

RnD Grant Management Portal

Team: Y2

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Mentor: Dr. Puneet Goyal
Department of Computer Science and Engineering
IIT Ropar

<https://github.com/Ayushverma37/DEP>

<https://wonderful-youtiao-7246a1.netlify.app>

Short Summary



Designed a web based application to fulfill the purpose of automated research grant management. Necessary functions such as the generation of summary , commenting on problematic rows, searching etc. were implemented to reduce the human effort involved and to provide a smooth user experience.

Techstack/Technologies used



FRONT END:

- ❑ REACT JS
- ❑ REACT BOOTSTRAP
- ❑ MATERIAL UI
- ❑ SHEET JS

DATABASE:

- ❑ PostgresSQL

BACK END:

- ❑ NODE JS
- ❑ EXPRESS
- ❑ Google oAuth


DEPLOYMENT:

- ❑ Netlify
- ❑ Heroku

Features



- ❑ Backend API routes are secured using JWT so as to prevent unauthorised API calls to the backend server.
- ❑ Supports secured **Google oAuth2** based login.
- ❑ Authorisation of users as professors or Admins.
- ❑ Searching capabilities on project lists by different attributes to reduce the manual efforts.
- ❑ Automated summary table generation and updation dynamically.
- ❑ CRUD operation support on expense rows.
- ❑ Commenting feature for each row of all the tables with **email** based **notification**.
- ❑ Appropriate checks are imposed so as to avoid erroneous inputs(such as expenditure exceeding the sanctioned amount,DOS exceeding DOC)

- 
- ❑ Implemented functionalities to incorporate the conversion of committed expenses to possibly different actual expenses.
 - ❑ **Exporting** the contents of expenditure and summary table as an **excel file**.
 - ❑ **Importing** the contents of the funds from an **excel file**.
 - ❑ Division of funds and expenses into 2 major heads of Recurring and
 - ❑ Non-Recurring with focus on different subheads as well.
 - ❑ The total balance of a project may temporarily be negative as long
 - ❑ as the expenditure does not exceed the sanctioned amount.
 - ❑ Database design implemented keeping efficiency of **CRUD operation** in mind (For ex : A separate table for each professor's projects) .

Home Page and Login



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of Technology, Ropar

Frontend/src/components/Home.js

Welcome To

RnD Grant Management Portal

LOGIN

Frontend/src/Login.js

Dashboard



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Welcome AYUSH

2019csb1147@iitrpr.ac.in

- Dashboard
- Manage Users
- Logout

Search

Search By

SEARCH

FETCH ALL PROJECTS

ADD NEW PROJECT

Frontend/src/components/
sidebar.js

Frontend/src/components/
Dashboard.js

List of Projects



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Backend/components/listOfProjects.js

Backend/components/createProject.js



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Search

Search By

SEARCH

FETCH ALL PROJECTS

ADD NEW PROJECT

Export Project List Table to Excel Sheet

ID	PI	Co-PI	Dept	Funding Agency	Title	Sanctioned order no.	Sanctioned date	Total Project Cost	Duration	Year Sanctioned	DOS	DOC	View Project	Delete Project
3	Dr. Puneet	-	CSE	IIT Ropar	DEP2	125	2022-05-03	100000	1 yr	2020	2020-05-17	2021-05-17		
2	Dr. Rajeev Ahuja	-	Material Science	IIT Ropar	DEP Eval	103	2022-05-17	100000	2 yr	2022	2022-05-17	2024-05-17		
1	Vishawam	-	CSE	IIT Ropar	DEP1	101	2022-05-09	90000	2 yrs	2020	2020-05-09	2022-05-17		

Frontend/src/components/ProjectsTable.js

Search Projects



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Backend/components/
specific
Project.js



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Dashboard



Manage Users



Logout

Search By

Search

ID
Title
Name of PI
Department
Year
Funding Agency

SEARCH

FETCH ALL PROJECTS

ADD NEW PROJECT

Manage Users



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- Dashboard
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- Logout

Email Address

Name

Role (Admin/Professor)

ADD NEW USER

Backend/components/addUser.js

Name	Email	Role	Remove
Ayush	2019csb1147@iitrpr.ac.in	Admin	
Anshu Kumar	2019csb1074@iitrpr.ac.in	Admin	
Vishawam Datta	2019csb1305@iitrpr.ac.in	Admin	
Dr. Rajeev Ahuja	iashverm@gmail.com	Professor	
Dr. Puneet	vishawamd94@gmail.com	Professor	

Backend/components/getUser.js

Frontend/src/components/manageuser.js

Remove User



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Dashboard



Manage Users



Logout

Email Address

Name

Role (Admin/Professor)

ADD NEW USER

Name	Email	Role
Ayush		Admin
Anshu Kumar		Admin
Vishawam Datta		Admin
Dr. Rajeev Ahuja	iashverm@gmail.com	Professor
	vishawamd94@gmail.com	Professor

Are you sure you want to remove the user ?

YES

NO

Backend/components/delUser.js

Frontend/src/components/RemoveUserPop
up.js


Add New Project Popup



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 Manage Users

 Logout



Indian Institute

Project Id

4

Email-id of collaborators

iasverm@gmail.com

Name of PI

Ayush Verma

Name of Co-PI

-

Department

CSE

Funding Agency

IIT Ropar

Project Title

DEP

Sanctioned order number

123

Sanctioned Date



Frontend/src/components/AddProjectPopup.js

Delete Project



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- Dashboard
- Manage Users
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Search

Search By

SEARCH

FETCH ALL PROJECTS

ADD NEW PROJECT

Export Project List Table to Excel Sheet

ID	PI	Co-PI	Dept	Funding Agency	Title	Sanctioned order no.	Sanctioned date	Total Project Cost	Duration	Year Sanctioned	DOS	DOC	View Project	Delete Project
3	Dr. Puneet	-	CSE	IIT Ropar	DEP2	125	2022-05-03	100000	1 yr	2020	2020-05-17	2021-05-17	+	🗑
2	Dr. Rajeev Ahuja	-	Material Science	IIT Ropar	DEP Eval	103	2022-05-17	100000	2 yr	2022	2022-05-17	2024-05-17	+	🗑
1	Vishawam	-	CSE	IIT Ropar	DEP1	101	2022-05-09	90000	2 yrs	2020	2020-05-09	2022-05-17	+	🗑

Backend/components/delProject.js

Project Main Page



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- Dashboard
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Project Id: 3 Project Title: DEP2 PI Name: Dr. Puneet Total Cost: ₹100000

Statement of Expenditure

ADD NEW EXPENSE ADD FUNDS IMPORT EXCEL REFRESH TABLE

Export Expense Table to Excel Sheet

Frontend/src/compon
ents/SOE.js

Project ID: 3, Project Title: DEP2, PI Name: Dr. Puneet, Total Cost: INR 100000									
Sr. No.	Particulars	Remarks	Voucher No. & Date	Receipt	Payment	Balance	Heads	Comment	Actual Expense
1	P1	None	16.05.2022	₹4000		₹4000	Grant	+	
2	p2	None	16.05.2022		₹50	₹3950	Travel	+	
3	p3	None	17.05.2022		₹150	₹3800	Field Testing/Demo/Tranings	+	
4	p4	-	18.05.2022		₹50	₹3750	Manpower	+	
5	-	-	-		₹14000	₹-10250	Equipments	+	

Statement Of expenditure Table



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Dashboard



Manage Users



Logout

Project Id: 3

Project Title: DEP2

PI Name: Dr. Puneet

Frontend/src/compon
ents/SOE_Table.js

Statement of Expenditure

ADD NEW EXPENSE

ADD FUNDS

IMPORT EXCEL

REFRESH TABLE

Export Expense Table to Excel Sheet

Project ID: 3, Project Title: DEP2, PI Name: Dr. Puneet, Total Cost: INR 100000									
Sr. No.	Particulars	Remarks	Voucher No. & Date	Receipt	Payment	Balance	Heads	Commer	
1	P1	None	16.05.2022	₹4000		₹4000	Grant		
2	p2	None	16.05.2022		₹50	₹3950	Travel		
3	p3	None	17.05.2022		₹150	₹3800	Field Testing/Demo/Tranings		
4	p4	-	18.05.2022		₹50	₹3750	Manpower		
5	-	-	-		₹14000	₹-10250	Equipments		

Backend/component
s/getMainTable.js

Importing and Exporting Excel



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Dashboard

Manage Users

Logout

Project Id: 3

Project Title: DEP2

PI Name: Dr. Puneet

Total Cost: ₹100000

Statement of Expenditure

ADD NEW EXPENSE

ADD FUNDS

IMPORT EXCEL

REFRESH TABLE

Export Expense Table to Excel Sheet

Frontend/src/components/SOE_Table.js

Project ID: 3, Project Title: DEP2, PI Name: Dr. Puneet, Total Cost: INR 100000									
Sr. No.	Particulars	Remarks	Voucher No. & Date	Receipt No.	Amount	Category	Comment	Actual Expense	
1	P1	None	16.05.2022	₹4000	₹4000	Grant	+		
2	p2	None	16.05.2022	₹50	₹3950	Travel	+		
3	p3	None	17.05.2022	₹150	₹3800	Field Testing/Demo/Tranings	+		
4	p4	-	18.05.2022	₹50	₹3750	Manpower	+		

Summary Table

Summary Table

Frontend/src/components/SOE_Table.js

Summary Table

Export Summary Table to Excel Sheet

Project ID: 3, Project Title: DEP2, PI Name: Dr. Puneet, Total Cost: INR 100000										
Sr. No.	Heads	Sanctioned Amount	Funds 1YR	Funds 2YR	Funds 3YR	Expenditure	Balance	Comment		
1	Rec.	₹80000	₹3000	₹0	₹0	₹250	₹2750		+	
2	Non-Rec.	₹20000	₹1000	₹0	₹0	₹14000	₹-13000		+	
3	Manpower	₹20000	₹0	₹0	₹0	₹50	₹0		+	
4	Consumables	₹10000	₹0	₹0	₹0	₹0	₹0		+	
5	Travel	₹10000	₹0	₹0	₹0	₹50	₹0		+	
6	Field Testing/Demo/Tranings	₹10000	₹0	₹0	₹0	₹150	₹0		+	
7	Overheads	₹10000	₹0	₹0	₹0	₹0	₹0		+	
8	Unforseen Expenses	₹10000	₹0	₹0	₹0	₹0	₹0		+	
9	Equipments	₹15000	₹0	₹0	₹0	₹14000	₹0		+	
10	Construction	₹5000	₹0	₹0	₹0	₹0	₹0		+	
11	Fabrication	₹10000	₹0	₹0	₹0	₹0	₹0		+	

Backend/component s/getSummary.js



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Dashboard

Manage Users

Logout

Add New Expense Popup




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Project Id: 3

Project Title: DEP2

PI Name: Dr. Puneet

Total Cost: ₹100000

Particulars

P1

Remarks

None

Voucher No. and Date

18.05.2022

Payment

100

Category

Recurring

Heads

Manpower

Commit Type

Committed

ADD

Frontend/src/components/SOE_Table.js

Backend/component s/insertMainTable.js

						Actual Expense		
4	p4	-	18.05.2022	₹50	₹3750	+		
5	-	-	-	₹14000	₹-10250	+		

Add Funds Popup



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Dashboard



Manage Users



Logout

Project Id: 3

Project Title: DEP2

PI Name: Dr. Puneet

Total Cost: ₹100000

Particulars

P5

Remarks

None

Voucher No. and Date

18.05.2022

Enter the Amount under the following categories/Heads :

Recurring

150

Non-recurring

100

ADD FUNDS



Frontend/src/components/SOE_Table.js

Backend/component
s/updatedAddFund.js

4

p4

-

18.05.2022

₹50

₹3750

5

-

-

-

₹14000

₹-10250

Actual Expense



Comment Popup on Expenditure Table



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Logout

Project Id: 3

Project Title: DEP2

PI Name: Dr. Puneet

Total Cost: ₹100000

Statement of Expenditure

Export Expense Table to Excel

Comment

test comment

Frontend/src/components/SOE_Table.js

SEND >

Backend/components/addComment.js

Sr. No.	Particulars	Remarks	Date	Estimated	Actual		Comment	Actual Expense
1	P1	None						
2	p2	None	10.05.2022	₹100	₹100			
3	p3	None	17.05.2022	₹150	₹3800			
4	p4	-	18.05.2022	₹50	₹3750			
5	-	-	-	₹14000	₹-10250	Equipments		

View Comment Popup on expenditure Table



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Logout

Project ID: 3, Project Title: DEP2, PI Name: Dr. Puneet, Total Cost: INR 100000

Sr. No.	Particulars	Remarks	Voucher No. & Date	Receipt	Payment	Balance	Heads	Comment	Actual Expense
1	P1	None	16.05.2022	₹4000		₹4000			
2	p2	None	16.05.2022		₹50	₹3950			

Frontend/src/components/SOE_Table.js

Author	Comment	Comment Date/Time
vishawamd94@gmail.com	test comment final	5/17/2022 9:39:13 PM
vishawamd94@gmail.com	as;ldkfjsdaf asdf asdf as dfas df sadf sf saf asdfsadf ads	5/17/2022 11:42:08 AM
vishawamd94@gmail.com	acaxax	5/17/2022 11:41:00 AM
vishawamd94@gmail.com		5:42 AM

Backend/component s/getComment.js

Sr. No.	Heads	Sanctioned Amount	Funds TYR	Funds	Actual Expense	Comment
1	Rec.	₹80000	₹3000	₹0	₹2750	
2	Non-Rec.	₹20000	₹1000	₹0	₹0	₹1000
3	Manpower	₹20000	₹0	₹0	₹0	₹50

Committed to actual expense



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Project Id: 2

Project Title: DEP Eval

PI Name: Dr. Rajeev Ahuja

Total Cost: ₹100000

Statement of Expenditure

ADD NEW EXPENSE

ADD FUNDS

IMPORT

Frontend/src/components/SOE_Table.js

Export Expense Table to Excel

New Expense

120

UPDATE >

Backend/component
s/atoActual.js

Total Cost: INR 100000					
Sr. No.	Particulars	Remarks	Date	Amount	Actual Expense
1	p1	N			
2	p2	None	17.05.2022	₹150	₹200
3	p3	None	18.05.2022	₹50	₹2800

Summary Table

Export Summary Table to Excel Sheet

Comment Popup on Summary Table



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Dashboard

Manage Users

Logout

Export Summary Table to Excel Sheet

Summary Table

Project ID: 3, Project Title: DEP2, PI Name: Dr. Puneet

Sr. No.	Heads	Sanctioned Amount	Funds 1YR	Funds 2YR	Funds 3YR	Funds 4YR	Funds 5YR	Funds 6YR	Funds 7YR	Funds 8YR	Funds 9YR	Funds 10YR	Comment
1	Rec.												
2	Non-Rec.												
3	Manpower												
4	Consumables												
5	Travel												
6	Field Testing/Demo/Tranings	₹10000	₹0	₹0									
7	Overheads	₹10000	₹0	₹0									
8	Unforeseen Expenses	₹10000	₹0	₹0	₹0	₹0	₹0	₹0	₹0	₹0	₹0	₹0	
9	Equipments	₹15000	₹0	₹0	₹0	₹0	₹0	₹0	₹0	₹0	₹0	₹0	

Comment

test comment 2

SEND

Frontend/src/components/SOE_Table.js

Backend/components/addSummaryComment.js


View Comment Popup on Summary Table



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 Dashboard

 **Manage Users** Logout

Project ID: 3, Project Title: DEP2, PI Name: Dr. Puneet, Total Cost: INR 100000										
Sr. No.	Particulars	Remarks	Voucher No. & Date	Receipt	Payment	Balance	Heads	Comment		Actual Expense
1	P1	None	16.05.2022	₹4000		₹4000	Grant		+	
2	p2	None	16.05.2022		₹50	₹3950	Travel		+	
3	p3	None	17.05.2022		₹150	₹3800	Field			

Frontend/src/components/SOE_Table.js

Author	Comment	Date/Time
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[Export Summary Table to Excel Sheet](#)

Project ID: 3, Project Title: DEP2, PI Name: Dr. [REDACTED]										
Sr. No.	Heads	Sanctioned Amount	Funds 1YR	Funds 2YR	Funds 3YR	Expenditure	Balance	Comment		
1	Rec.	₹80000	₹3000	₹0	₹0	₹250	₹2750		+	
2	Non-Rec.	₹20000	₹1000	₹0	₹0	₹0	₹1000		+	
3	Manpower	₹20000	₹0	₹0	₹0	₹50	₹0		+	

Edit Sanctioned Amount

Export Summary Table to Excel Sheet



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Dashboard

Manage Users

Logout

Project ID: 3, Project Title: DEP2, PI Name: Dr. Puneet, Total Cost: INR 100000

Sr. No.	Heads	Sanctioned Amount	Funds 1YR	Funds 2YR	Funds 3YR	Expenditure	Balance	Com
1	Rec.	₹80000	₹3000	₹0	₹0	₹250	₹2750	
2	Non-Rec.	₹20000	₹1000	₹0	₹0	₹0	₹1000	
3	Manpower						₹0	
4	Consumables						₹0	
5	Travel						₹0	
6	Field Testing/Demo/							
7	Overheads	₹10000	₹0	₹0				
8	Unforeseen Expenses	₹10000	₹0	₹0				
9	Equipments	₹15000	₹0	₹0	₹0			
10	Construction	₹5000	₹0	₹0	₹0	₹0	₹0	
11	Fabrication	₹10000	₹0	₹0	₹0	₹0	₹0	
12	Misc. P	₹0	₹0	₹0	₹0	₹0	₹0	

New Sanctioned Amount

130

UPDATE

Frontend/src/components/SOE_Table.js

Backend/components/edit Sanctioned.js

Readme/Steps to run the code



For accessing/running the portal locally, Follow the following steps:

- Download code from github as zip.
- Extract the zip file.
- cd into the folder
- cd Frontend
- npm install
- npm start

For accessing the deployed portal:

Paste the url "<https://wonderful-youtiao-7246a1.netlify.app>" in web browser