

FINALIZED REPORT FOR THE PROJECT

DEPARTMENT OF COMPUTER SCIENCE AND BUSINESS SYSTEM

2020-2021

Title of the Project

LIBRARY STOCK MANAGEMENT

Under the guidance of

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Project Team:

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1. Introduction

Library is a vast resource for containing all the information pertaining to education, and entertainment media. The ancient method of maintaining and verifying stocks manually is very tedious and time-consuming.

With the use of technology, we can make the management of library stock dynamic and efficient. We can easily track the missing stocks and available stocks with our project, and make it user friendly for any common man with basic computer knowledge.

Overall this project of ours is being developed to help the staff of library to maintain the library in the best way possible and also reduce the human efforts

1.1 Need for Project

Some of the problems encountered in the manual library stock management system in institutions include:

1. Lack of comprehensive database for book stocked in the library,
2. Poor determination books due and overdue,
3. Lack of verifiable borrowed material from the borrowers (student and staff)

1.2 Aim and objectives

The aim of this project is to design and implement a library stock management system.

The objectives include :

- To build a web database for storing books using IDs assigned to each book.
- To develop a web base which helps to manage and record library stocks.
- To give an account of borrowed and un-borrowed books.
- Reduction of verbal words between the library users and the attendance.
- To find out the missing books from the library's stock.

1.3 Salient Features of Project

- **Login**

In this system, the library admin and the reference admin can login to the system for making necessary changes in the library or reference stock.

- **Stock verification**

The admin can upload a file of csv format containing the access numbers of the books, magazines, journals and comics to be verified and then the admin is given 2 tables informing the stock given in the file is available or not.

- **Update**

To update a record the admin has to fill up stock information like serial number, title, author, publication, position, status and access number. It is important to note that the admin has to enter the entire record even while updating just one attribute.

- **Insert**

In insertion , the admin can enter a record in the database by entering serial number, title, author, publication, position, status and access number. Even if one of the attributes is added the record will be inserted with that attribute value and the rest of the attributes of that record will remain NULL.

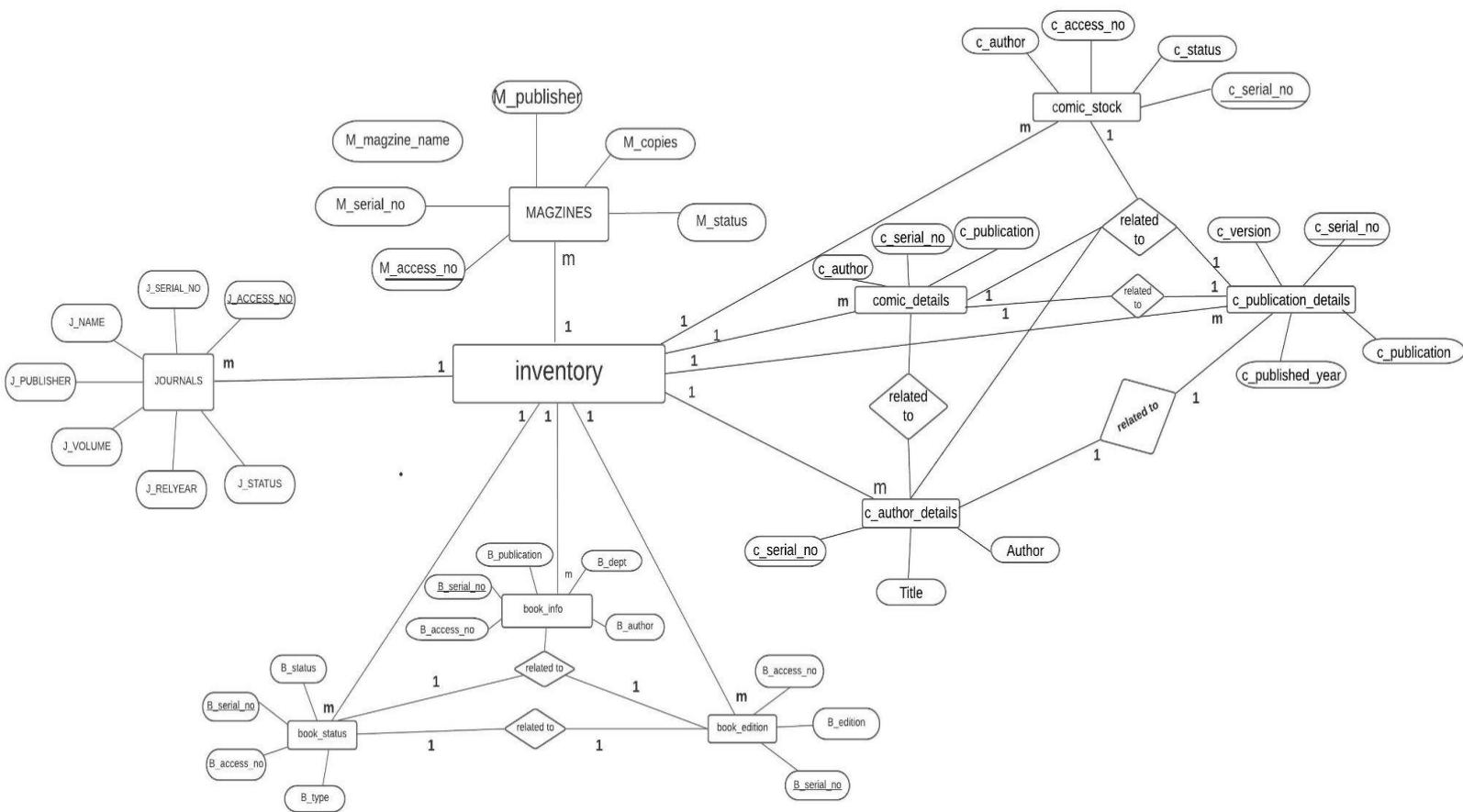
- **Search**

The admin can search for a particular record of a book, journal, magazine or a comic by inserting the access number of the book to be searched. All the details related to the access number will be displayed.

2. Design

2.1 Entity-Relationship Diagram

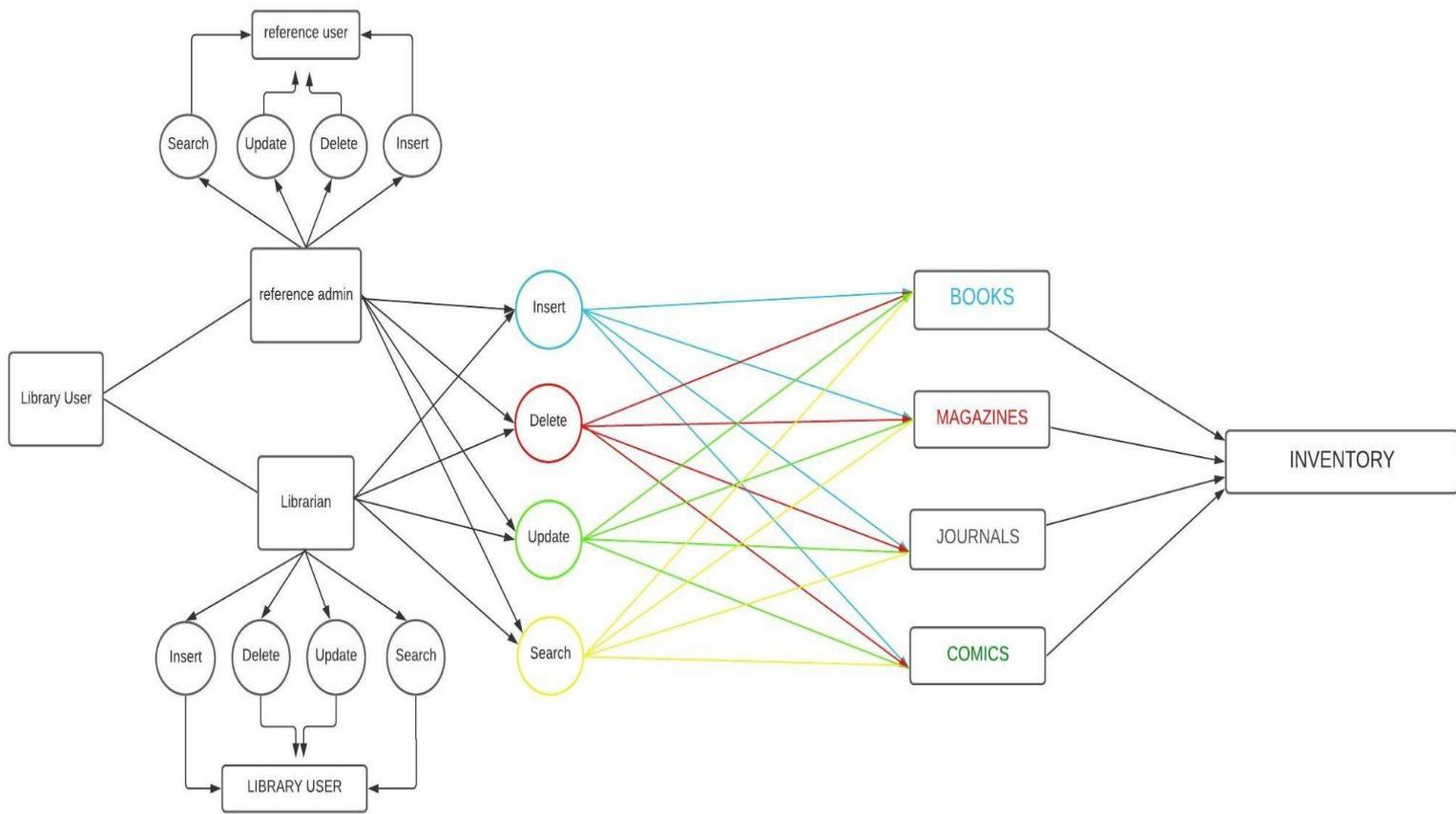
An entity relationship diagram (ERD) shows the relationships of entity sets stored in a database. An entity in this context is a component of data. In other words, ER diagrams illustrate the logical structure of databases. It is the specialized symbols, and the meanings of those symbols, that make it unique.



2.2 DATABASE ARCHITECTURE

DATA FLOW DIAGRAM

A data flow diagram shows the way information flows through a process or system. It includes data inputs and outputs, data stores, and the various sub processes the data moves through.



3. SYSTEM DESIGN

In our project after normalization to the 3rd degree, we obtained 9 tables.

Below we have listed our tables with their names and snapshot samples.

VARIOUS TABLES TO MAINTAIN INFORMATION

STOCKTABLE [inventory table]

S_SERIAL	S_ACCESS	S_STATUS	S_SHELFNUM
B01	1	1	EC3
B02	2	1	BT1
B03	3	1	phy2
B04	4	1	ME10
B05	5	1	IP20
B06	6	0	CSE2
B07	7	0	ISE3
B08	8	1	chem1
B09	9	1	math2
B10	10	1	CV1
B11	11	1	EN9
B12	12	1	math3
B13	13	1	math2
B14	14	0	CSE2
B15	15	1	H7
B16	16	1	CTM9
B17	17	1	PS5
B18	18	0	ISE3
B19	19	1	EI1
B20	20	1	EE1
B21	21	1	EC6
B22	22	1	ME3
B23	23	1	ME2
B24	24	1	CSE2

BOOK STATUS

B_serial_r	B_access_no	B_type	B_status	shelf_no
B01	1	general	shelf	EC3
B02	2	general	shelf	BT1
B03	3	general	shelf	phy2
B04	3	general	shelf	phy2
B05	4	general	shelf	ME10
B06	5	general	shelf	IP20
B07	6	sc/st	issued	CSE2
B08	7	general	issued	ISE3
B09	8	general	reference	chem1
B10	9	sc/st	reference	math2
B11	10	general	reference	CV1
B12	11	general	reference	EN9
B13	12	general	reference	math3
B14	13	sc/st	reference	math2
B15	14	general	issued	CSE2
B16	15	general	shelf	H7
B17	16	general	shelf	CTM9
B18	17	general	shelf	PS5
B19	18	general	issued	ISE3
B20	19	general	shelf	EI1
B21	20	sc/st	reference	EE1
B22	21	general	shelf	EC6
B23	22	sc/st	shelf	ME3
B24	23	general	reference	ME2

books_status 

BOOK INFO

B_serial_no	B_access_no	B_title	B_author	B_publication	B_dept
B01	1	basic electronics	ruhi sahadev	pearson publications	EC
B02	2	biology for beg.d.s bedi	sharma house	BT	
B03	3	engineering physics r s ratan	TNM publishers	physics	
B04	3	engineering physics r k bansal	TNM publishers	physics	
B05	4	fluid mechanics sadhu singh	S.CHAND	ME	
B06	5	fluid mechanics sadhu singh	S.CHAND	IP	
B07	6	discrete mathematics ralph grimaldi	rosen		CSE
B08	7	data structures SK padma	viva.com publication	ISE	
B09	8	engineering chemistry ch bhaskar	mcgraw hill company	chemistry	
B10	9	engineering mechanics DR KSC	TNM publishers	maths	
B11	10	basic civil engineering DR.rahman	sharma house	CV	
B12	11	disaster management shashi chawla	pearson publications	ENVIRONMENT	
B13	12	differential calculus reena garg	S.CHAND	maths	
B14	13	engineering mechanics nayana R	ss publications	maths	
B15	14	programming in c chandrashekhar	rosen	CSE	
B16	15	The constitution of India PM bhakshi	royal brothers	humanities	
B17	16	construction engineering SC sharma	ghoyal brothers	CTM	
B18	17	polymer engineering priya jha	raj publications	PS	
B19	18	financial mangjoy PK	mcgraw hill company	CSBS	

books_info 

MAGAZINE

M_serial	M_access_no	M_magazines	M_publisher	M_status	M_copies	M_shelf_no
M01	160026	Femina	The times group	on the shelf	1	M1
M02	160027	Science Reporter	Council of Scienc	reference	1	M2
M03	160028	Readers Digest	simon and schus	reference	1	M3
M04	160029	Time	bi-weekly	on the shelf	1	M2
M05	160030	Frontline	The Hindu group	on the shelf	1	M1
M06	160031	Women's Era	the Delhi Press	reference	1	M4
M07	160032	Newsweek	Dev Pragad	reference	1	M5
M08	160033	Partiyogita Darshak	Pratiyogita Darshak	on the shelf	1	M6
M09	160034	Grahshobha	Delhi Press	reference	1	M5
M10	160035	India Today	Living Media In	reference	1	M7
M11	160036	Kadimbani	Hindustan Times	on the shelf	1	M7
M12	160037	Nirog Dham	Nirogdham	reference	1	M8
M13	160038	Meri Sehali	Pioneer Book C	reference	1	M9
M14	160039	Jagran Sakhi	Jagran Sakhi	on the shelf	1	M10
M15	160040	Champak	the Delhi Press	reference	1	M8
M16	160041	Nandan	HT Digital Strea	on the shelf	1	M8
M17	160042	Women & Hom	IPC Media	on the shelf	1	M9
M18	160043	Savvy	Magna Publish	reference	1	M10
M19	160044	Stardust	Magna Publish	on the shelf	1	M5
M20	160045	Saras Salil	Delhi Press Pat	reference	1	M1
M21	160046	Sarita	Delhi Press gro	on the shelf	1	M3
M22	160047	Good Housekee	Hearst Commu	reference	1	M6
M23	160048	Health	Meredith Corp	on the shelf	1	M8
M24	160049	Out Look	Outlook Publis	reference	1	M4

magazine 

JOURNALS

J_SERIAL_NO	J_ACCESS_NO	J_NAME	J_PUBLISHER	J_VOLUME	J_RELYEAR	J_STATUS	J_SHELFNO
J01	160051	International Jou Taylor and franc	Taylor and franc	13	2008	On the self	JR1
J02	160052	Arabian journal	Springer	45	1975	On the self	JR1
J03	160053	International Jou Blue Eyes Intellig	Blue Eyes Intellig	9	2011	Reference	JR1
J04	160054	Journal of Envirc	Elsevier Publicat	8	2013	Issued	JR1
J05	160055	IETE journal of r	Taylor and Franc	66	1955	Reference	JR1
J06	160056	Polymer enginee	Wiley	60	1961	Reference	JR2
J07	160057	Journal of Const	National Institut	11	2008	On the self	JR2
J08	160058	International Re	Fast track public	6	2014	On the self	JR2
J09	160059	Current Biochem	Bentham Science	5	2014	Issued	JR2
J10	160060	Advanced Engin	Trans Tech Publi	34	2011	On the self	JR2
J11	160061	ADBU Journal of Assam	Don Bosco	8	2014	Reference	JR3
J12	160062	International jou	Self publishing	9	2011	Issued	JR3
J13	160063	Engineering scie	Elsevier Publicat	22	1997	Reference	JR3
J14	160064	International Jou	Blue Eyes Intellig	8	2012	On the self	JR3
J15	160065	The Journal of E	Sultan Qaboos U	16	2004	On the self	JR3
J16	160066	Journal of Engin	Kuwait Universit	7	2013	Reference	JR3
J17	160067	Engineering Jour	Chulalongkorn U	23	1996	Issued	JR4
J18	160068	International Jou	Springer	11	2009	On the self	JR4
J19	160069	Journal of Fluid I	Cambridge Unive	4	1956	Reference	JR4
J20	160070	International Jou	Springer Science	18	2004	On the self	JR4
J21	160071	The Journal of A	Routledge for th	26	1996	Reference	JR4
J22	160072	Journal of Mater	Springer Science	56	1966	Issued	JR5
J23	160073	Journal of Intelli	Springer Science	12	1988	On the self	JR5
J24	160074	Proceedings of t	Elsevier	37	1948	On the self	JR5

JOURNALS (1)

(+)

COMIC STOCK

C_serial_no	C_access	C_author	C_status	C_shelf_no
C76	76	David Perez	On the shelf	C1
C77	77	David Perez	On the shelf	C3
C78	78	Anthony P. Furt	Reference	C10
C79	79	Anthony P. Furt	On the shelf	C5
C80	80	Anthony P. Furt	On the shelf	C1
C81	81	Anthony P. Furt	Reference	C7
C82	82	Anthony P. Furt	On the shelf	C4
C83	83	Paolo Margiotta	On the shelf	C4
C84	84	Joe Gill	On the shelf	C4
C85	85	Steve Alten	Reference	C6
C86	86	Keith Giffen	Reference	C4
C87	87	Dave Earcia	On the shelf	C9
C88	88	Abby Denson	Reference	C3
C89	89	Joshua Frankel	On the shelf	C2
C90	90	Mark Bertolini	Reference	C2
C91	91	Doug Graczyk	On the shelf	C3
C92	92	Bart Van Erkel	On the shelf	C9
C93	93	Rick Brooks	On the shelf	C10
C94	94	Ken Holewczyns	Reference	C5
C95	95	Brian Augustyn	Reference	C4
C96	96	Dante Volpe	On the shelf	C9
C97	97	Richard Marcej	On the shelf	C7

comic_stock

(+)

COMIC DETAILS

c_author	c_publication	c_serial_no
David Perez	11B Press	C76
David Perez	11B Press	C77
Anthony P. Furtado	01 comics	C78
Anthony P. Furtado	01 comics	C79
Anthony P. Furtado	01 comics	C80
Anthony P. Furtado	01 comics	C81
Anthony P. Furtado	01 comics	C82
Paolo Margiotta	21 pulp	C83
Joe Gill	AplusComic	C84
Steve Alten	A&M publishing	C85
Keith Giffen	A list Comics	C86
Dave Earcia	Abacus Press	C87
Abby Denson	Abby Denson	C88
Joshua Frankel	ZIP Comics	C89
Mark Bertolini	215 Ink	C90
Doug Graczyk	Age of Heroes	C91
Bart Van Erkel	Aircel	C92
Rick Brooks	B comics	C93
Ken Holewczynski	B S Productions	C94
Brian Augustyn	B S Productions	C95

comic_details

(+)

C PUBLICATION DETAILS

c_publication	c_published_year	c_version	c_serial_no
11B Press	2017	2	C76
11B Press	2017	2	C77
01 comics	2006	4	C78
01 comics	2006	4	C79
01 comics	2006	4	C80
01 comics	2006	4	C81
01 comics	2006	4	C82
21 pulp	2021	1	C83
AplusComic	1991	1	C84
A&M publishing	2018	1	C85
A list Comics	1998	1	C86
Abacus Press	1990	1	C87
Abby Denson	2005	1	C88
ZIP Comics	2010	1	C89
215 Ink	2011	2	C90
Age of Heroes	1987	3	C91
Aircel	1991	2	C92
B comics	1995	1	C93
B S Productions	1987	1	C94
B S Productions	1987	1	C95

c_publication_details



C AUTHOR DETAILS

c_title	c_author	c_serial_no
Wow!	David Perez	C76
Wow!	David Perez	C77
Elf 'n troll	Anthony P. Furtado	C78
Elf 'n troll	Anthony P. Furtado	C79
Elf 'n troll	Anthony P. Furtado	C80
Elf 'n troll	Anthony P. Furtado	C81
Elf 'n troll	Anthony P. Furtado	C82
Bianca Little Lost Lamb	Paolo Margiotta	C83
Hercules	Joe Gill	C84
The Meg	Steve Alten	C85
Marcg Hare	Keith Giffen	C86
Panda Khan Special	Dave Earcia	C87
Dolltopia	Abby Denson	C88
The Schizophrenic	Joshua Frankel	C89
Breakneck	Mark Bertolini	C90
Renegades	Doug Graczyk	C91
Cat	Bart Van Erkel	C92
Cutting Class	Rick Brooks	C93
Reacto Man	Ken Holeczynski	C94
Reacto Man	Brian Augustyn	C95

author_details



4. REQUIREMENTS SPECIFICATION

Hardware and software requirements for accessing the library stock management, the following requirements are specified.

4.1 Hardware Requirements :

Processor : P4 2 8GB processor and above.

RAM : Ram 2GB and above.

Display : 14" display.

Hard disk : 128 GB Hard disk and above.

4.2 Software Requirements :

Operating system : Microsoft windows 10, 64-bit

Coding Language : Front end : CSS, HTML, JAVASCRIPT

Back end : MySQL, PHP

Database server : MySQL server

Web server : XAMPP

Language Platform

HTML

HTML is a scripting language that a web browser understands. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects, such as interactive forms, may be embedded into the rendered page.

CSS

CSS is designed primarily to enable the separation of presentation and content, including aspects such as the layout, colors, and fonts

PHP

PHP is a general-purpose scripting language especially suited to web development. It was originally created by Danish-Canadian programmer Rasmus Lerdorf in 1994. The PHP reference implementation is now produced by The PHP Group. PHP originally stood for Personal Home Page, but it now stands for the recursive initialism PHP: Hypertext Preprocessor.

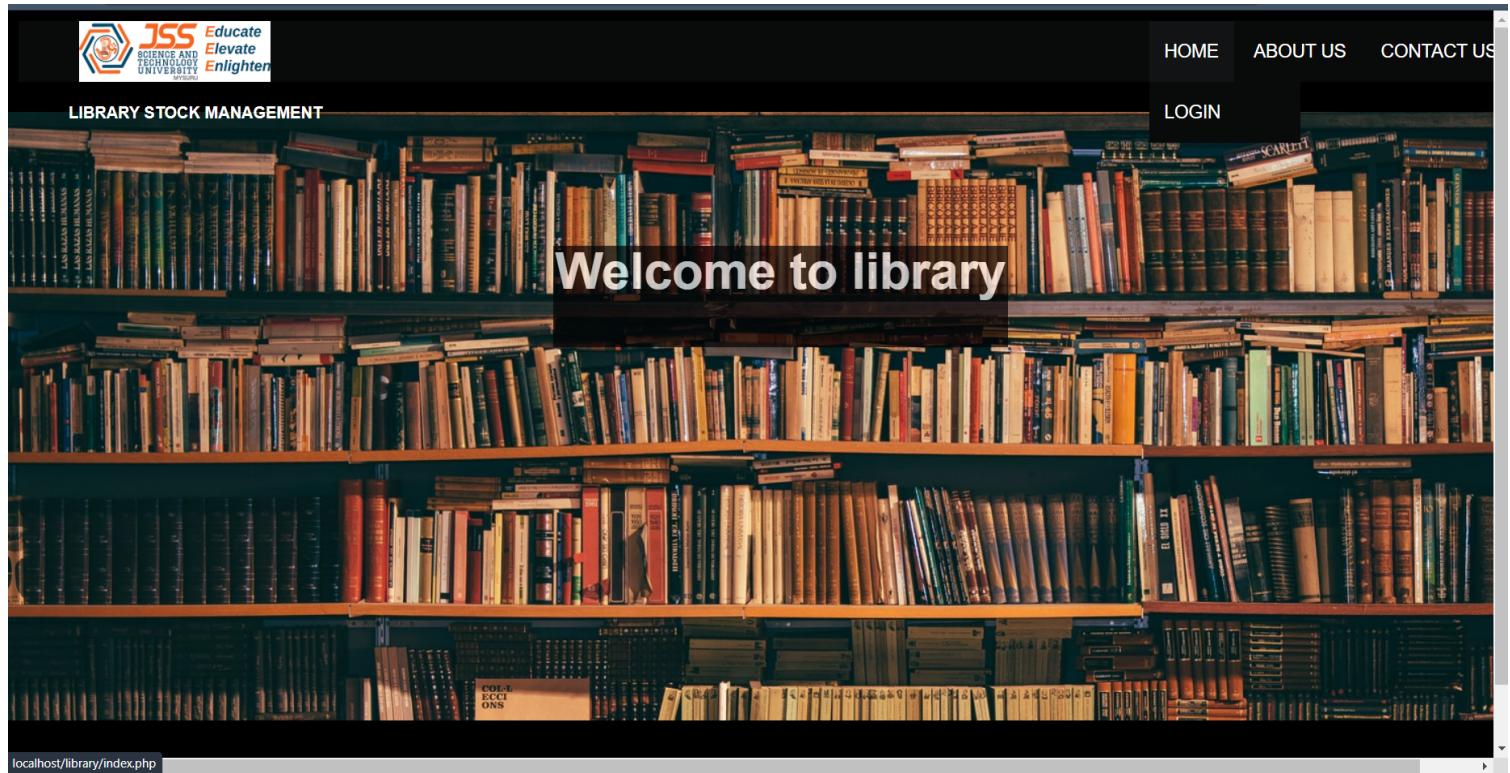
PhpMyAdmin

PhpMyAdmin is a free software tool written in PHP, intended to handle the administration of MySQL over the Web

5. Prototype of Project

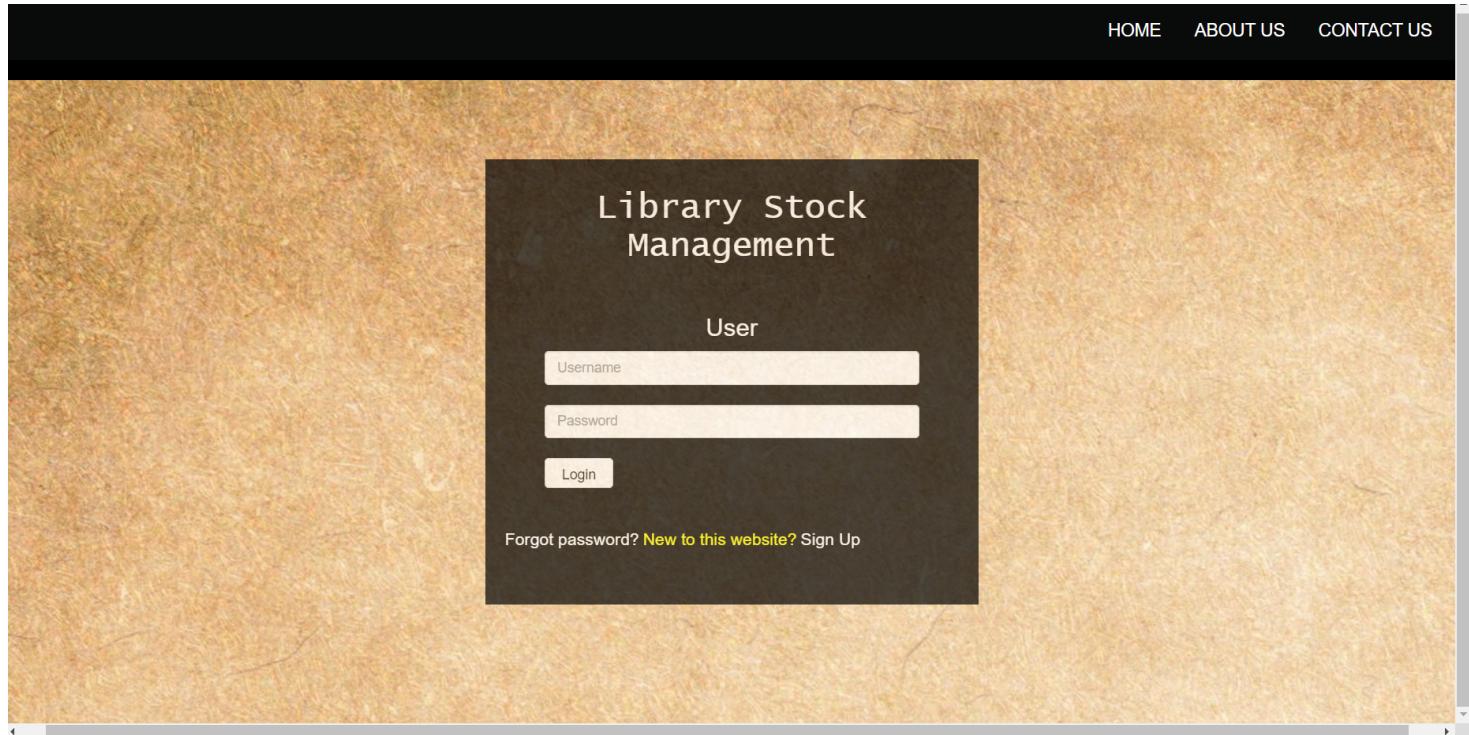
Home page

The Home page is designed for the user to get familiarised with the website, with a basic idea of what the website is used for. It has a navigation header to navigate through the next pages.



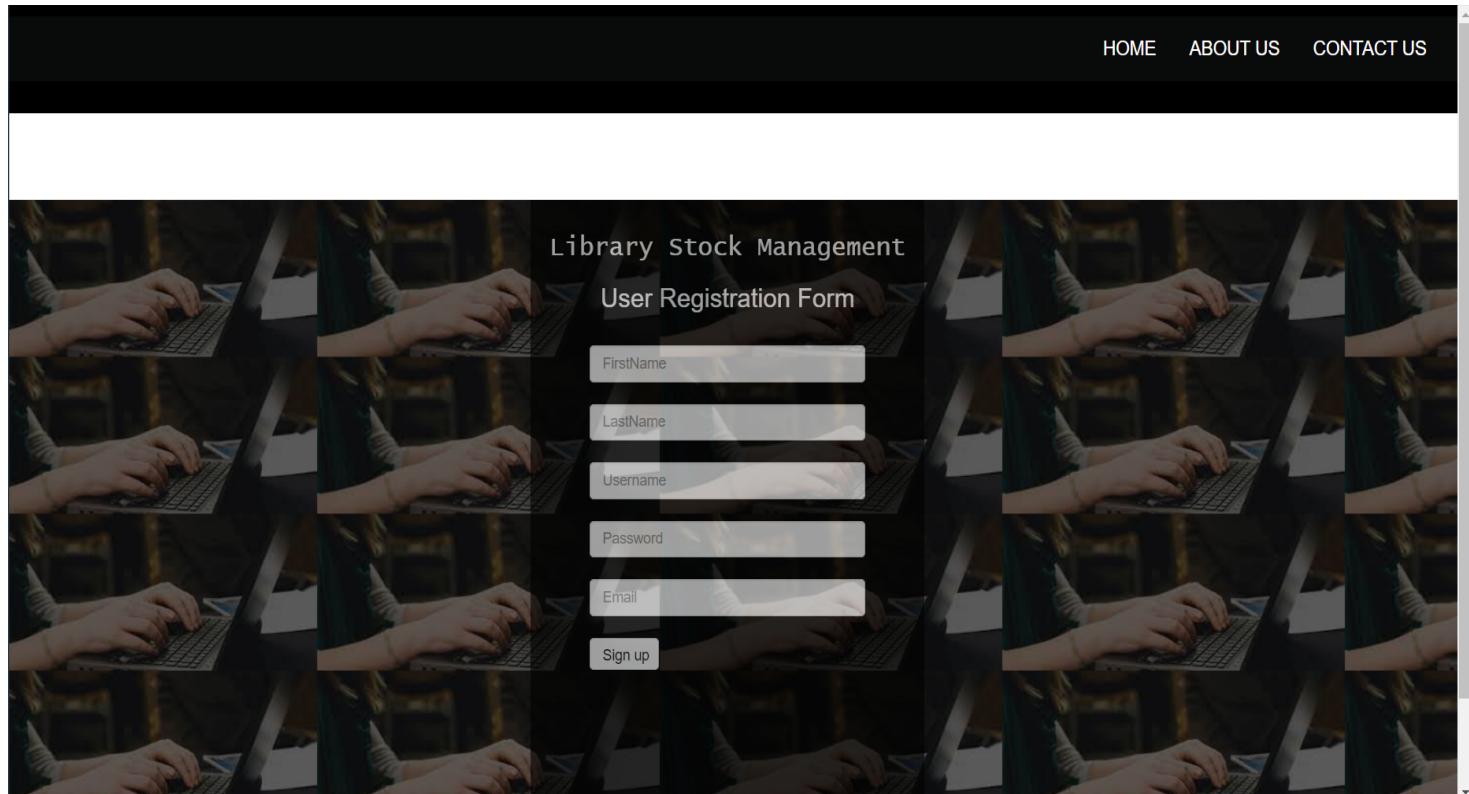
Login page

The login page is user friendly with the formal options of username and password to enter and login , and also has the facility to sign up if they are a new user which redirects to the signup page. And if the user forgets their password ,they can request for setting a new password.



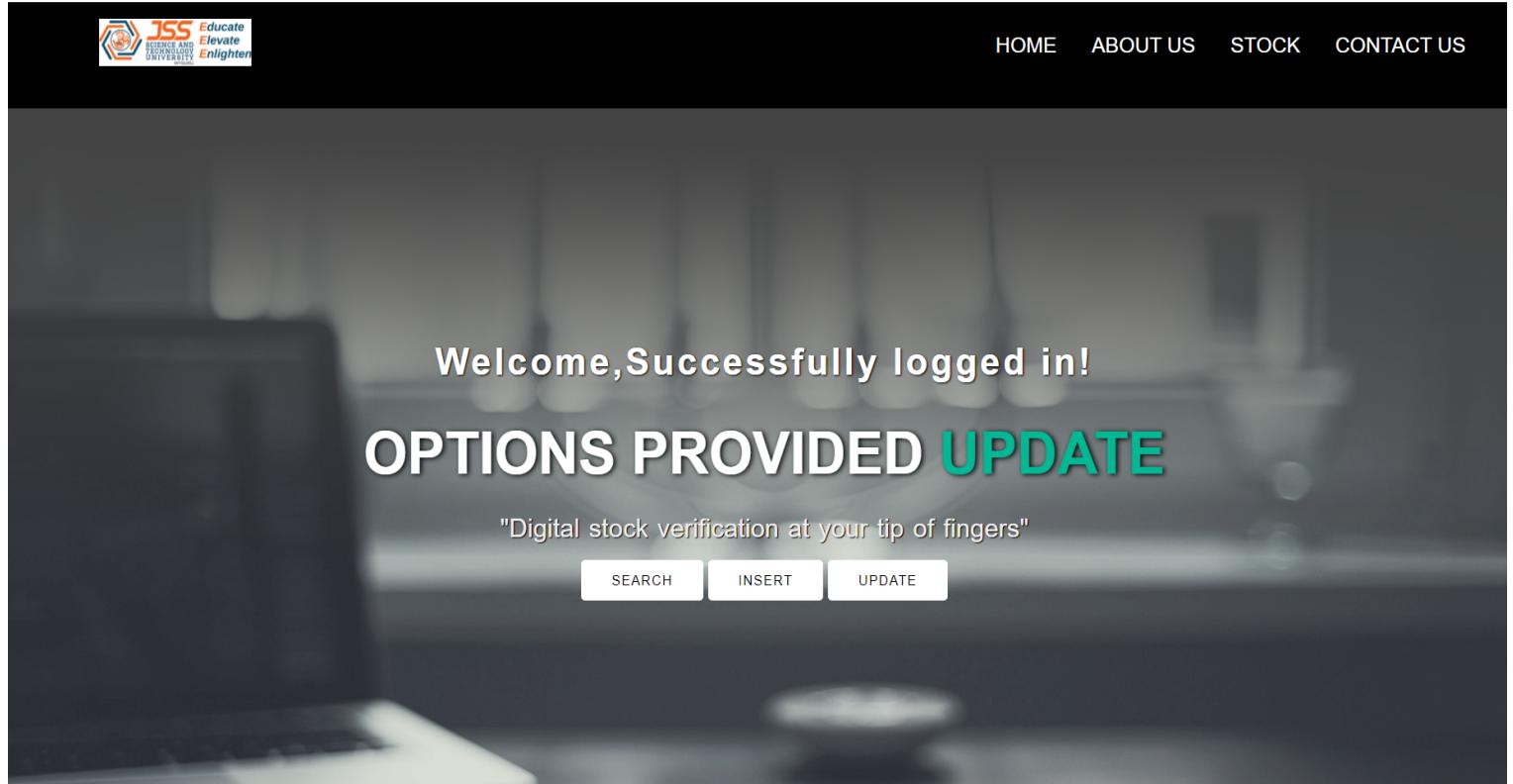
Sign up page

If the user is visiting the website for the first time , then they have to create an account in Library stock by specifying the FIRSTNAME, LASTNAME, USERNAME, and set a PASSWORD.



Options Page

As soon as the user has successfully logged in , it's confirmed with a page redirect and has options provided in button format for easy interactions. The user can choose to search, insert or update the library stock.



Search page

If the user chooses the option search, the search page pops up with a list of stocks for reference purpose, and in the search space available, the user needs to enter the appropriate access_no to search for further details. A wrong access_no is followed by an error message.



List

SERIAL_NO	ACCESS_NO	TITLE	AUTHOR	PUBLICATION	EDITION	POSITION	SHELFNUM
C01	160076	Wow!	David Perez	11B Press	2	On the shelf	C1



List

SERIAL_NO	ACCESS_NO	TITLE	AUTHOR	PUBLICATION	EDITION	POSITION	SHELFNUM
B01	160001	basic electronics	ruhi sahadev	pearson publications	1	shelf	EC3
B02	160002	biology for beginners	d.s bedi	sharma house	2	shelf	BT1
B03	160003	engineering physics	ss ratan	TNM publishers	1	shelf	phy2
B04	160004	engineering physics	rk bansal	TNM publishers	2	shelf	phy2
B05	160005	fluid mechanics	sadhu singh	S.CHAND	8	shelf	ME10
B06	160006	fluid mechanics	sadhu singh	S.CHAND	8	shelf	IP20
B07	160007	discrete mathematics	ralph grimaldi	rosen	11	issued	CSE2
B08	160008	data structures through C	SK padma	viva.com publication	1	issued	ISE3
B09	160009	engineering chemistry	bhaskar	mcgraw hill company	2	reference	chem1
B10	160010	engineering mathematics-1	DR KSC	TNM publishers	1	reference	math2
B11	160011	basic civil engineering	DR.rahman	sharma house	2	reference	CV1
B12	160012	disaster management	shashi chawla	pearson publications	3	reference	EN9
B13	160013	differential calculus	reena garg	S.CHAND	4	reference	math3
B14	160014	engineering mathematics-1	nayana R	ss publications	5	reference	math2
B15	160015	programming in ANSI C	chandrashekhar B	rosen	1	issued	CSE2

Update page

This page helps the user to update the contents of the stock by specifying all the required entries. It is important to note that user shouldnt let blank spaces as it takes NULL value against it unless intended.

The screenshot shows a web page titled "UPDATION OF DATA". At the top, there is a black navigation bar with links: HOME, ABOUT US, OPTIONS, STOCK, and CONTACT US. Below the title, there are nine input fields arranged vertically, each with a placeholder text: "Enter serial no", "Enter access no", "Enter status", "Enter shelf number", "Enter title", "Enter author", "Enter publication", "Enter Edition", and "Enter position". To the right of the last input field is a blue "Update" button.

Input Field	Placeholder Text
1	Enter serial no
2	Enter access no
3	Enter status
4	Enter shelf number
5	Enter title
6	Enter author
7	Enter publication
8	Enter Edition
9	Enter position

Insert page

Inserting stock into the database is made easy by the insert page provided as an option in our website. The necessary attributes are to be filled to insert the stock successfully.

The screenshot shows a web page titled "INSERTION OF DATA". At the top, there is a navigation bar with links: HOME, ABOUT US, OPTIONS, STOCK, and CONTACT US. Below the title, there are eight input fields, each with a placeholder text: "Enter serial no", "Enter access no", "Enter shelf number", "Enter title", "Enter author", "Enter publication", "Enter Edition", and "Enter position". At the bottom of the form area is a single "Insert" button.

Field	Description
Enter serial no	Serial number of the item
Enter access no	Access number assigned to the item
Enter shelf number	Shelf location where the item is stored
Enter title	Title of the book or item
Enter author	Author(s) of the book
Enter publication	Publication details
Enter Edition	Edition of the book
Enter position	Position of the book on the shelf

Stock verification page

This is the main stock verification page , where the user is requested to upload a text, csv, or xls compatible files with only accession numbers present. It compares the access_no in the file and database, updates the status of access_no in files to available/1. And displays the available and unavailable stocks in the form of a table.

Upload

Filename:

File: Choose File No file chosen

ACCESS_NO of books Available
160001
160002
160003
160004
160005
160006

ACCESS_NO of books Unavailable
160026
160027
160028
160029
160030
160031

About us page

The about us page is a reflection of the purpose and personality of the creator. The page incorporates contact information. It gives us insight into who is involved with the given project and exactly what it does.

ABOUT US

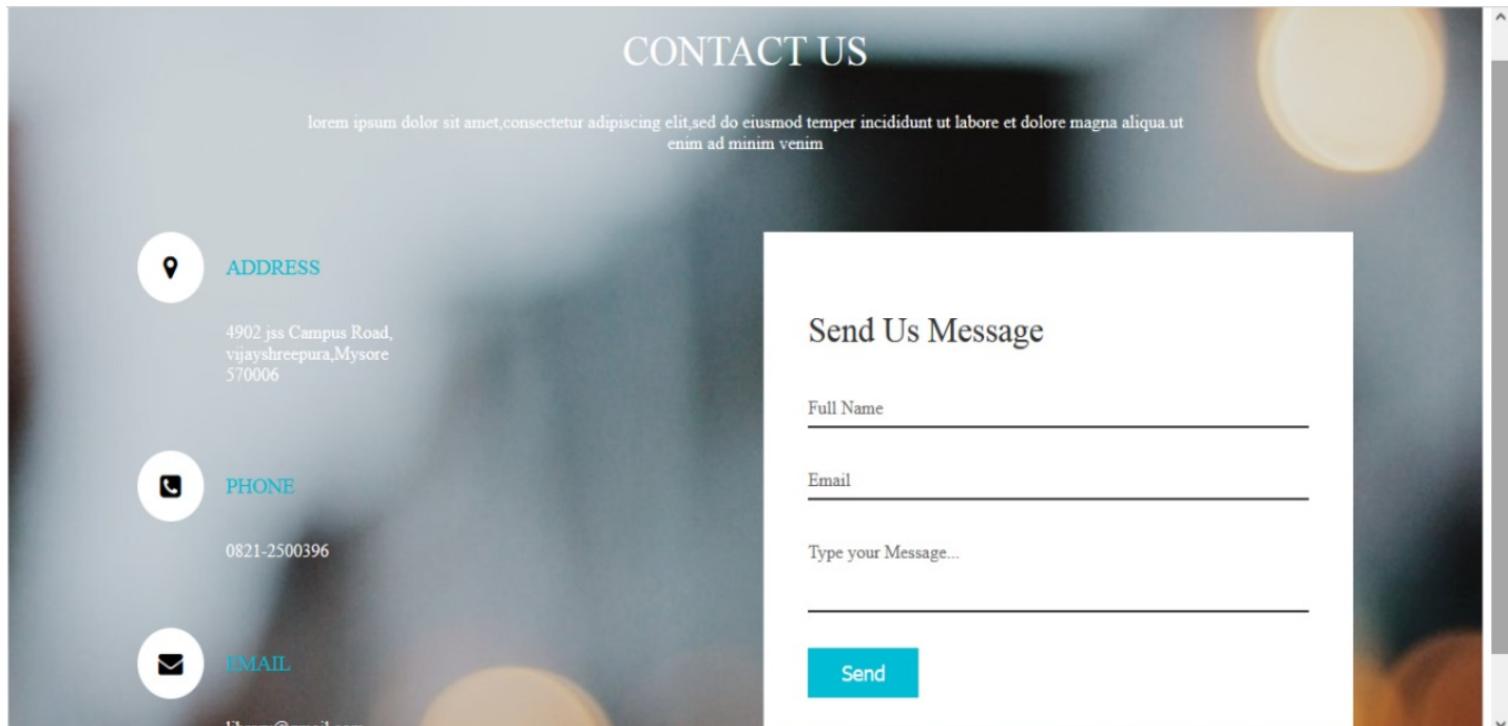
We, The Students of 4th semester Computer science and Business system of esteemed JSS science and technology university wishes to make the system of library stock management less manual and more technological based for efficient running and maintenance of library in our college.

Read More

f t i

Contact Us page

The contact us page explains why a visitor,in our case the admin, should contact us and describe how we can help to solve the admins' problems. This page includes an email and phone number and address so that the admin could quickly find the required information. This page also includes a short form that uses users' info that will help us understand who's contacting us.



CONTACT US

lorem ipsum dolor sit amet,consectetur adipiscing elit,sed do eiusmod temper incididunt ut labore et dolore magna aliqua.ut enim ad minim veniam

ADDRESS

4902 jss Campus Road,
vijayshreepura,Mysore
570006

PHONE

0821-2500396

EMAIL

l3hscsm@gmail.com

Send Us Message

Full Name

Email

Type your Message...

Send

6. Conclusion and Future scope

This website provides a computerized version of library stock management which will benefit the staff of the library. It makes entire process online where admin can verify records, search books, insert and update books. The purpose of the project is to built an application program to reduce for managing the book stocks. It tracks all the details about books. The proposed system can overcome all the limitations of the existing systems. The system provides proper security and reduces the manual work.

- Security of data
- Ensure data accuracy's
- Minimize manual data entry
- Minimum time needed for various for processing
- Greater efficiency
- Better services
- User friendly and interactive
- Minimum time required

Future Scope of the Project:

In a nutshell, it can be summarized that the future scope of the project circles around maintaining information regarding:

- We can give more advance software for Library Stock management including more facilities.
- We will host the platform on online server to make it accessible to everyone.
- Create the master and slave database structure to reduce the overload of the database queries
- Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers.

The mentioned points are the enhancements which can be done to increase the applicability and usage of the project.