

Online Research Resource Database System (ORRD)

Introduction

Version 1.0

Date: January 17, 2007

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NOTE: the information here was extracted from the software's requirement document and has only been marginally reformatted. Ideally, a lot more editing needs to be done.

1. The Purpose of the Product

1a. Background of the Project Effort

There was a lack of a central source to go to for a given research area in order to find what technical written resources are available. This made keeping track of available resources very difficult. For instance, there are many papers being presented at a wide variety of conferences, papers submitted to journals, technical reports released at universities and companies, as well as masters and doctoral theses published at universities each year. We lack a resource where one can quickly locate such items, and which can announce when such items become available.

1b. Goals of the Project

The purpose is to create a community based central source for written resources (such as conference/journal papers, theses, books, technical reports) for a given research area (RA). The Online Research Resource Database application (ORRD) will provide a searchable database with a web front end to access the database and for its administration. Access to the database as well as submission of resources will be open to the entire RA community. The primary purpose of the database is to provide a comprehensive searchable source for resources for the RA; to provide accurate bibliographical information for the resources and to provide information on how to obtain a copy of the resource. The software will be released as open source.

2. Users of the Product

This section gives a list of the potential users of the product. Users are human beings who interface with the product in some way. The characteristics of the users are used to define the usability requirements for the product.

User Name	Visitor
User role	Search the database
Subject matter experience	Novice
Technological experience	Novice
Other user characteristics	Who has no signup or not logged in

User Name	General Member
User role	1. All the functions of a visitor 2. Save searches

	<ol style="list-style-type: none"> 3. Submit resource(s) 4. Edit own account (includes change password, change email address, check/uncheck for weekly email announcements for new arrivals matching the search criteria specified).
Subject matter experience	Researcher
Technological experience	Researcher
Other user characteristics	Who has signed up by setting up an account and logged in

User Name	Full Member
User role	<ol style="list-style-type: none"> 1. All the functions of a General member 2. Approve submitted resource(s) 3. Modify existing resource(s) 4. Review approved resource(s) 5. Add keyword(s) 6. Invite anyone to be a full member 7. Resign from membership 8. First page after logs in must have the number and link to the resources needed to be approved / verified.
Subject matter experience	Master
Technological experience	Master
Other user characteristics	Who has received an invitation to be a member and has accepted it and signed up.

User Name	Admin
User role	<ol style="list-style-type: none"> 1. Owner of the database 2. All the functions of a full member 3. Administration tasks 4. First page after logs in must have information for admin specific tasks that needs attending. 5. Only one account will always be present and can never be deleted or disabled.
Subject matter experience	Master
Technological experience	Master
Other user characteristics	<p>Configuration tasks: done at the system file level so out of the scope of the web application.</p> <ol style="list-style-type: none"> 1. Perform file level tasks. 2. Can instantiate new database. 3. Can initialize base web page to use new database. 4. Specify basic information to define research area such as title, introductory paragraph etc. 5. Provide essential information to make database and web interface work.

3. Naming Conventions and Definitions

This section gives the definitions of all terms, including acronyms, used in the project. Names are very important. They invoke meanings that, if carefully defined, can save hours of explanations. So this glossary contains the meanings of all names, acronyms, and abbreviations used within the requirements specification.

Person	anyone using the system
Visitor	anyone who has no signup or not logged in
General Member	who has signed up by setting up an account and logged in
Full Member	who has received an invitation to be a full member and has accepted it and signed up.
Admin	administers the database
Resource	Information including bibliographical information about written items such as book, conference paper, journal paper, masters/doctoral thesis or technical report.
Submit	a process of submitting a resource
Submitter	A person who submits a resource
Approve	a process of approving the submitted resource based on fitness for inclusion in the ORRD
Approver	A person who approves a resource
Review	a process of verifying the bibliographical information for approved resource
Verifier	A person who verifies a resource
Status of Resource	Status of the resource (Submitted, Approved, Not Approved, Verified, Rejected)
Sign up	creating an account on the system
Status of person's account	Account can be active, disabled or deleted.
Search	Search the Approved resources
List	View of the searched resources
Overrule	Overrule an approval/verification/rejection of a resource

4. List of System Events

A list showing all business events to which the work responds. Business events are happenings in the real world that affect the work. They also happen because it is time for the work to do something-for example, produce weekly reports, send warning emails, verify resources, and so on. The response to each event is called a business use case; it represents a discrete partition of work that contributes to the total functionality of the work.

Event List

No.	Event Name	Input and Output Flow
1	Search Resource	View the list of Resources (out)
2	Save Search	Search criteria saved (in)
3	Delete Search	Search criteria deleted (in)
4	Submit Resource	New Resource submitted (in)
5	Approve Resource	Resource approved (in)
6	Review Resource	Resource reviewed (in)
7	Modify Resource	Resource modified (in)
8	Delete Resource	Resource deleted (in)
9	Signup for general member	New general member added (in)
10	Signup for full member	New full member added (in)
11	Invitation to be a full member	Email sent (out)
12	Sign in to account	Signed in (in)
13	Forget password	Email sent (out)
15	Update own account	Account updated (in)
16	Resign from membership	Membership ends (in)
17	Insert and delete Keyword	Keyword inserted/deleted (in)
18	Insert and delete Language of resource	Language inserted/deleted (in)
19	Overrule status of a Resource	Resource status overrules (in)
20	Allow automatic approval of Resource	Resource approved (in)
21	Send weekly email announcement	Email sent (out)
22	Delete, disable or enable General/Full member account	Account deleted/edited (in)
23	Warning email to un-used General member accounts	Email sent (out)
24	Edit Admin email notification settings	Email sent (out)
25	View changes made to Resource	View the list of changes (out)
26	Rollback changes made to a resource	Changes rolled back (in)
27	Edit Help page	Help page edited (in)

5. Description of Tasks the system Can Perform

This section has specification for each individual functional requirement. The motivation is to specify the detailed functional requirements for the activity of the product. Each requirement has the following fields:

Requirement #: is the identifier to make it traceable throughout the development process. Here each requirement is linked with its unique event number.

Description: A one sentence statement of the intention of the requirement..

Rationale: A justification of the requirement

Originator: A person who raised this requirement

Priority: A rating of the customer value ranging from 1 to 5 where 5 is the highest.

History: The requirement from the date that it was created, through all its changes.

Requirement # : Event 1

Description: Search the resources (Approved only) by specifying the search criteria.

Rationale: To be able to view the desired resources

Originator: Visitor, General Member, Full Member, Admin

Priority: 5

History: Created 3rd May 2006

Requirement # : Event 2

Description: All the account holders can save and edit their own saved search criteria(s).

Rationale: To be able to run saved search criteria and do not have to input the same criteria every time

Originator: General Member, Full Member, Admin

Priority: 4

History: Created 3rd May 2006

Requirement # : Event 3

Description: All the account holders can delete their own saved search criteria(s).

Rationale: To be able to delete unneeded search criteria

Originator: General Member, Full Member, Admin

Priority: 4

History: Created 3rd May 2006

Requirement # : Event 4

Description: Anyone who has setup an account and logged-in, can submit a new resource to the database.

Rationale: To be able to add new resources

Originator: General Member, Full Member, Admin

Priority: 5

History: Created 3rd May 2006

Requirement # : Event 5

Description: A process of approving the newly submitted resource.

Rationale: To be able to filter spam

Originator: Full Member, Admin

Priority: 5

History: Created 3rd May 2006

Requirement # : Event 6

Description: A process of verifying the approved resource.

Rationale: To be able to review the information present in the resource to make sure resource's bibliographical information is correct

Originator: Full Member, Admin

Priority: 5

History: Created 3rd May 2006

Requirement # : Event 7

Description: Once a resource is submitted, it can only be modified or updated by a full member or Admin.

Rationale: To be able to update resources

Originator: Full Member, Admin

Priority: 5

History: Created 3rd May 2006

Requirement # : Event 8

Description: Deletion of all the spam and rejected resources.

Rationale: To be able to remove inappropriate submissions

Originator: Admin

Priority: 3

History: Created 3rd May 2006

Requirement # : Event 9

Description: Any visitor can create an account by providing a valid email address and password. An email will be sent to the supplied address to verify it is theirs. They must respond to activate the account. Now they can search, save searches and submit resources.

Rationale: To be able to signup as a general member

Originator: Visitor

Priority: 5

History: Created 3rd May 2006

Requirement # : Event 10

Description: Any invitee can create a full member account by providing a valid email address and password. If this email address is not the one to which their invite was sent, they must be sent a verification e-mail as well.

Rationale: Sign up for Full members

Originator: Visitor, General Member

Priority: 5

History: Created 3rd May 2006

Requirement # : Event 11

Description: Sending an invitation through email to anyone (including an existing General Member) to become a Full member. If recipient chooses to accept only then they become a Full member.

Rationale: Sign up for Full members

Originator: Full Member, Admin

Priority: 5

History: Created 3rd May 2006

Requirement # : Event 12

Description: Account holder can sign in to own account by providing the email address and password.

Rationale: To be able to sign in

Originator: General Member, Full Member, Admin

Priority: 3

History: Created 3rd May 2006

Requirement # : Event 13

Description: When the account holder has lost his password, by providing the correct email address, he will receive a new password through email which he should change immediately.

Rationale: To be able to sign in if the password is lost

Originator: General Member, Full Member, Admin

Priority: 3

History: Created 3rd May 2006

Requirement # : Event 15

Description: Account holder can update email address, password and/or check box to be able to receive weekly announcements. For change in email address, the new one must be verified by sending a confirmation to that address as done while signing up.

Rationale: To be able to update own account

Originator: General Member, Full Member, Admin

Priority: 3

History: Created 3rd May 2006

Requirement # : Event 16

Description: If the membership holder does not wish to be a member anymore then they can resign and their account will be deactivated permanently.

Rationale: To be able to give up own membership

Originator: General Member, Full Member

Priority: 2

History: Created 3rd May 2006

Requirement # : Event 17

Description: Insert new keywords or delete current keywords.

Rationale: To be able to maintain the keywords

Originator: Admin

Priority: 2

History: Created 3rd May 2006

Requirement # : Event 18

Description: Insert new language or delete the current supported languages.

Rationale: To be able to maintain the languages supported

Originator: Admin

Priority: 2

History: Created 19th May 2006

Requirement # : Event 19

Description: Overrule an approved/verification/rejection of a resource.

Rationale: To be able to overrule the decision on a resource

Originator: Admin

Priority: 3

History: Created 19th May 2006

Requirement # : Event 20

Description: Can toggle whether a new resource is to be automatically approved or not. By default it will be “Yes”. This means a resource in a “Submitted” status will automatically be updated to “Approved” status.

Rationale: To be able to approve resources without any human intervention

Originator: Admin

Priority: 3

History: Created 19th May 2006

Requirement # : Event 21

Description: Account holder can receive weekly announcements through email with the links of the resources of the requested keywords along with a URL that displays the corresponding search result. These e-mail alert corresponds to new resources that have been added to database that correspond to the chosen search criteria.

Rationale: To be able to receive weekly announcements through email

Originator: General Member, Full Member, Admin

Priority: 3

History: Created 3rd May 2006

Requirement # : Event 22

Description: Delete, disable or enable General member or Full member account.

Rationale: To be able to delete, disable ,enable accounts

Originator: Admin

Priority: 3

History: Created 19th May 2006

Requirement # : Event 23

Description: View all the General member account details that have not been used for a specified time and then can delete them or send them warning emails.

Rationale: To be able monitor un-used general member accounts

Originator: Admin

Priority: 1

History: Created 19th May 2006

Requirement # : Event 24

Description: Can chose to receive weekly email notifications of “Not Approved” and “Rejected” resources as well as daily email announcement of newly submitted resources. Default value will be “No”.

Rationale: To be able to receive weekly and daily email notifications

Originator: Admin

Priority: 2

History: Created 19th May 2006

Requirement # : Event 25

Description: View history of modifications of resources including who made what changes and when.

Rationale: To be able to view history of modifications

Originator: Admin

Priority: 3

History: Created 19th May 2006

Requirement # : Event25, 26

Description: Rollback changes made to a resource.

Rationale: To be able to rollback changes made to a resource

Originator: Admin

Priority: 3

History: Created 19 th May 2006
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Requirement # : Event 27

Description: Customize help page.

Rationale: To be able to customize application help page
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Originator: Admin

Priority: 3

History: Created 19 th May 2006
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6. Description of Resources

Definition of a *Resource*: any existing written research resource such as a book, conference paper, journal paper, masters/doctoral thesis or technical report. In list below, a “*” indicates mandatory information that needs to be supplied for a resource in the database.

1. Title* : title of the resource
2. Author(s)* : The name(s) of the author(s)
3. Year*
4. Summary* (300 words) : in own words
5. Type*: can be either conference paper/journal paper/book/technical report/thesis
6. Language*: language of the resource (choose from the drop down box)
7. If language is not English then: Summary in Other language* (300 words)
8. URL : WWW Universal Resource Locator that points to the resource
9. Keywords: select from the present list of keywords
10. Other keywords : user defined keywords
11. Note: extra information like “see also”...
12. Month*: not mandatory for book and thesis

For Conference Paper:

13. Conference name*
14. Place*
15. Page number(s)*

For Journal:

16. Journal name*
17. Volume No*
18. Page number(s)*
19. Issue*

For Book:

- 20. Place of Publication
- 21. Publisher*
- 22. ISBN

For Technical Report:

- 23. Type : type of a technical report---for example, ``Research Note"
- 24. Institution Name*
- 25. Institution address*
- 26. Report No*

For Thesis:

- 27. Label (Master or Doctoral)*
- 28. School Address*
- 29. Department*

7. Viewpoints and Scenarios

This section explains what sort of tasks each type of user has available. A viewpoint for a user outlines a user's choices. Scenarios refer to individual operations a user can do.

7a. Viewpoint: Full Member

Scenario 1 – Sign up

Sign up is the creation of an account on the system. It can only be done by an invitation from a full member or admin.

1. Accepting the invitation received through email by a clicking the special link present in the email
2. Following all the steps of a general member sign up OR if already have an account then status will automatically be updated from general member to member.
3. Full member email address of the member who sent the invitation to this new Full member will be saved.

Scenario 2 – Sign in – Event 12

To sign in, follow either one of the two steps:

1. Provide the correct email address and password.
2. Or do “Forget Password”

Scenario 3 – Forget Password – Event 13

1. Press “Forget Password” link present in the login page.
2. Provide the email address and password will be emailed to that email address.

Scenario 4 – Submit – Event 4

1. Sign into the user account
2. Select the Submit a new resource option.
3. Enter all the information required to save that resource

4. Press “Save” to commit changes.

Scenario 5 – Approve Resources– Event 5

1. Sign into the user account
2. Press the “Approve Resource” button. Submitted resources can be approved in the following two ways:
 - I. Manual Approval:
 - a) List the resources with the Submit status.
 - b) View the information for spam
 - c) Change the resource status to “Approved” or “Not Approved”.
 - II. Automatic Approval:
 - a) Admin has configured that the resource is to be approved automatically.
 - b) When a resource is submitted, its status will automatically be updated to “Approved”.

Scenario 6 – Review Resource– Event 6

1. Sign into the user account
2. View the resources with the “Approved” status.
3. View the information.
4. Change the resource status to “Verified” or “Rejected”
5. Press “Save” to commit changes. For a resource the submitter and the reviewer can not be the same person.

Scenario 7 – Create Search – Event 1

Creating a search includes selecting the desired search criteria and then viewing the resources falling in that criteria:

1. Approved resources can be listed by selecting the search criteria. Where as one or more of the following fields will be used to create a search/list.
 - a) Title
 - b) Submitted date
 - c) Author
 - d) Keyword
 - e) Type
 - f) Year
 - g) Summary contains
 - h) Language
 - i) Month
 - j) Journal Name
2. List will have the following information in the following format with a link provided to the full resource view with all the information present.

Author(s). "Title of the resource". Status, Year, Keywords, Type

Scenario 8 – Save Search Criteria – Event 2

1. Sign into the user account.
2. Enter a search criteria.
3. Name the search criteria by entering a name.
4. Press “Save Search Criteria”. Multiple search criteria can be saved.

Scenario 9 – Delete Search Criteria – Event 3

1. Sign into the user account
2. Check the checkbox present in front of the search criteria to delete.
3. Press “Delete Search Criteria”. All the search criteria can be deleted.

Scenario 10 – Update Own Account – Event 15

1. Sign into the user account.
2. Press “Update Account”. Can change the following information:
 - a) Password
 - b) Email address
 - c) Check box to configure to receive weekly email notification for new arrivals matching the search criteria specified. The email will have maximum 20 items with title and the Author’s name and a URL link where they can view all the items.
3. Press “Save” to commit changes.

Scenario 11 – Modify Resource – Event 7

1. Sign into the user account.
2. Resources with the following status can be modified by changing any information:
 - a. Approved
 - b. Not Approved
 - c. Verified
 - d. Rejected
3. After modifying the resource, press “Save”. It will change the current status of that resource to “Approved”. And now it needs verification. The verifier and the approver of a resource must not be the same person.

Scenario 12 – Resign from membership

1. Sign into the user account.
2. Press the “Update Account” button.
3. Click the “Resign” button. It will ask for confirmation and if press ‘yes’ then account status will change to “Resigned”.

Scenario 13 – Sending Full Member invitation emails: Event 11

1. Sign into the user account.
2. Press the “Manage Accounts” button in the Admin options
3. Press the “Send Full Member Invitation” button.
4. Provide an email address and press “Send”.
5. Email will be sent automatically to all the entered email address.

7b. Viewpoint: General Member

Scenario 1 – Sign up

Sign up is the creation of an account on the system:

1. Open the application and press “Sign in new member”
2. Providing an email address

3. Choosing and verifying password
4. Press “Create Account”.
5. Responding to the email received in the provided email address to verify the email address. Confirm it by clicking on the link provided in that email.
6. A new general member account is successfully created.

Scenario 2 – Sign in – same as Viewpoint: Full – Scenario 2

Scenario 3 – Forget Password – same as Viewpoint: Full – Scenario 3

Scenario 4 – Submit – same as Viewpoint: Full – Scenario 4

Scenario 5 – Create Search – same as Viewpoint: Full – Scenario 7

Scenario 6 – Save Search Criteria – same as Viewpoint: Full – Scenario 8

Scenario 7 – Delete Search Criteria – same as Viewpoint: Full – Scenario 9

Scenario 8 – Update Own Account – same as Viewpoint: Full – Scenario 10

7c. Viewpoint: Visitor

Scenario 1 – Create Search – same as Viewpoint: Full – Scenario 7