

# WEB DEVELOPMENT 2 REPORT

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YEAR 2

## Introduction

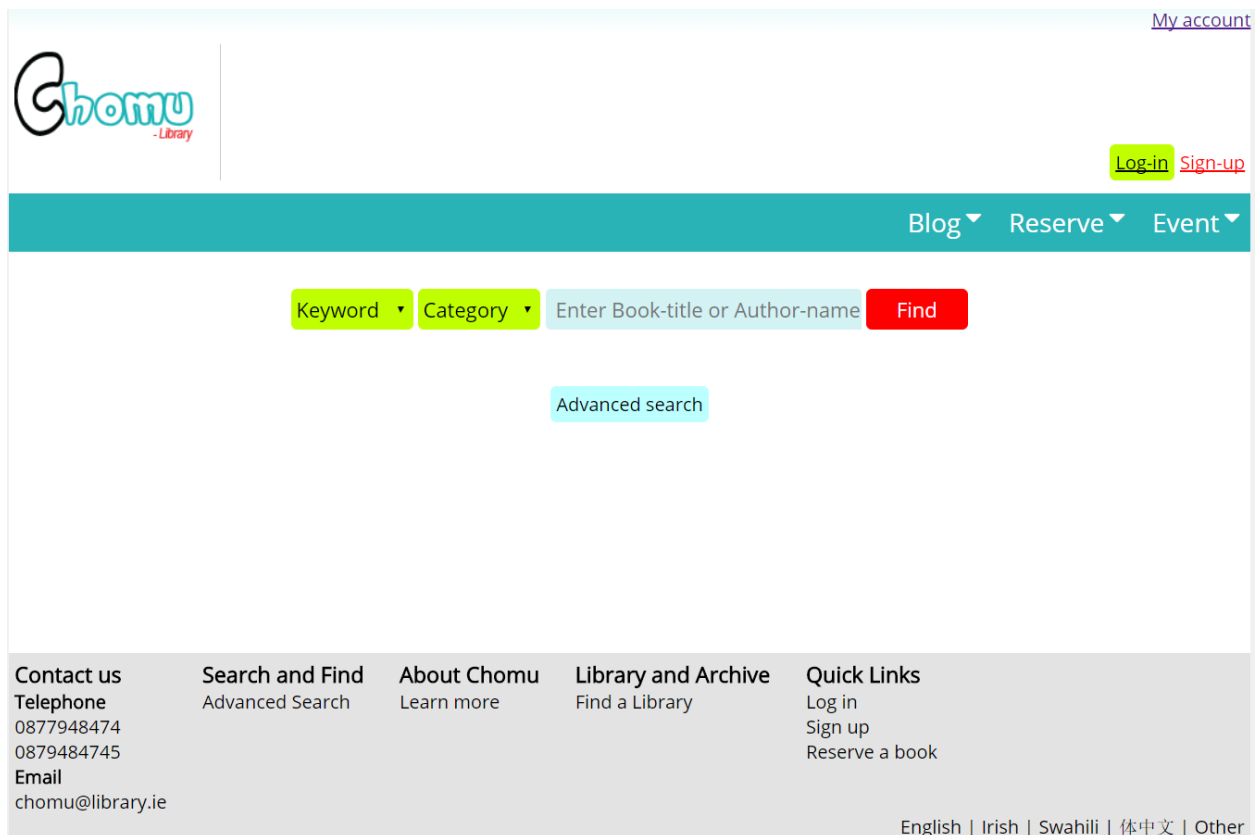
The following report is about creating a library website model in which the user could perform task such as reservation, book search, log in, log out, and be able to view their details they entered when they log back into the system

## Architecture

The website has three types of pages.

### The index page

This page greets any user whether they are registered or not, and expose them to various features that they could access once they are logged in.



The screenshot displays the Chomu Library website's index page. At the top left is the 'Chomu - Library' logo. In the top right corner, there is a 'My account' link, a 'Log-in' button, and a 'Sign-up' link. Below these is a teal navigation bar containing 'Blog', 'Reserve', and 'Event' links with dropdown arrows. The main content area features a search section with 'Keyword' and 'Category' dropdown menus, a text input field for 'Enter Book-title or Author-name', and a red 'Find' button. Below the search bar is an 'Advanced search' button. The footer is divided into five columns: 'Contact us' (with telephone and email information), 'Search and Find' (with an 'Advanced Search' link), 'About Chomu' (with a 'Learn more' link), 'Library and Archive' (with a 'Find a Library' link), and 'Quick Links' (with 'Log in', 'Sign up', and 'Reserve a book' links). At the bottom right, there is a language selection bar with options for English, Irish, Swahili, 体中文, and Other.

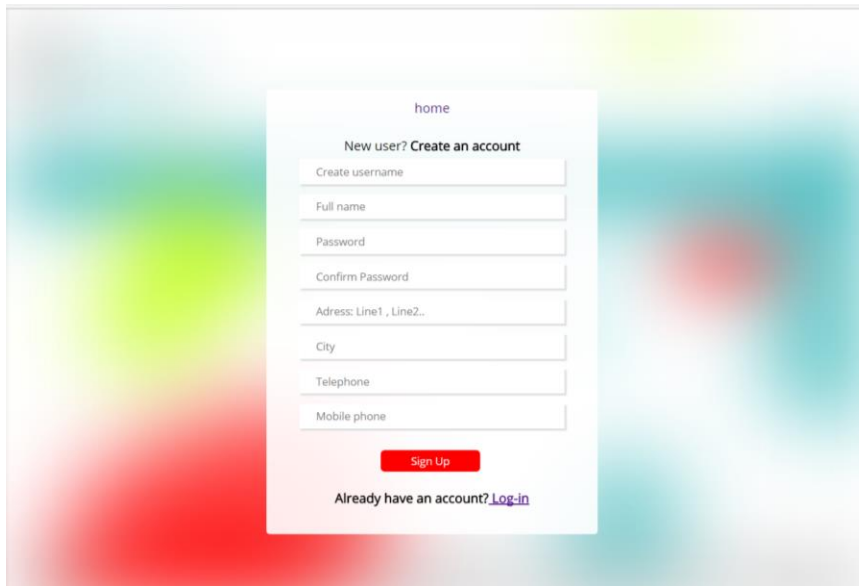
These features include: the ability to search a book, to reserve, and view the catalogue.

If the user is not registered or logged in, they will not be allowed to use any of these features, and will be sent to the login page or signup page.

### The Signup page.

The signup page takes the information from the user and inserts him/her in the database.

This page is deeply backed with a error checking page called ***127.0.0.1/library/signup/sign\_up\_insert.php***. This page ensures that all the information provided by the user are sane.



If the user enters invalid data, for example enters username that already exists in the database, a short address name, a password that does not have more than eight digits, a phone number that is not made of digits or with password that do not match, they will be shown all the errors and asked to enter the data again.

This will continue until all the credentials are sane.

Below is the type of errors they may get with invalid credentials.

home

New user? **Create an account**

Username taken

Enter Name and surname

Password of at least 8 digits required

Must confirm password

Invalid address

Invalid city

Landline of 7 characters

Phone of 10 digits.

Sign Up

Already have an account? [Log-in](#)

## The login page

If the user has already been registered and want to use the library services again, they can do so by logging in the system using either the login button from the home page, via the signup page, and or try to perform task that only registered users are allowed to perform such as reserving a book, viewing he catalogue...

home

Username

Password

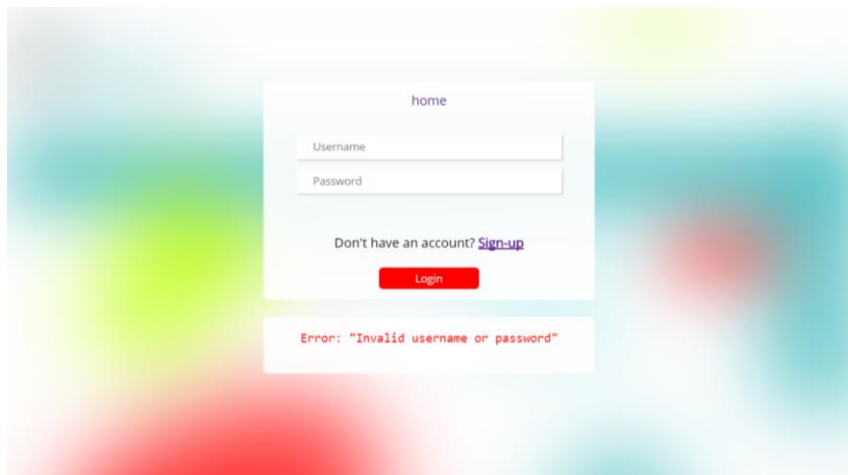
Don't have an account? [Sign-up](#)

Login

This page receives the input of a user and checks them against the ones currently existent in the database. This page is located under the login route.

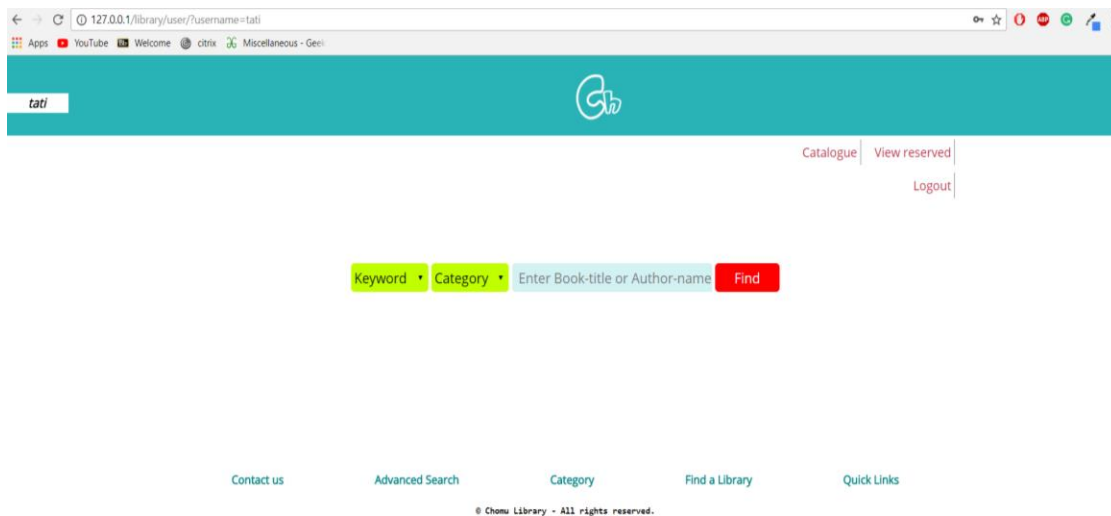
***127.0.0.1/library/login/*** it is backed up with the ***127.0.0.1/library/login/login\_check.php*** page that ensures that the

data provided by the user is correct. If the user enters an invalid password, they get thrown the following error.



## The user page

The user page is unique in the sense that the user can only access it if they are logged in. It features their username at the left-hand side, greet them with a search bar, and up to the right-hand side, display features that they can perform such as view the catalogue, view books they have reserved, and log out of the system if they so choose.



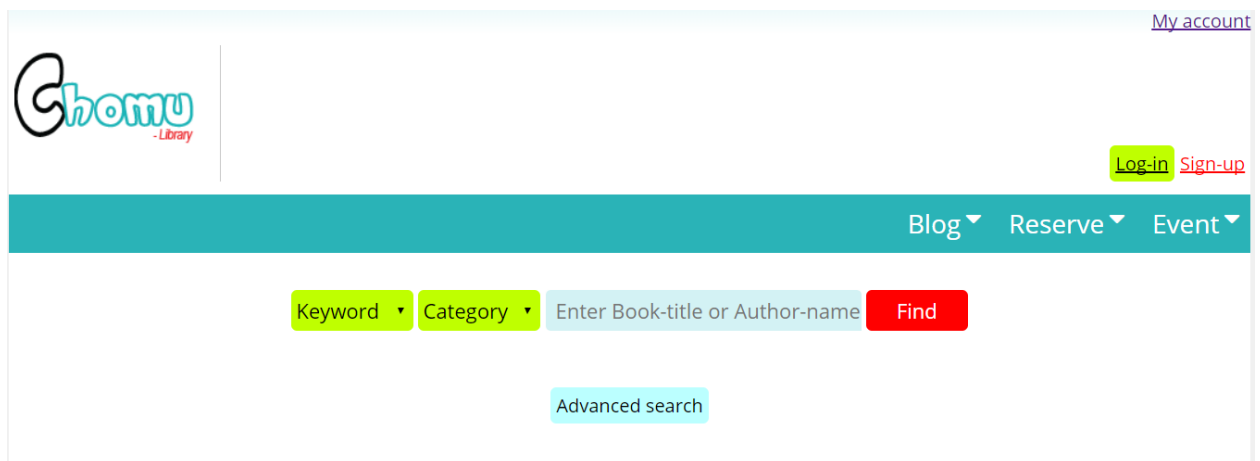
The username also gets displayed in the URL so they can see where in the page hierarchy they are.

This also applies to the rest of the pages. For example the following pages shows the user exactly where they are in the hierarchy.

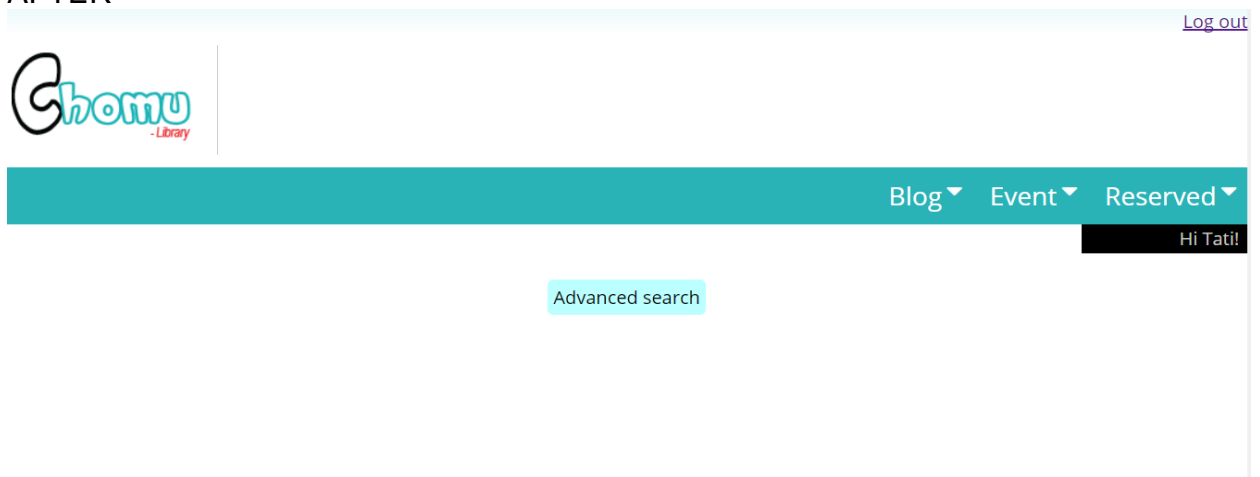


When the user is logged in, the home pages remembers him and customises itself to the user's information.

## BEFORE



## AFTER



Now that the search bar has been moved to the user page, the user can now perform the advanced search here, if they so choose to do. This feature, was not

asked to be implemented, but it simply shows the types of tasks a library user would be performing if they were logged in, the advanced search feature could also be accessed through the user page's footer.



This feature would be similar to the one the user could perform but advanced SQL queries such as grouping and unions would be used to ensure the user gets the best experience using the system.

The image shows the Ghomu Library website's advanced search interface. At the top left is the Ghomu Library logo. To the right is a "Log out" link. Below the logo is a teal navigation bar with links for "Blog", "Event", and "Reserved". A black user bar on the right says "Hi Tatil". Below the navigation bar is a light blue "Advanced search" button. The search form itself has a green "Search by" dropdown menu. Below this are several search criteria with corresponding input fields: "Contains", "Start with", "Book Title", "ISBN", "Edition", "Author name", and "Author id".

## Searching

Searching for a book in the database is done in many different ways.

### Searching by book name

This is the default search and the user does not need to select anything to search a book.

**They do not even need to enter the full name of the book.**

This has been achieved by guessing what the user wants to enter using regular expression in the SQL where clauses.

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[Catalogue](#)
[View reserved](#)
[Logout](#)

Keyword

Category

my

Find

Result for My

1

BOOK	AUTHOR	YEAR	EDITION	STATUS
My life in picture	Dan Brown	2004	8	Reserved
My ranch in Texas	John Smith	2005	1	Reserved
My life in bits	Cleo Blair	2003	1	Reserve

This was done using a query builder function that would take in the arguments passed and create custom SQL query for it.

```

else
{
    if($table_name == 'book')
        $query = query_builder("book",
                                $default_cols,
                                array(array("JOIN", "category", "category_id")),
                                array("category_id", "=", $category),
                                array(array("AND", "upper(book_title)", "LIKE",
                                strtoupper($to_search))));
    else if ($table_name == 'author')
        array_push($default_cols, 'category_description as CATEGORY');
        $query = query_builder("book",
                                $default_cols,
                                array(array("JOIN", "category", "category_id"),
                                array("JOIN", "author", "author_id")),
                                array("category_id", "=", $category),
                                array(array("AND", "upper(author_name)", "LIKE",
                                strtoupper($to_search))));
}

```

The function creating the query is [127.0.0.1/library/find.php](http://127.0.0.1/library/find.php)

```

* reserve.php
* reserve_form.php
* user_footer.php
* user_header.php
* advanced_search.php
* connect.php
* find.php
* footer.php
* functions.php
* get.php
* head.php
* header.php
lab12.sql
library.sql
rect.php
WEB DEVELOPMENT 2 REP
-$ DEVELOPMENT 2 REP
-WRL2757.tmp

< > index.php user.css find.php Find Results
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219

function query_builder($table_name, $column_name, $joins, $wheres, $and_or)
{
    $join_builder= array();
    $where_builder = array();
    $and_or_builder = array();

    # building the joins
    if(count($joins) > 0)
        foreach ($joins as $build)
            array_push($join_builder, " ". $build[0]." " . $build[1]." USING(".$build[2].") ");

    # building the where clauses
    if(count($wheres) > 0)
        array_push($where_builder, " WHERE " . $wheres[0]." " . $wheres[1]." " . $wheres[2]." " ");

    if(count($and_or) > 0)
        foreach($and_or as $cond)
            array_push($and_or_builder, $cond[0]." " . $cond[1]." " . $cond[2]." " . $cond[3]." " ");

    $query ="SELECT " . implode(", ", $column_name).
    " FROM " . $table_name . implode(" ", $join_builder).
    implode(" ", $where_builder). implode(" ", $and_or_builder);

    return $query;
}

```



Reserve a book.

The user can choose to reserve a book, Only after they are logged in and if the book is not already reserved.

The books available for reservation are styled in green, and those not available are shown in red.

Result  
1 2

BOOK	AUTHOR	YEAR	EDITION	STATUS	CATEGORY
Business Strategy	Joe Peppard	1997	2	Reserved	Health
A guide to nutrition	John Thorpe	1997	2	Reserved	Health
My life in picture	Dan Brown	2004	8	Reserved	Health
My ranch in Texas	John Smith	2005	1	Reserved	Health
My life in bits	Cleo Blair	2003	1	Reserve	Health
Shooting History	Alicia Oneill	2003	1	Reserve	Health

If the user reserves a book that has been reserved by a different user they get the following error.

Keyword Category Enter Book-title or Author-name Find

Sorry, book already reserved

Contact us Advanced Search Category Find a Library Quick Links

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## Cancel a reservation

If the user is the one who has reserved the book, they can choose to cancel it by clicking on the cancel button, or go the page that enables them to view reserved pages and delete all the reservations they have in the system if they so choose to do.

Catalogue View reserved Logout

Keyword Category Enter Book-title or Author-name Find

Result  
1

BOOK	AUTHOR	YEAR	EDITION	STATUS	CATEGORY
DaVinci Code	Jamie Oliver	2003	1	Cancel	Fiction
Tara Road	Inn Snow	2002	4	Reserve	Fiction

To unreserve a book, the user simply has to click on the cancel button.

TO view all the books they have reserved in the system, they can click on the view reserved in the top right corner.

Catalogue View reserved Logout

This feature will bring them to this page, where they can view all the pages they have reserved.

Below are all the books currently reserved by the user **tati**.

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[Catalogue](#) | [View reserved](#) | [Logout](#)

Keyword

Category

Enter Book-title or Author-name

Find

Result  
1

USERNAME	ISBN	BOOK	AUTHOR	RESERVATION DATE	CATEGORY	STATUS
tati	82n8-308	computers for idiots	Kevin Graham	2017-12-01 00:00:00	Technology	<a href="#">Cancel</a>
tati	9823-2403-0	DaVinci Code	Jamie Oliver	2017-12-01 00:00:00	Fiction	<a href="#">Cancel</a>
tati	993-004-00	My life in bits	Cleo Blair	2017-12-01 00:00:00	Health	<a href="#">Cancel</a>

## Logout

Finally when the user logs out, they are redirected to the home page, and all the transactions they effectuated in the database stay saved for them until the next session.

## Pages hierarchy.

