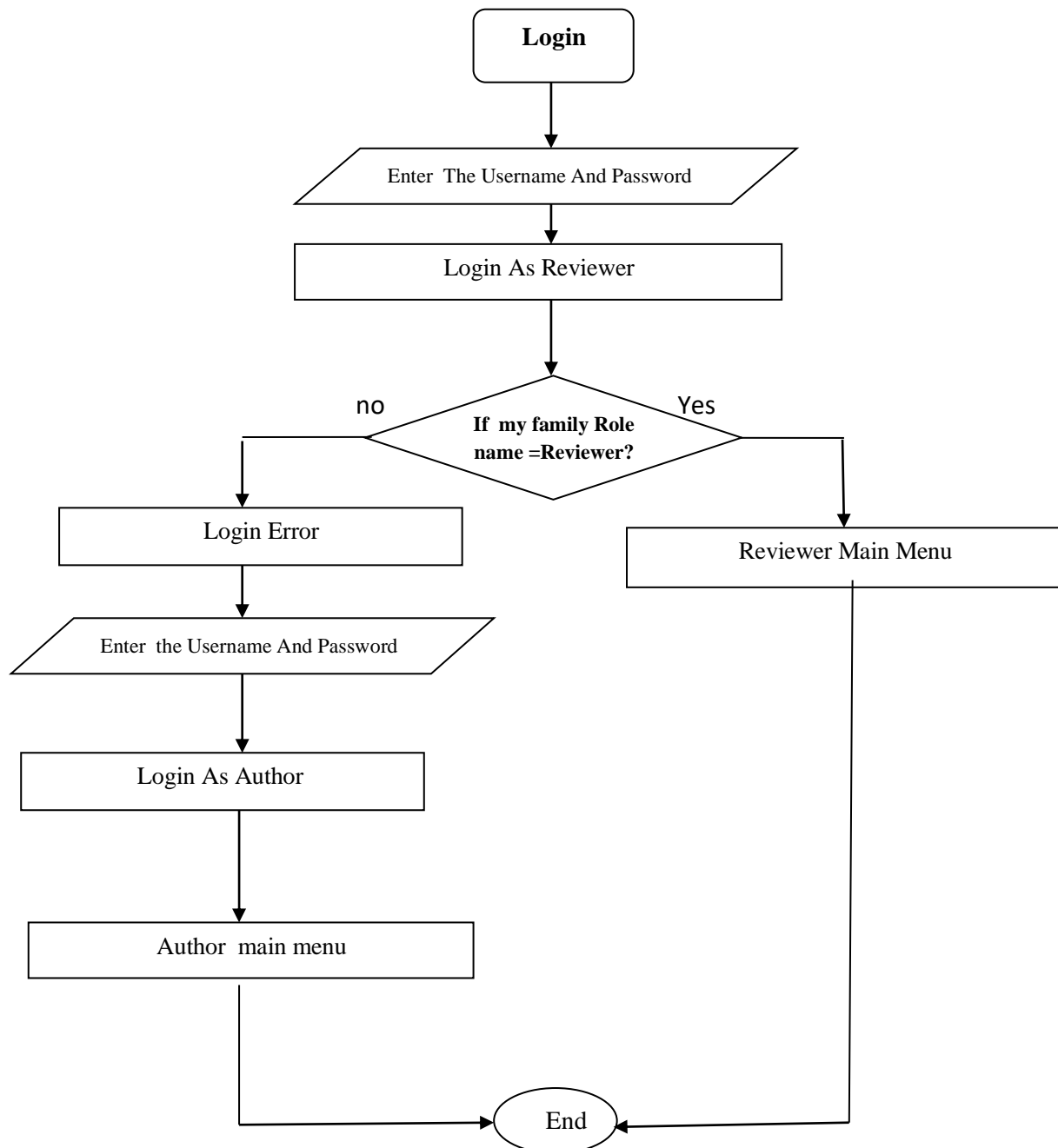
Figure 4-3 . login Process

4.4.3 login as Editor

```
                              ┌──────────────┐
                              │    Login     │
                              └──────┬───────┘
                                     │
                                     ▼
                    ╱────────────────────────────────╲
                   ╱  Enter  The Username And Password ╲
                   ╲                                   ╱
                    ╲─────────────────┬──────────────╱
                                      │
                                      ▼
          No                    ╱──────────╲
    ◄─────────────────────────╱  Are data   ╲
    │                         ╲  found ?     ╱
    │                          ╲──────┬─────╱
    │                                 │ Yes
    │                                 ▼
    │                         ┌─────────────────┐
    │                         │  Login As Editor │
    │                         └────────┬────────┘
    │          No                      │
    │      ◄──────────────             ▼                              Yes
    │  ◯ ◄───no──╱───────────────────────────────╲──────────────────────►
    │  │         ╲  If  my family Role name ='Editor'? ╱                  │
    │  │          ╲───────────────────────────────╱                      │
    ▼  ▼                                                                  ▼
┌─────────────────┐                                          ┌─────────────────┐
│   Login Error   │                                          │ Editor Main Menu │
└────────┬────────┘                                          └────────┬────────┘
         │                                                            │
         ▼                                                            │
 ╱────────────────────────────────╲                                  │
╱ Enter  The Username And Password  ╲                                 │
╲                                   ╱                                 │
 ╲──────────────┬───────────────────╱                                │
                │                                                     │
                ▼                                                     │
  ┌──────────────────────┐                                           │
  │   Login As Author     │                                          │
  └──────────┬───────────┘                                           │
             │                                                        │
             ▼                                                        │
  ┌──────────────────────┐                                           │
  │  Author  main menu    │                                          │
  └──────────┬───────────┘                                           │
             │                                                        │
             ▼                                                        ▼
           ◄────────────────── End ◄───────────────────────────
```
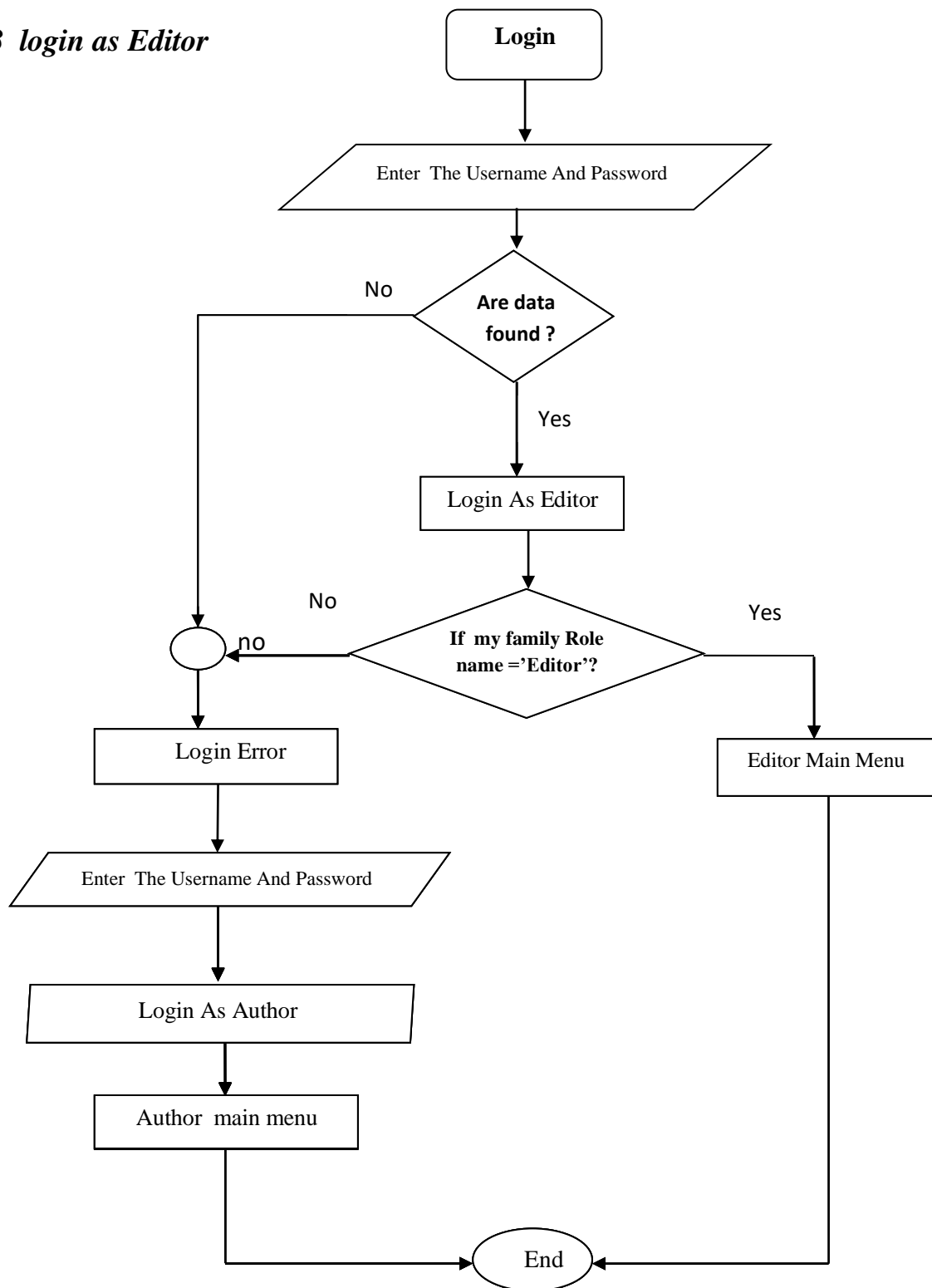
Figure 4-4 . login as Editor
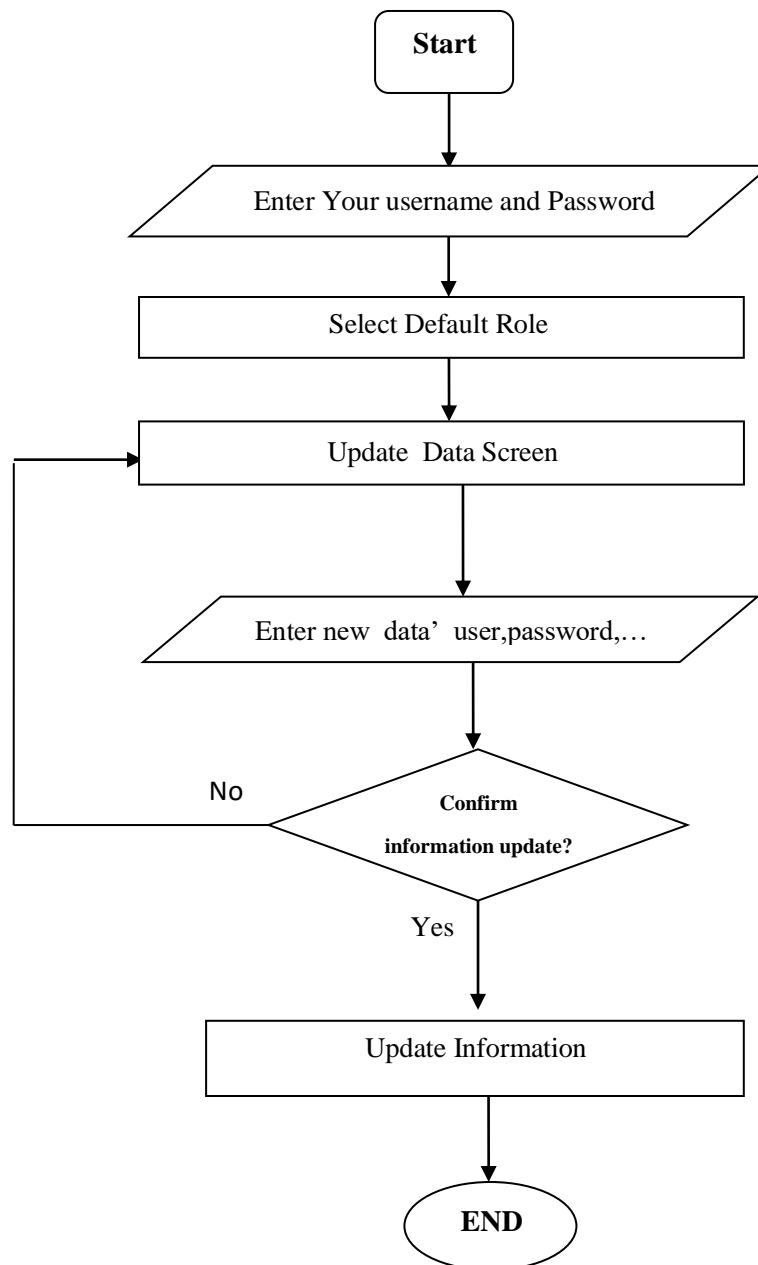
4.4.4 Update User Information

Figure 4-5 . Update user information

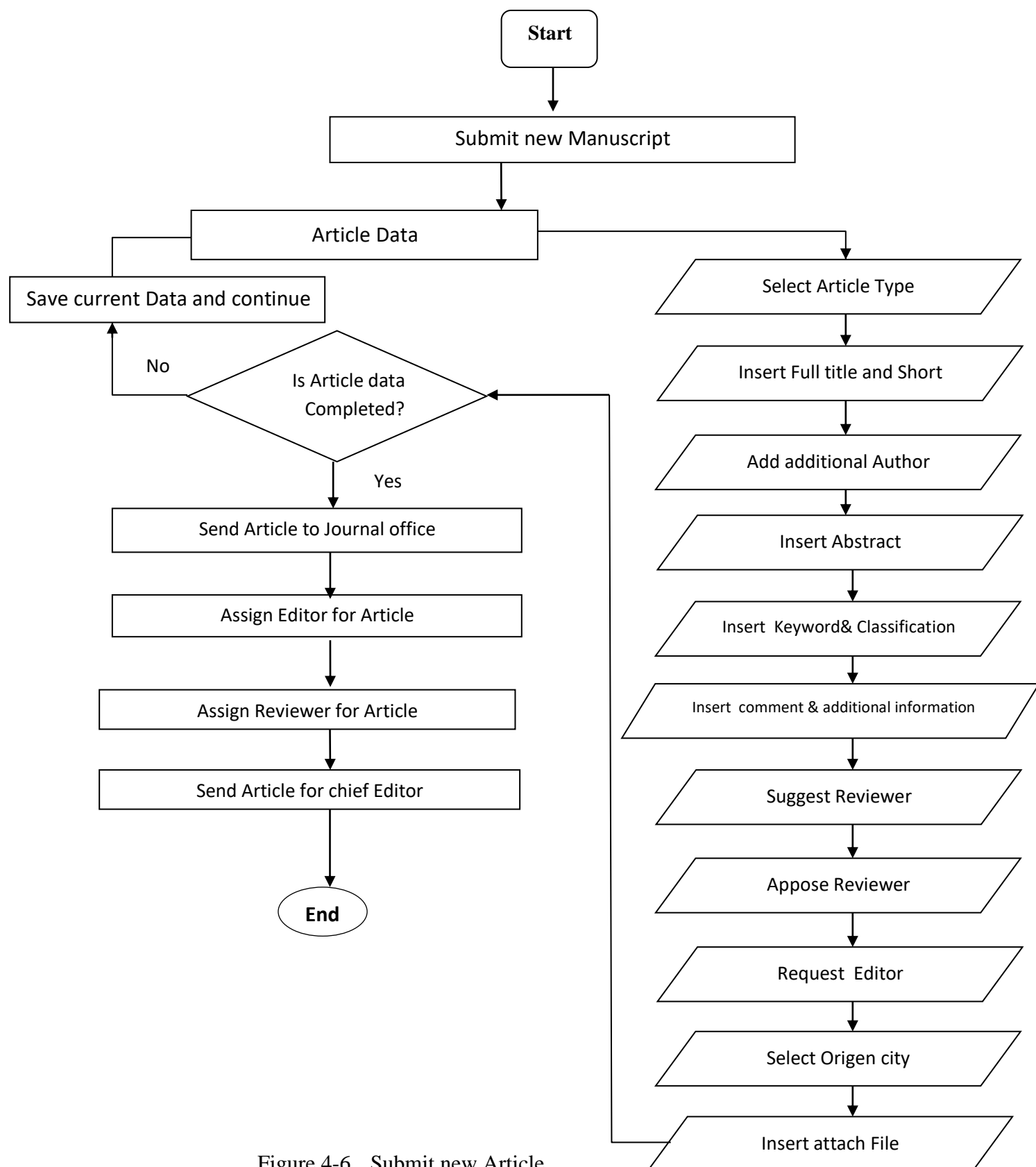## *4.4.5 New Article submission*

Figure 4-6 . Submit new Article
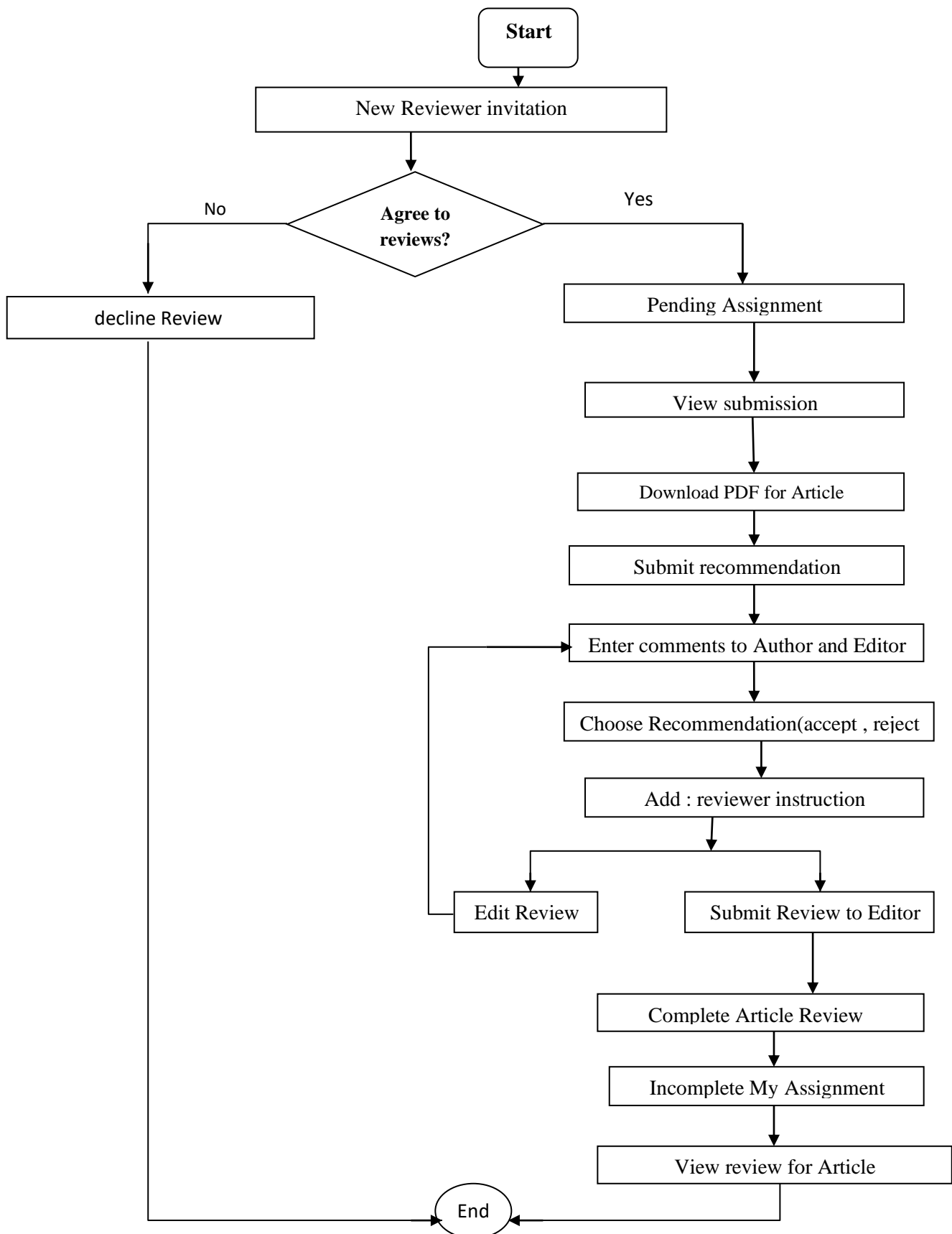
4.4.6 Reviewers report submission

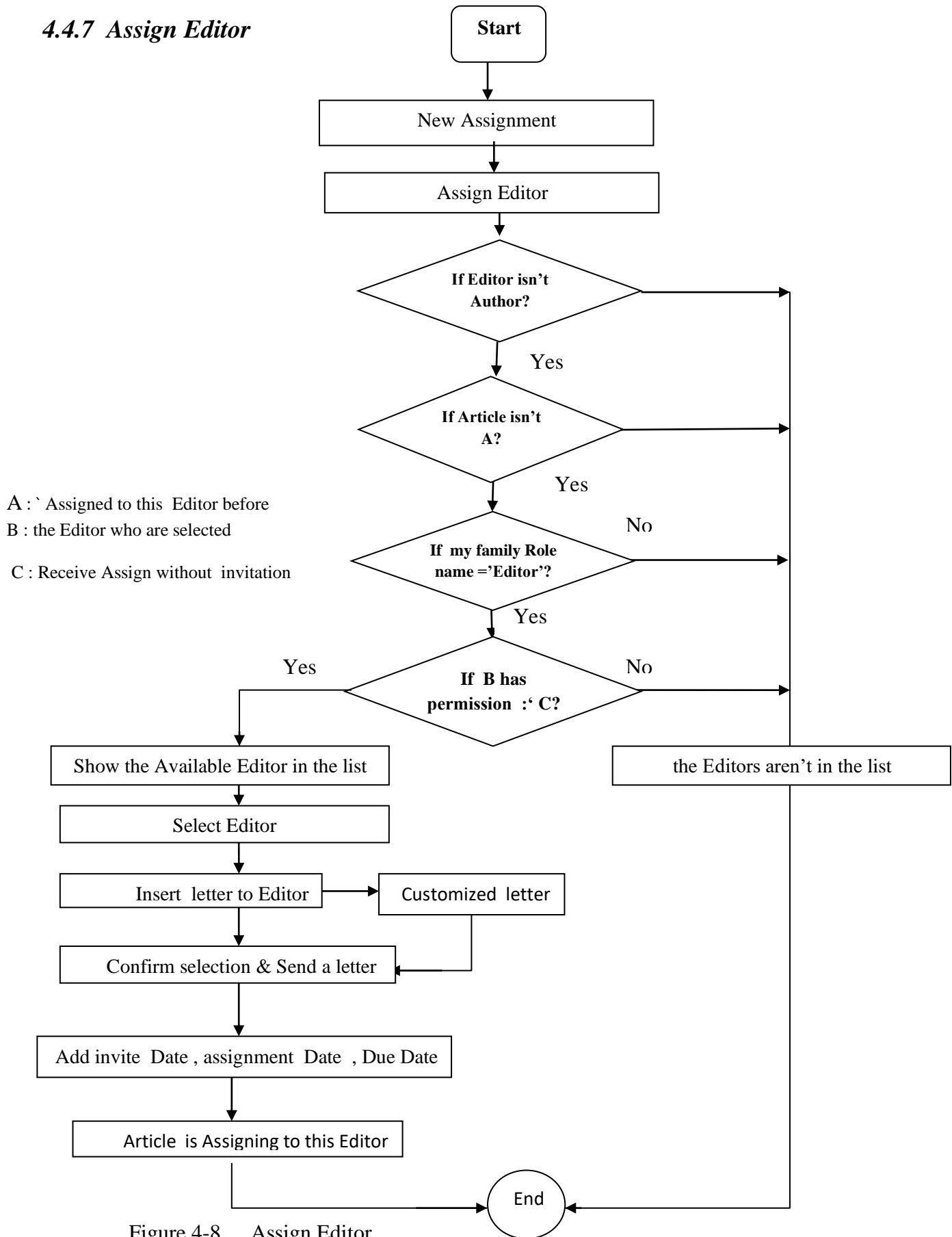Figure 4-7 . Submitting reviews from Reviewer

4.4.7 Assign Editor

Start

New Assignment

Assign Editor

If Editor isn't Author?

Yes

If Article isn't A?

Yes

A :` Assigned to this Editor before
B : the Editor who are selected

C : Receive Assign without invitation

If my family Role name ='Editor'?

No

Yes

If B has permission :' C?

Yes   No

Show the Available Editor in the list   the Editors aren't in the list

Select Editor

Insert letter to Editor → Customized letter

Confirm selection & Send a letter

Add invite Date , assignment Date , Due Date

Article is Assigning to this Editor

End

Figure 4-8 . Assign Editor

4.4.8 Invite Editor

A :` Invited before

B : Receive Assign with invitation

Figure 4-9 . Invite Editor
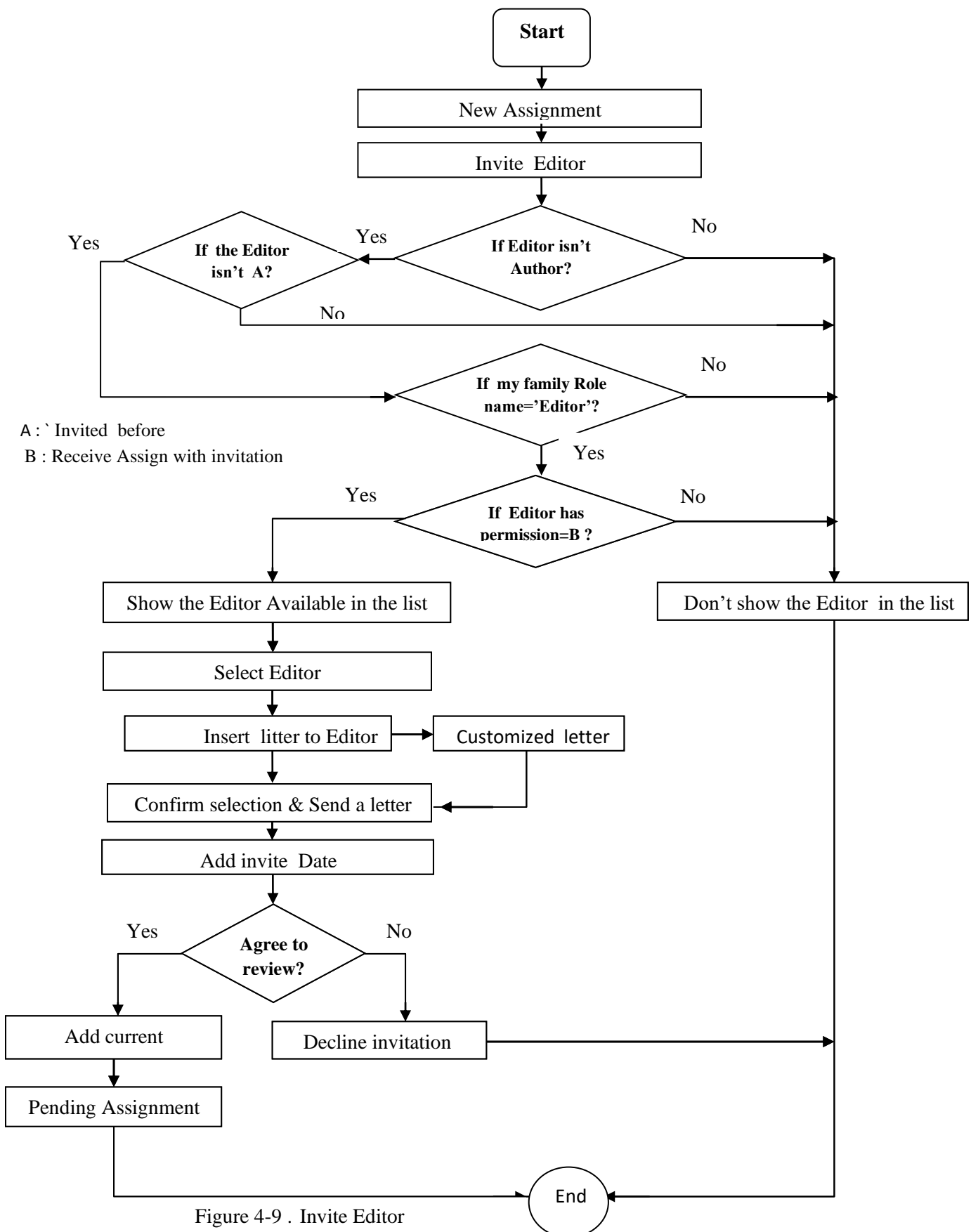
4.4. 9 Invite Reviewer
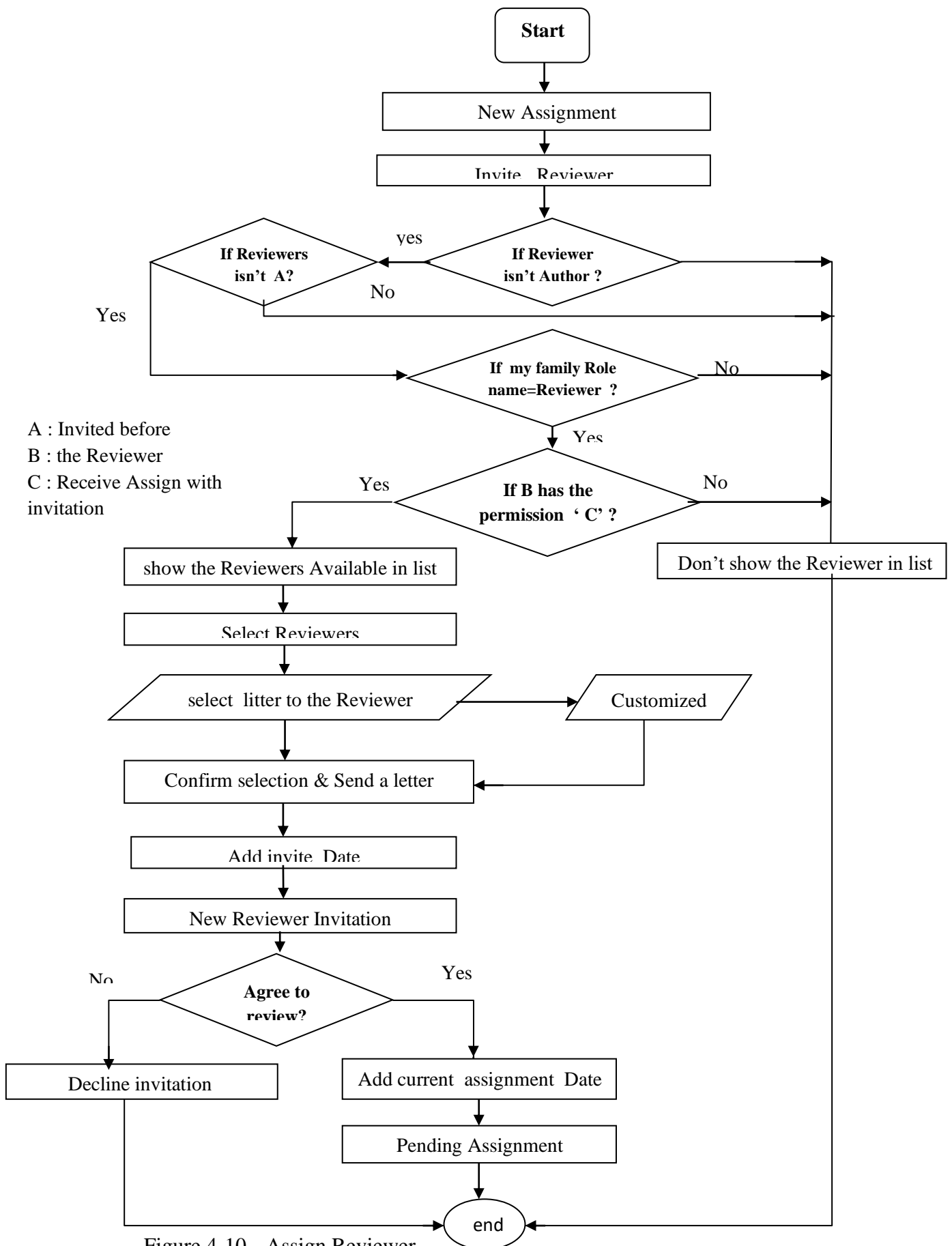
Figure 4-10 . Assign Reviewer

4.4.10 Redirect Article to other Editor

A : the Editor who are selected

B : Receive
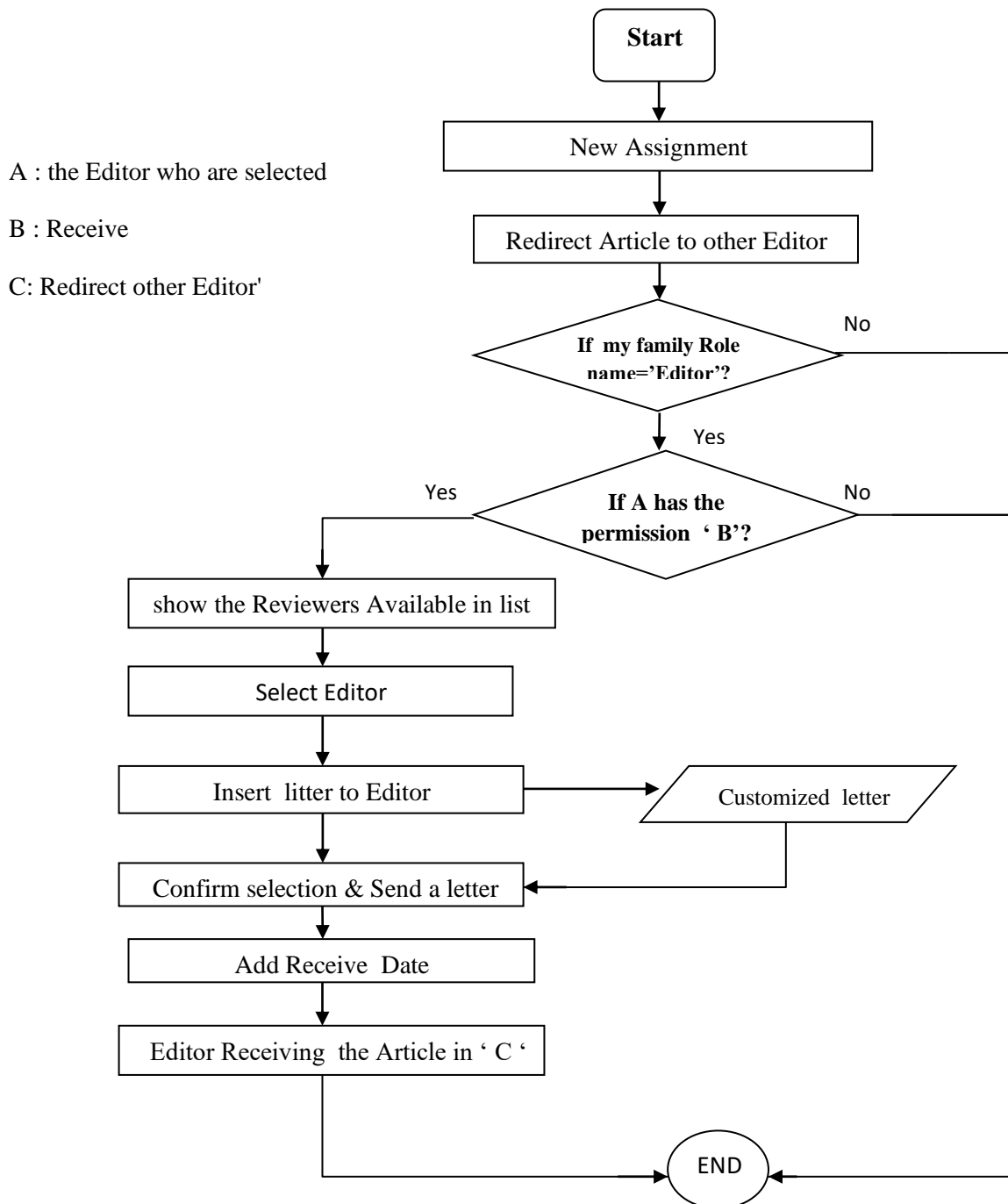
C: Redirect other Editor'

Figure -11 . Redirect Article to other Editor

4.4.11 Un-assign Editor
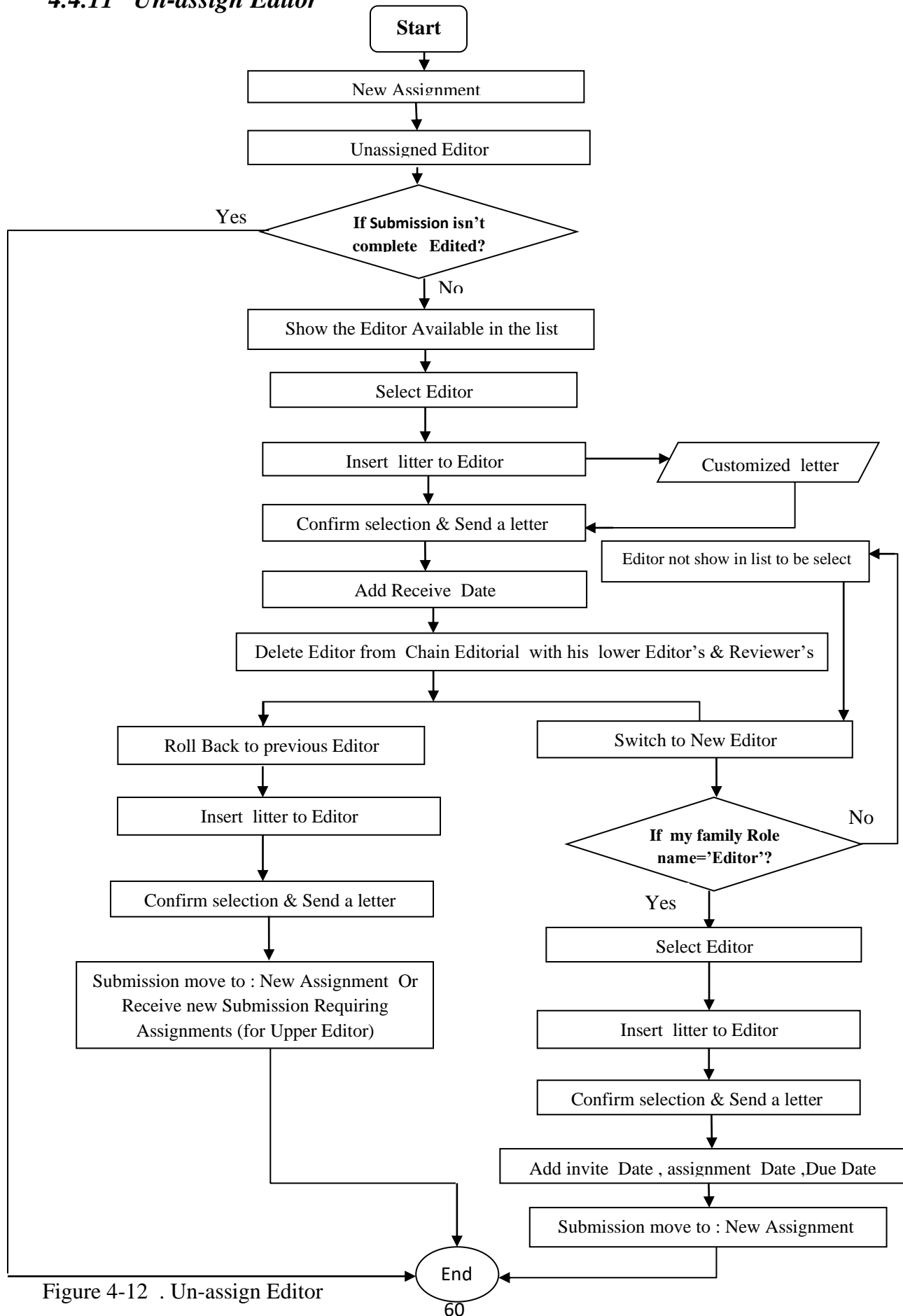
Figure 4-12 . Un-assign Editor

4.4.12 Un-assign my self

Figure 4 -13   . Un-assign my self

4.4.13 *Un assign Reviewer*

```
                          ┌─────────┐
                          │  start  │
                          └─────────┘
                               │
                               ▼
              ┌──────────────────────────────┐
              │       New Assignment         │
              └──────────────────────────────┘
                               │
                               ▼
              ┌──────────────────────────────┐
              │      Un assign Reviewer       │
              └──────────────────────────────┘
                               │
                               ▼
   No                    ╱──────────────╲
 ◄─────────────────────◄   If Reviewer isn't  ╲
                         ╲  Complete Review ?  ╱
                          ╲──────────────╱
                               │
                              Yes
                               ▼
         ┌────────────────────────────────────────────┐
         │ Show the list of Available Reviewers for Article │
         └────────────────────────────────────────────┘
                               │
                               ▼
         ┌────────────────────────────────────────┐
         │      Select Reviewers to Remove Assign    │
         └────────────────────────────────────────┘
                               │
                               ▼
         ┌──────────────────────────┐        ╱──────────────────╱
         │   Insert litter to Editor │───────►  Customized  letter /
         └──────────────────────────┘        ╱──────────────────╱
                               │                         │
                               ▼                         │
         ┌────────────────────────────────┐◄────────────┘
         │  Confirm selection & Send a letter │
         └────────────────────────────────┘
                               │
                               ▼
         ┌──────────────────────────────────┐
         │  Un assign Article From this Reviewer │
         └──────────────────────────────────┘
                               │
                               ▼
                          ┌─────────┐
                          │   End   │
                          └─────────┘
```
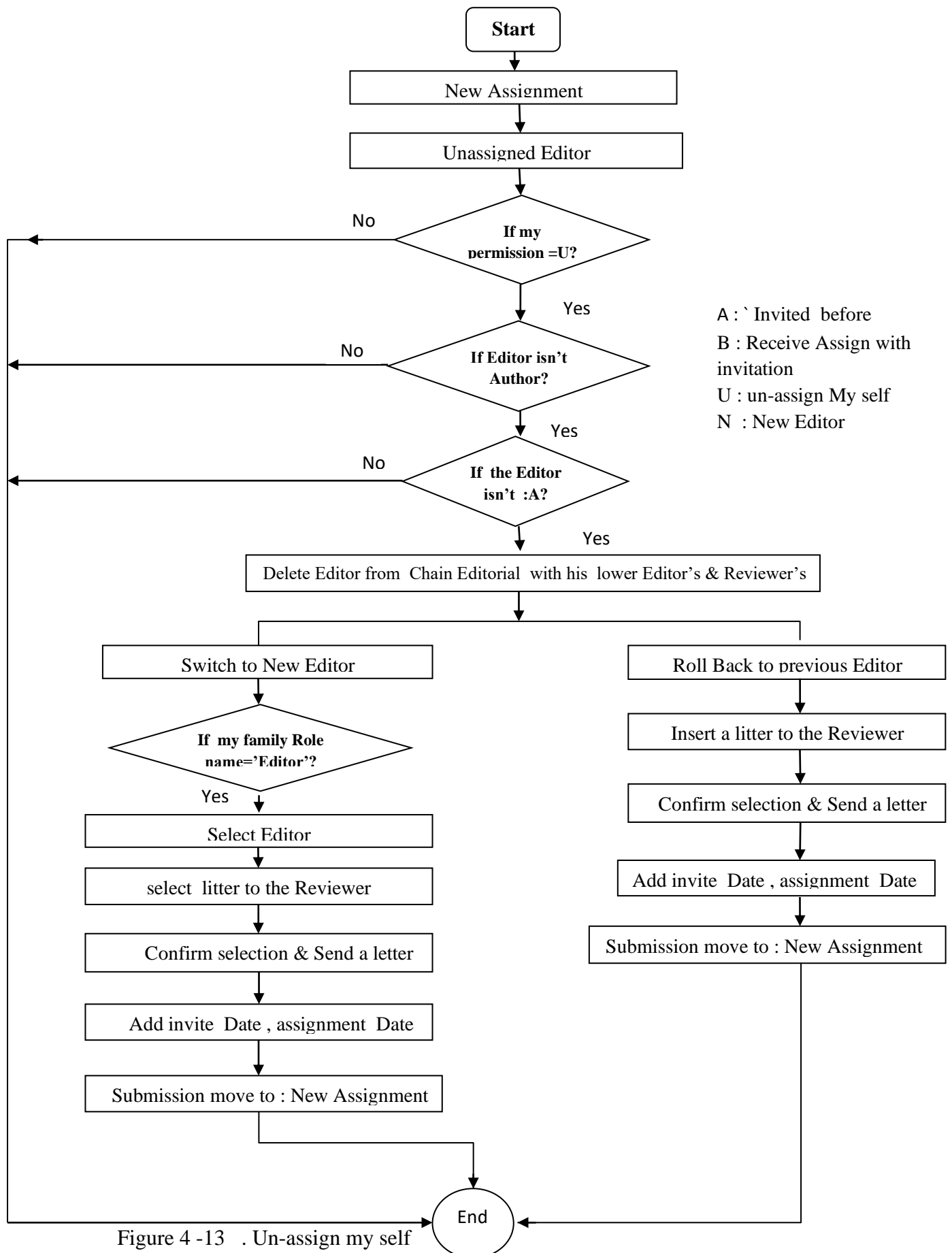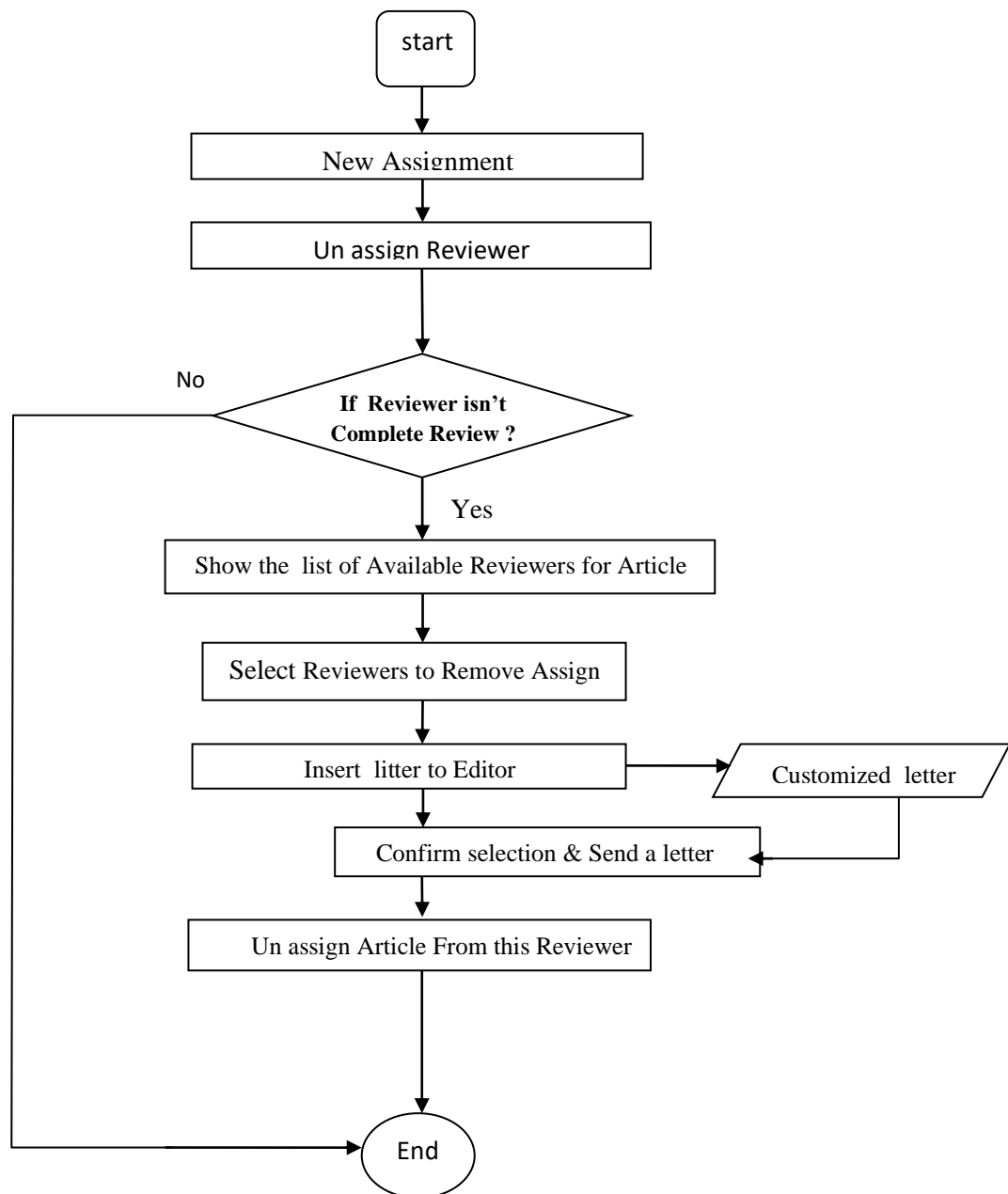
Figure 4-14 . Un-assign Reviewer
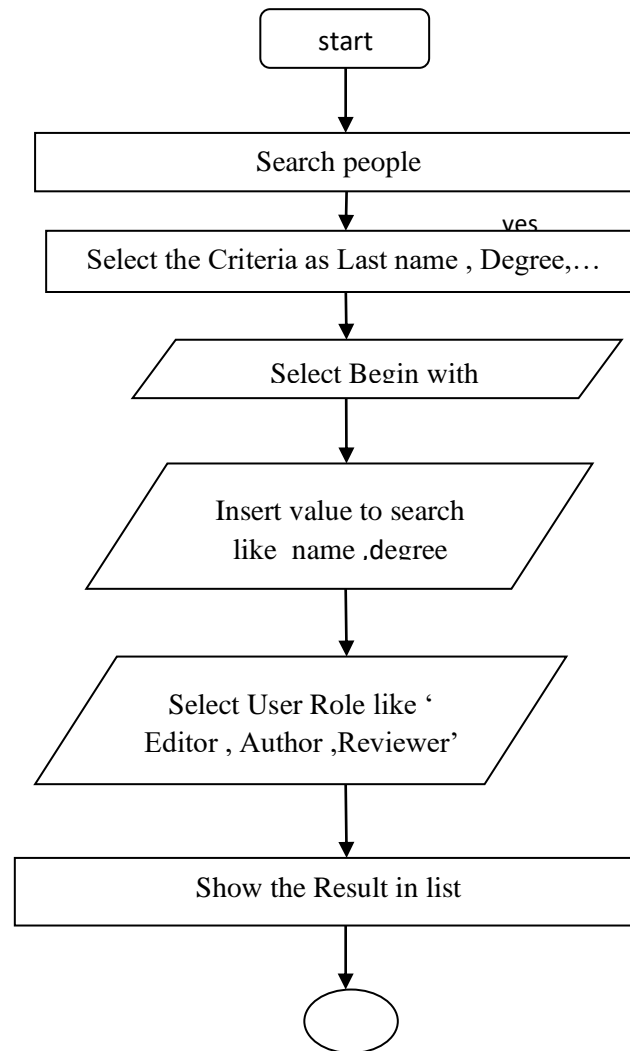
4.4.14 *Search people*

Figure 4-15 . Search people
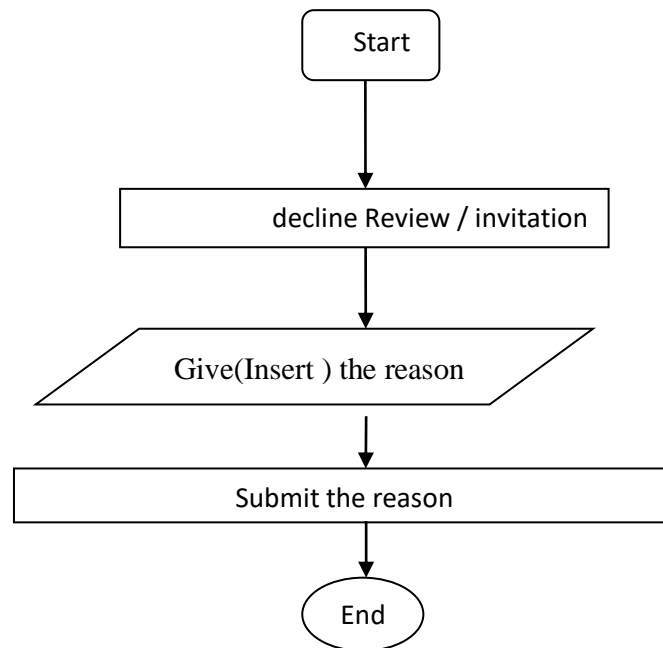
4.4.15 Decline Review / Invitation

Figure 4-16 . Decline Review / Invitation
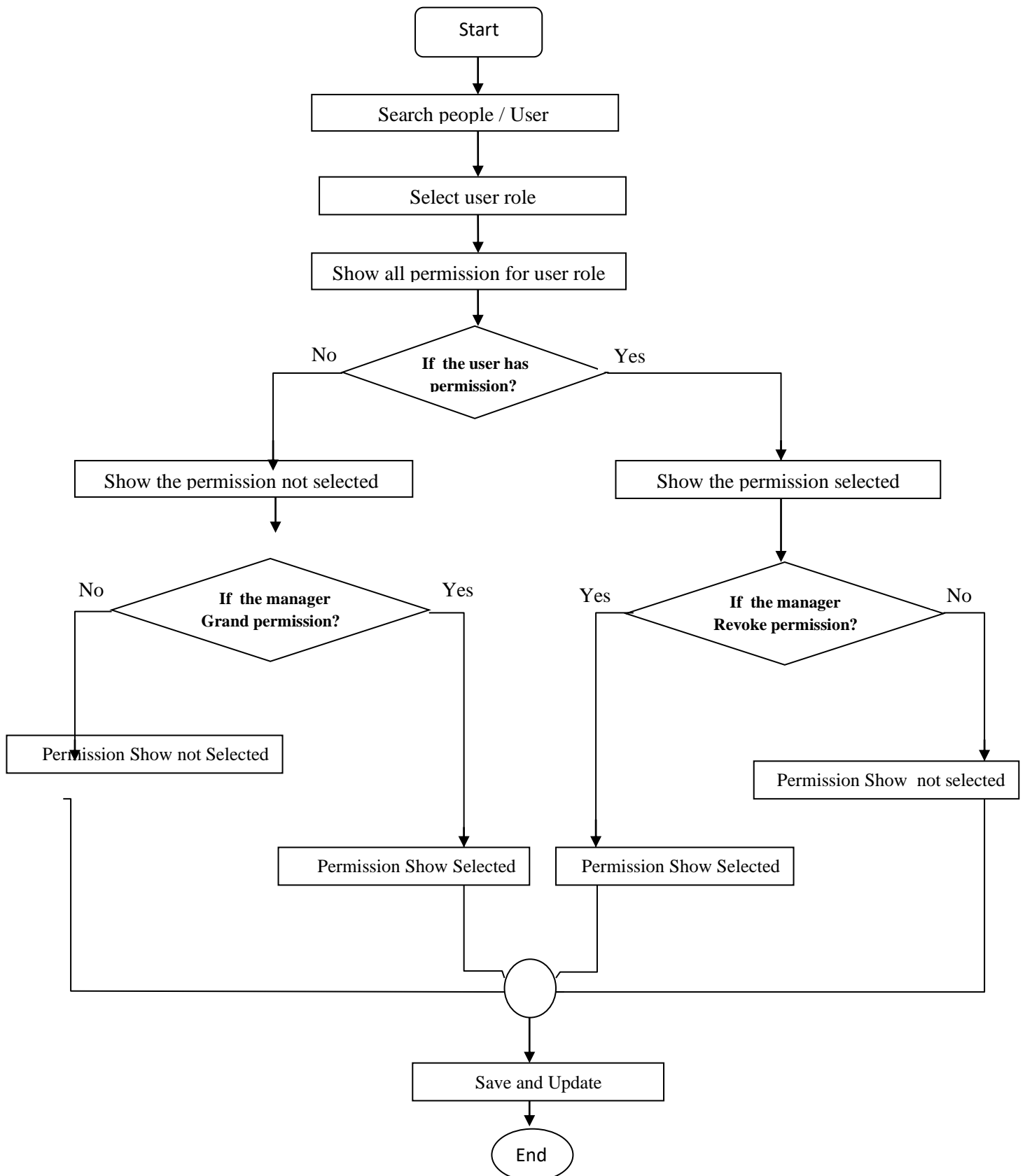
4.4.16 Permissions Management
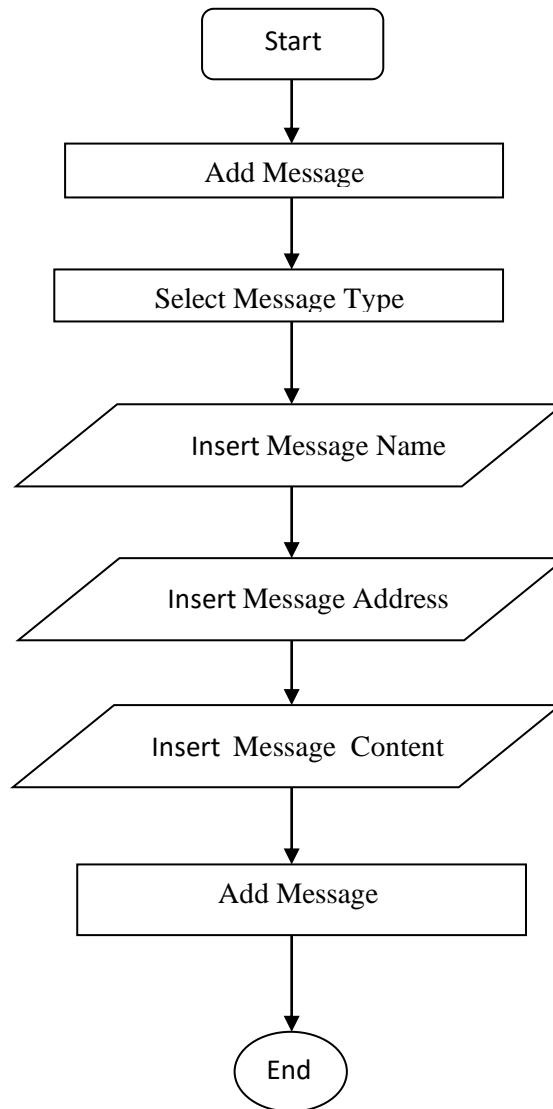

Figure 4-17 . Permissions Management

4.4.17 *Message management / Add Message*

Figure 4-18 . Add Message
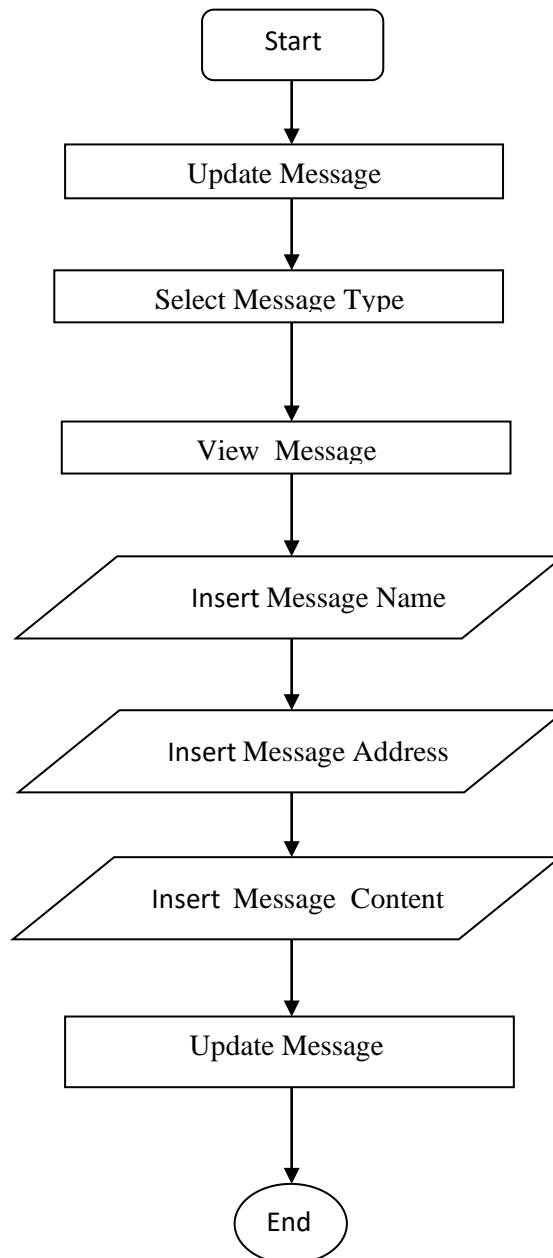
4.4.18   *Message management / Update Message*

Figure 4-19   . Update Message

4.4.19   Message management / Delete Message

```
                          ┌─────────────┐
                          │    Start    │
                          └─────────────┘
                                 │
                                 ▼
                    ┌────────────────────────┐
                    │     Delete  Message     │
                    └────────────────────────┘
                                 │
                                 ▼
                    ┌────────────────────────┐
                    │   Select Message Type   │
                    └────────────────────────┘
                                 │
                                 ▼
                    ┌────────────────────────┐
                    │     View  Message       │
                    └────────────────────────┘
                                 │
                                 ▼
                    ╱────────────────────────╱
                    ╱   Insert Message Name   ╱
                    ╱────────────────────────╱
                                 │
                                 ▼
                    ╱────────────────────────╱
                    ╱  Insert Message Address ╱
                    ╱────────────────────────╱
                                 │
                                 ▼
                    ╱────────────────────────╱
                    ╱ Insert  Message  Content╱
                    ╱────────────────────────╱
                                 │
                                 ▼
                    ┌────────────────────────┐
                    │     Update Message      │
                    └────────────────────────┘
                                 │
                                 ▼
                            ╭─────────╮
                            │   End   │
                            ╰─────────╯
```
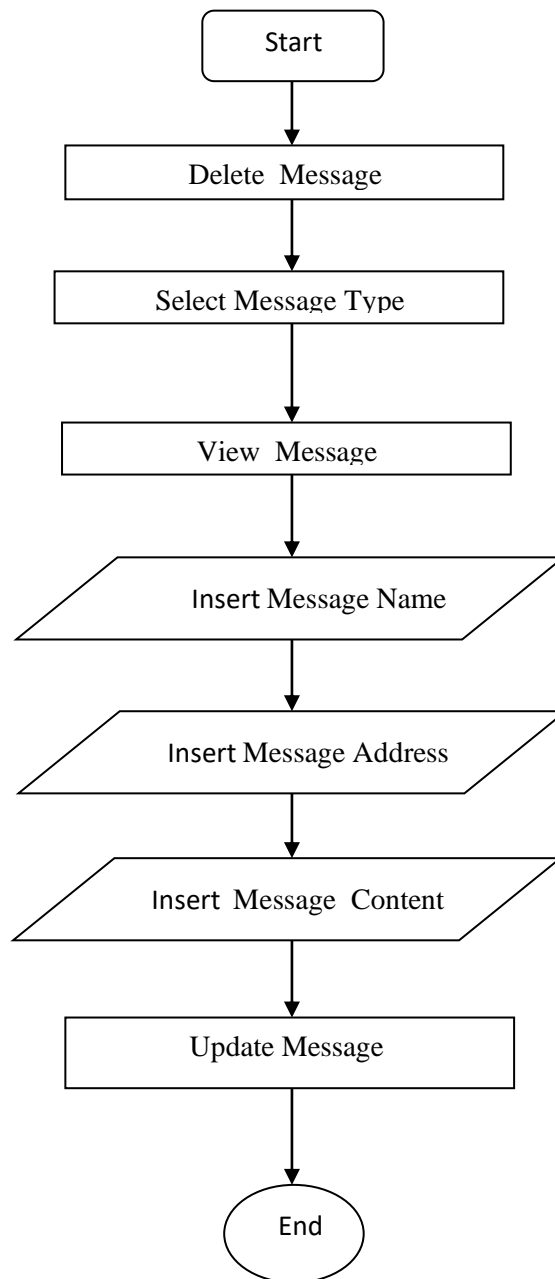
Figure 4-20 . Delete Message

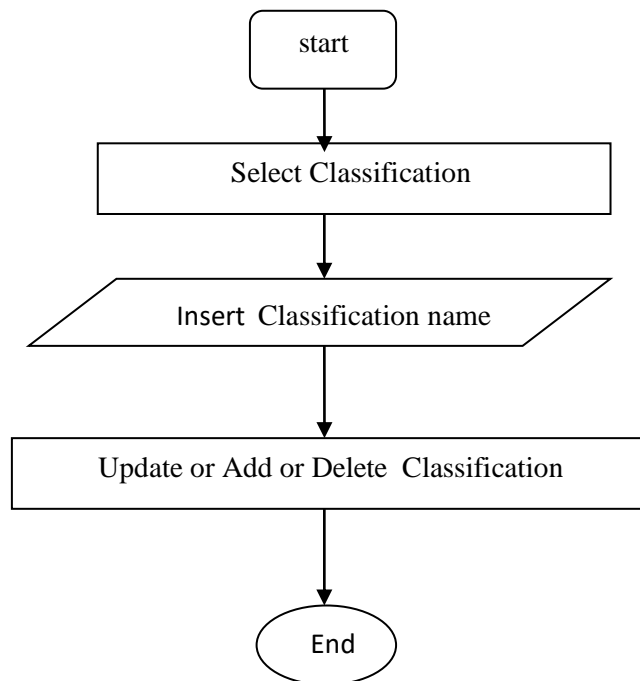### 4.4.120 Classification Management

Figure 4-21   . Classification Management

4.4.21 Article Type management

.Article Type management contains three diagram as follow :- add article type , update article type and delete article type . The inputs for article type are article type name , number of days to edit and number of days are revised . next step   add or update or delete article type after view the article in case of update or delete.

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