

ABDUL's Loan System

Introduction: A loan management system is a digital platform that helps automate every stage of the loan lifecycle, from application to closing. The traditional loan management process is meticulous, time-consuming, and requires collecting and verifying information about applicants, their trustworthiness, and their credibility. Further, the process involves calculating interest rates and supervising payments. A loan servicing software not only automates these procedures but also provides useful analytics and insights for lenders and borrowers.

Designing of Application:

- Create/update/delete new borrower's info.
- View the list of borrowers.
- Create/update/delete new loan type.
- View list of borrowers.
- Create/update/delete staff info.
- View the list of staff access.
- Manage loans info related to different borrowers.
- View the list applications and assign it to approval.
- View the pending applications.
- Update the status of the application.

Languages:

- HTML
- CSS / BOOTSTRAP
- JavaScript (JS)
- PHP
- SQL / MySQL

Administrator Module: This module is responsible for coordinating the other modules. It allows the administrator create, update/delete and view the borrower's information and it allows admin to create create/update/delete and view different staff and it can create logins for different employees in each and every department and it can manage loan interest rates of different banks etc. It facilitates to view the new applicant details and assign it to different loan types initially. It allows the

administrator to view customer application finally approval and builder details from legal department and then borrower final opinion in this application. It also allows to generate different reports for business analysis. It provides messaging facility for the administrator for communication.

Database Tier: The concentration is applied by adopting the SQL database. SQL is taken as the standard query language. The overall business rules are designed by using the power of PL/SQL components like dynamic queries, stored procedures stored functions etc.

User Tier: The user interface is developed is a browses specific environment to have web-based architecture. The components are designed using HTML standards and PHP server pages power the dynamic of the page design.

Data Base Connectivity Tier: The communication architecture is designed by concentrated on the standards of servlets and PHP/SQL. The database connectivity is established using the SQL/MYSQL Database connectivity.

Structured Query Language (SQL): SQL is an inter-active language used to query the database and access data in database. SQL has the following features:

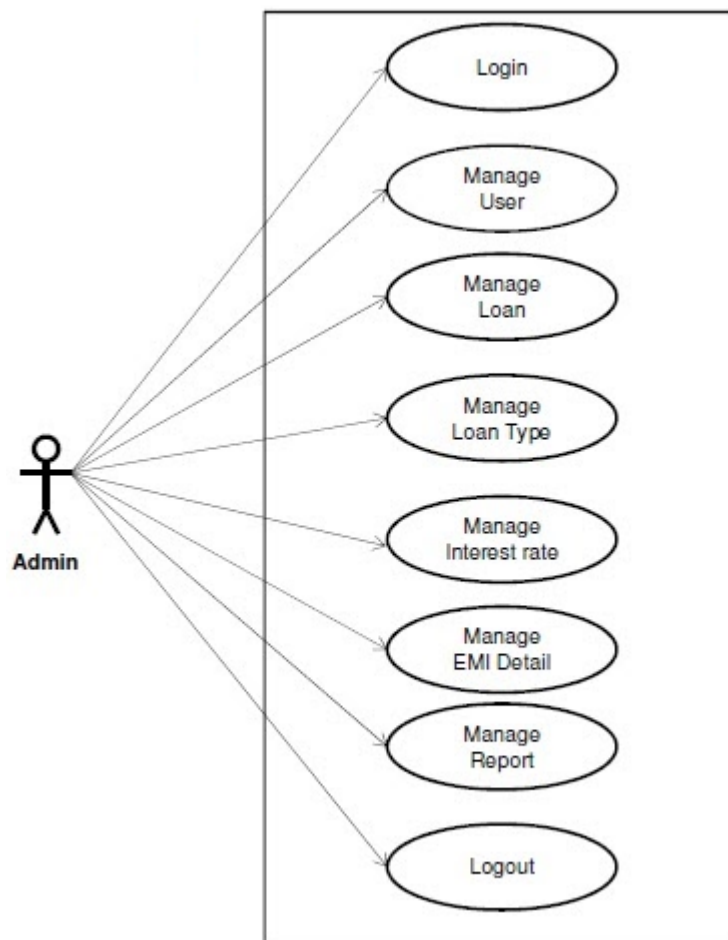
1. It is a unified language.
2. It is a common language for relational database
3. It is a non-procedural language.

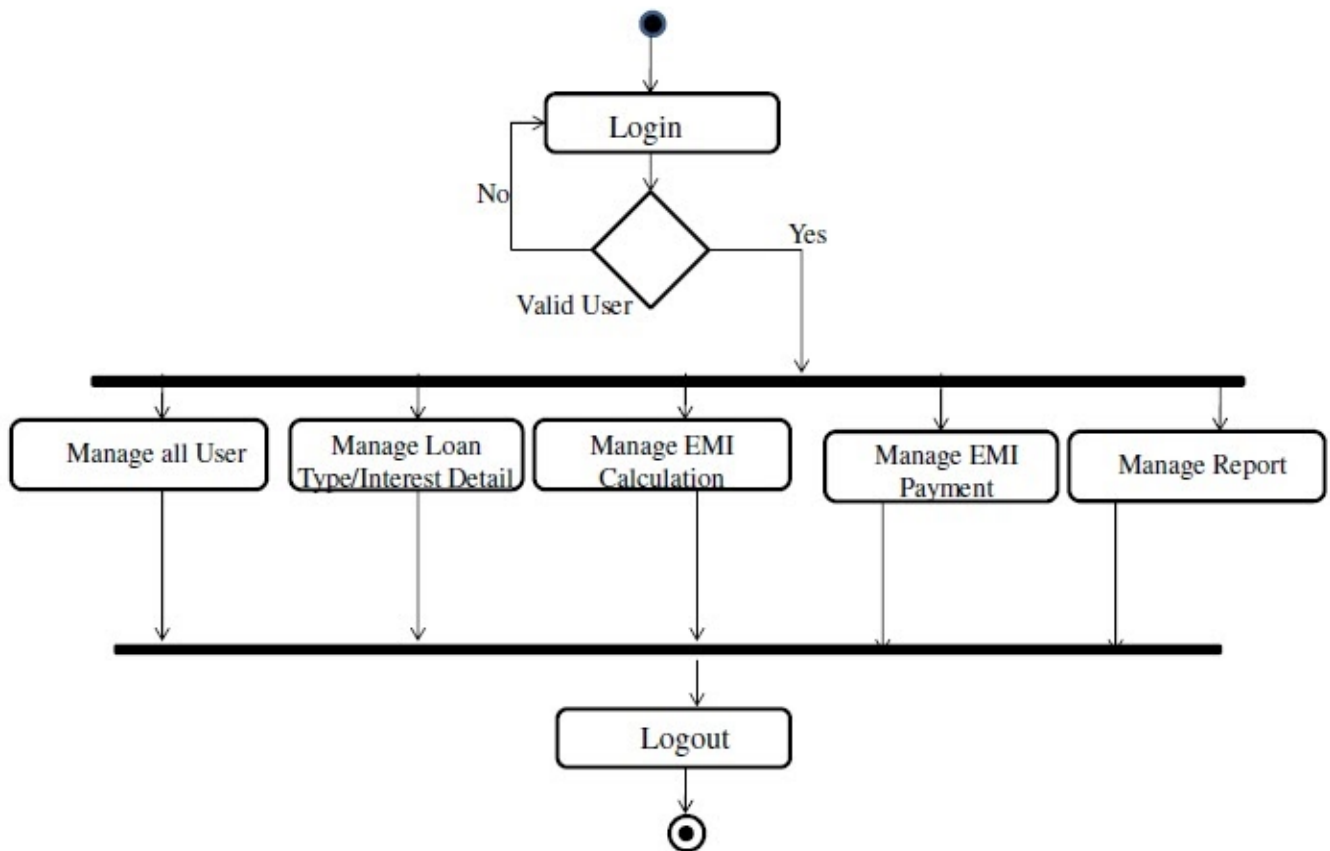
Front end or User Interface Design: The entire user interface is planned to be developed in browser specific environment with a touch of Intranet-Based Architecture for achieving the Distributed Concept. The browser specific components are designed by using the HTML standards, and the dynamism of the designed by concentrating on the constructs of the PHP Server Pages.

Database design: The total number of database tables that were identified to build the system is 6. The major part of the Database is categorized as:

1. **Transactional components:** The Transactional components are useful in recording the transactions made by the system. All the projects information was handled by these components.
2. **Data Dictionary components:** These components are used to store the major information like staff details, borrower's details, loan requirement details, loan types details, allocations details etc.
3. **General components:** These components are used to store the general information like login information etc.

ER Diagram:





Project Code:

Database SQL Code:

```

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
START TRANSACTION;
SET time_zone = "+00:00";

```

```

CREATE TABLE `borrowers` (
  `id` int(30) NOT NULL,
  `firstname` varchar(100) NOT NULL,
  `middlename` varchar(100) NOT NULL,
  `lastname` varchar(100) NOT NULL,
  `contact_no` varchar(30) NOT NULL,
  `address` text NOT NULL,
  `email` varchar(50) NOT NULL,
  `tax_id` varchar(50) NOT NULL,
  `date_created` int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

```

```

INSERT INTO `borrowers` (`id`, `firstname`, `middlename`, `lastname`, `contact_no`,
`address`, `email`, `tax_id`, `date_created`) VALUES
(1, 'John', 'C', 'Smith', '+16554 454654', 'Sample address', 'jsmith@sample.com',
'789845-23', 0);

```

```
CREATE TABLE `loan_list` (  
  `id` int(30) NOT NULL,  
  `ref_no` varchar(50) NOT NULL,  
  `loan_type_id` int(30) NOT NULL,  
  `borrower_id` int(30) NOT NULL,  
  `purpose` text NOT NULL,  
  `amount` double NOT NULL,  
  `plan_id` int(30) NOT NULL,  
  `status` tinyint(1) NOT NULL DEFAULT 0 COMMENT '0= request, 1=  
confrimed,2=released,3=complteted,4=denied\r\n',  
  `date_released` datetime NOT NULL,  
  `date_created` datetime NOT NULL DEFAULT current_timestamp() ON UPDATE  
current_timestamp()  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;  
  
INSERT INTO `loan_list` (`id`, `ref_no`, `loan_type_id`, `borrower_id`, `purpose`,  
`amount`, `plan_id`, `status`, `date_released`, `date_created`) VALUES  
(3, '81409630', 1, 1, 'Sample Only', 100000, 1, 2, '2020-09-26 09:06:00', '2020-09-26  
15:06:29');  
  
CREATE TABLE `loan_plan` (  
  `id` int(30) NOT NULL,  
  `months` int(11) NOT NULL,  
  `interest_percentage` float NOT NULL,  
  `penalty_rate` int(11) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;  
  
INSERT INTO `loan_plan` (`id`, `months`, `interest_percentage`, `penalty_rate`) VALUES  
(1, 36, 8, 3),  
(2, 24, 5, 2),  
(3, 27, 6, 2);  
  
CREATE TABLE `loan_schedules` (  
  `id` int(30) NOT NULL,  
  `loan_id` int(30) NOT NULL,  
  `date_due` date NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;  
  
INSERT INTO `loan_schedules` (`id`, `loan_id`, `date_due`) VALUES  
(2, 3, '2020-10-26'),  
(3, 3, '2020-11-26'),  
(4, 3, '2020-12-26'),  
(5, 3, '2021-01-26'),  
(6, 3, '2021-02-26'),  
(7, 3, '2021-03-26'),  
(8, 3, '2021-04-26'),  
(9, 3, '2021-05-26'),
```

```
(10, 3, '2021-06-26'),
(11, 3, '2021-07-26'),
(12, 3, '2021-08-26'),
(13, 3, '2021-09-26'),
(14, 3, '2021-10-26'),
(15, 3, '2021-11-26'),
(16, 3, '2021-12-26'),
(17, 3, '2022-01-26'),
(18, 3, '2022-02-26'),
(19, 3, '2022-03-26'),
(20, 3, '2022-04-26'),
(21, 3, '2022-05-26'),
(22, 3, '2022-06-26'),
(23, 3, '2022-07-26'),
(24, 3, '2022-08-26'),
(25, 3, '2022-09-26'),
(26, 3, '2022-10-26'),
(27, 3, '2022-11-26'),
(28, 3, '2022-12-26'),
(29, 3, '2023-01-26'),
(30, 3, '2023-02-26'),
(31, 3, '2023-03-26'),
(32, 3, '2023-04-26'),
(33, 3, '2023-05-26'),
(34, 3, '2023-06-26'),
(35, 3, '2023-07-26'),
(36, 3, '2023-08-26'),
(37, 3, '2023-09-26');

CREATE TABLE `loan_types` (
  `id` int(30) NOT NULL,
  `type_name` text NOT NULL,
  `description` text NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

INSERT INTO `loan_types` (`id`, `type_name`, `description`) VALUES
(1, 'Small Business', 'Small Business Loans'),
(2, 'Mortgages', 'Mortgages'),
(3, 'Personal Loans', 'Personal Loans');

CREATE TABLE `payments` (
  `id` int(30) NOT NULL,
  `loan_id` int(30) NOT NULL,
  `payee` text NOT NULL,
  `amount` float NOT NULL DEFAULT 0,
  `penalty_amount` float NOT NULL DEFAULT 0,
  `overdue` tinyint(1) NOT NULL DEFAULT 0 COMMENT '0=no , 1 = yes',
  `date_created` datetime NOT NULL DEFAULT current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

```

INSERT INTO `payments` (`id`, `loan_id`, `payee`, `amount`, `penalty_amount`,
`overdue`, `date_created`) VALUES
(2, 3, 'Smith, John C', 3000, 0, 0, '2020-09-26 15:51:01');

CREATE TABLE `users` (
  `id` int(30) NOT NULL,
  `doctor_id` int(30) NOT NULL,
  `name` varchar(200) NOT NULL,
  `address` text NOT NULL,
  `contact` text NOT NULL,
  `username` varchar(100) NOT NULL,
  `password` varchar(200) NOT NULL,
  `type` tinyint(1) NOT NULL DEFAULT 2 COMMENT '1=admin , 2 = staff'
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

INSERT INTO `users` (`id`, `doctor_id`, `name`, `address`, `contact`, `username`,
`password`, `type`) VALUES
(1, 0, 'Administrator', '', '', 'admin', 'admin123', 1);

ALTER TABLE `borrowers`
  ADD PRIMARY KEY (`id`);

ALTER TABLE `loan_list`
  ADD PRIMARY KEY (`id`);

ALTER TABLE `loan_plan`
  ADD PRIMARY KEY (`id`);

ALTER TABLE `loan_schedules`
  ADD PRIMARY KEY (`id`);

ALTER TABLE `loan_types`
  ADD PRIMARY KEY (`id`);

ALTER TABLE `payments`
  ADD PRIMARY KEY (`id`);

ALTER TABLE `users`
  ADD PRIMARY KEY (`id`);

ALTER TABLE `borrowers`
  MODIFY `id` int(30) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=2;

ALTER TABLE `loan_list`
  MODIFY `id` int(30) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=4;

```

```
ALTER TABLE `loan_plan`  
MODIFY `id` int(30) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=4;  
  
ALTER TABLE `loan_schedules`  
MODIFY `id` int(30) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=38;  
  
ALTER TABLE `loan_types`  
MODIFY `id` int(30) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=4;  
  
ALTER TABLE `payments`  
MODIFY `id` int(30) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=3;  
  
ALTER TABLE `users`  
MODIFY `id` int(30) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=16;  
COMMIT;
```

Login Code:

```
<!DOCTYPE html>  
<html lang="en">  
  
<head>  
  <meta charset="utf-8">  
  <meta content="width=device-width, initial-scale=1.0" name="viewport">  
  
  <title>ABDUL's Loan System</title>  
  
<?php include('./header.php'); ?>  
<?php include('./db_connect.php'); ?>  
<?php  
session_start();  
if(isset($_SESSION['login_id']))  
header("location:index.php?page=home");  
  
?>  
  
</head>  
<style>  
  body{  
    width: 100%;  
    height: calc(100%);  
  }  
  main#main{  
    width:100%;  
    height: calc(100%);  
    background:white;  
  }  
  #login-right{
```



```
right:0;
width:100%;
height: calc(100%);
background:white;
display: flex;
align-items: center;
}
```

```

                                <label for="password" class="control-
label">Password</label>
                                <input type="password" id="password" name="password"
class="form-control" placeholder="Passw***">
                                </div>
                                <br>
                                <center><button class="btn-sm btn-block btn-wave col-md-4 btn
btn-warning">Sign In</button></center>
                                </form>
                                </div>
                                </div>
                                </div>

</main>

<a href="#" class="back-to-top"><i class="icofont-simple-up"></i></a>

</body>
<script>
    $('#login-form').submit(function(e){
        e.preventDefault()
        $('#login-form button[type="button"]').attr('disabled',true).html('Logging
in...');
        if($(this).find('.alert-danger').length > 0 )
            $(this).find('.alert-danger').remove();
        $.ajax({
            url:'ajax.php?action=login',
            method:'POST',
            data:$(this).serialize(),
            error:err=>{
                console.log(err)
            },
            success:function(resp){
                if(resp == 1){
                    location.href ='index.php?page=home';
                }else if(resp == 2){
                    location.href ='voting.php';
                }else{
                    $('#login-form').prepend('<div class="alert alert-
danger">Incorrect Credentials.</div>')
                    $('#login-form
button[type="button"]').removeAttr('disabled').html('Login');
                }
            }
        })
    })

```

```
</script>
```

</html>

User Code:

[illegible]

```
<button type="button" class="btn btn-dark dropdown-  
toggle dropdown-toggle-split" data-toggle="dropdown" aria-haspopup="true" aria-  
expanded="false">
```

```
</button>
```

```
<a class="dropdown-item edit_user" href="javascript:void(0)" data-id = '<?php echo $row['id'] ?>'>Edit</a>
```

```
<a class="dropdown-item delete_user" href="javascript:void(0)" data-id = '<?php echo $row['id'] ?>'>Delete</a>
```

</div>

</td>

```
<?php endwhile; ?>
```

</table>

</div>

</div>

```
.card{
  border-radius: 25px;
  margin-left: -155px;
  margin-top: -20px;
}
```

```
.card-body{
  padding: 20px;
}
```

```
<script>
```

```
$('#new_user').click(function(){
    uni_modal('New User','manage_user.php')
})
```

```
$('.edit_user').click(function(){
    uni_modal('Edit User','manage_user.php?id='+$(this).attr('data-id'))
})
```

```
$('.delete_user').click(function(){
    _conf("Are you sure to delete this user?", "delete_user", [$(this).attr('data-
id')])
})
```

```
function delete_user($id){
    start load()
```

```

        $.ajax({
            url: 'ajax.php?action=delete_user',
            method: 'POST',
            data: {id:$id},
            success: function(resp){
                if(resp==1){
                    alert_toast("Data successfully deleted",'success')
                    setTimeout(function(){
                        location.reload()
                    },1500)
                }
            }
        })
    }
}
</script>

```

Loan Code:

```

<?php include 'db_connect.php' ?>

<div class="container-fluid">
    <div class="col-lg-12">
        <div class="card" style="background-color: #ffc107;">
            <div class="card-header">
                <large class="card-title">
                    <b>Borrower's List</b>
                    <button class="btn btn-danger btn-sm btn-block col-md-2 float-
right" type="button" id="new_application"><i class="fa fa-plus"></i> Create New
Application</button>
                </large>
            </div>
            <div class="card-body">
                <table class="table table-bordered" id="loan-list">
                    <colgroup>
                        <col width="10%">
                        <col width="25%">
                        <col width="25%">
                        <col width="20%">
                        <col width="10%">
                        <col width="10%">
                    </colgroup>
                    <thead>
                        <tr>
                            <th class="text-center">#</th>
                            <th class="text-center">Borrower</th>
                            <th class="text-center">Loan Details</th>
                            <th class="text-center">Next Payment Details</th>
                            <th class="text-center">Status</th>

```

```
 Action</th> </tr> </thead> <tbody> <?php     $i=1;     $type = $conn->query("SELECT * FROM loan_types where id in (SELECT loan_type_id from loan_list) ");     while($row=$type->fetch_assoc()){         $type_arr[$row['id']] = $row['type_name'];     }     $plan = $conn->query("SELECT *,concat(months,' month/s [ ',interest_percentage,'% ',penalty_rate,' ]') as plan FROM loan_plan where id in (SELECT plan_id from loan_list) ");     while($row=$plan->fetch_assoc()){         $plan_arr[$row['id']] = $row;     }     $qry = $conn->query("SELECT l.*,concat(b.lastname,' ',b.firstname,' ',b.middlename)as name, b.contact_no, b.address from loan_list l inner join borrowers b on b.id = l.borrower_id order by id asc");     while($row = $qry->fetch_assoc()):         $monthly = ($row['amount'] + ($row['amount'] * ($plan_arr[$row['plan_id']]['interest_percentage']/100))) / $plan_arr[$row['plan_id']]['months'];         $penalty = $monthly * ($plan_arr[$row['plan_id']]['penalty_rate']/100);         $payments = $conn->query("SELECT * from payments where loan_id = ".$row['id']);         $paid = $payments->num_rows;         $offset = $paid > 0 ? " offset $paid ": "";         if($row['status'] == 2):             $next = $conn->query("SELECT * FROM loan_schedules where loan_id = '".$row['id']."' order by date(date_due) asc limit 1 $offset ")- >fetch_assoc()['date_due'];         endif;         $sum_paid = 0;         while($p = $payments->fetch_assoc()){             $sum_paid += ($p['amount'] - $p['penalty_amount']);         }     ?> <tr>     <td class="text-center"><?php echo $i++ ?></td>     <td>         <p>Name :<b><?php echo $row['name'] ?></b></p>         <p><small>Contact # :<b><?php echo $row['contact_no'] ?></small></b></p> |
```

```

                <p><small>Address :<b><?php echo
$row['address'] ?></small></b></p>
            </td>
            <td>
                <p>Reference :<b><?php echo $row['ref_no'] ?></b></p>
                <p><small>Loan type :<b><?php echo
$type_arr[$row['loan_type_id']] ?></small></b></p>
                <p><small>Plan :<b><?php echo
$plan_arr[$row['plan_id']]['plan'] ?></small></b></p>
                <p><small>Amount :<b><?php echo $row['amount']
?></small></b></p>
                <p><small>Total Payable Amount :<b><?php echo
number_format($monthly * $plan_arr[$row['plan_id']]['months'],2) ?></small></b></p>
                <p><small>Monthly Payable Amount: <b><?php echo
number_format($monthly,2) ?></small></b></p>
                <p><small>Overdue Payable Amount: <b><?php echo
number_format($penalty,2) ?></small></b></p>
                <?php if($row['status'] == 2 || $row['status'] == 3):
?>
                    <p><small>Date Released: <b><?php echo date("M d,
Y",strtotime($row['date_released'])) ?></small></b></p>
                    <?php endif; ?>
            </td>
            <td>
                <?php if($row['status'] == 2 ): ?>
                <p>Date: <b>
                <?php echo date('M d, Y',strtotime($next)); ?>
                </b></p>
                <p><small>Monthly amount:<b><?php echo
number_format($monthly,2) ?></b></small></p>
                <p><small>Penalty :<b><?php echo $add =
(date('Ymd',strtotime($next)) < date("Ymd") ) ? $penalty : 0; ?></b></small></p>
                <p><small>Payable Amount :<b><?php echo
number_format($monthly + $add,2) ?></b></small></p>
                <?php else: ?>
                    N/a
                <?php endif; ?>
            </td>
            <td class="text-center">
                <?php if($row['status'] == 0): ?>
                    <span class="badge badge-warning">For
Approval</span>
                <?php elseif($row['status'] == 1): ?>
                    <span class="badge badge-info">Approved</span>
                <?php elseif($row['status'] == 2): ?>
                    <span class="badge badge-warning">Released</span>
                <?php elseif($row['status'] == 3): ?>
                    <span class="badge badge-success">Completed</span>
                <?php elseif($row['status'] == 4): ?>
                    <span class="badge badge-danger">Denied</span>

```

```

                                <?php endif; ?>
                                </td>
                                <td class="text-center">
                                    <button class="btn btn-outline-warning btn-sm
edit_loan" type="button" data-id="<?php echo $row['id'] ?>"><i class="fa fa-
edit"></i></button>
                                    <button class="btn btn-outline-danger btn-sm
delete_loan" type="button" data-id="<?php echo $row['id'] ?>"><i class="fa fa-
trash"></i></button>
                                </td>

                                </tr>

                                <?php endwhile; ?>
                            </tbody>
                        </table>
                    </div>
                </div>
            </div>
</div>
<style>
    td p {
        margin:unset;
    }
    td img {
        width: 8vw;
        height: 12vh;
    }
    td{
        vertical-align: middle !important;
    }
    .card{
        border-radius: 25px;
        margin-left: -250px;
        margin-top: -40px;
    }
</style>
<script>
    $('#loan-list').dataTable()
    $('#new_application').click(function(){
        uni_modal("New Loan Application","manage_loan.php",'mid-large')
    })
    $('.edit_loan').click(function(){
        uni_modal("Edit Loan","manage_loan.php?id="+$(this).attr('data-id'),'mid-
large')
    })
    $('.delete_loan').click(function(){
        _conf("Are you sure to delete this data?","delete_loan",[$(this).attr('data-
id')])
    })

```



```
function delete_loan($id){
    start_load()
    $.ajax({
        url:'ajax.php?action=delete_loan',
        method:'POST',
        data:{id:$id},
        success:function(resp){
            if(resp==1){
                alert_toast("Loan successfully deleted",'success')
                setTimeout(function(){
                    location.reload()
                },1500)
            }
        }
    })
}
```

</script>

Output:

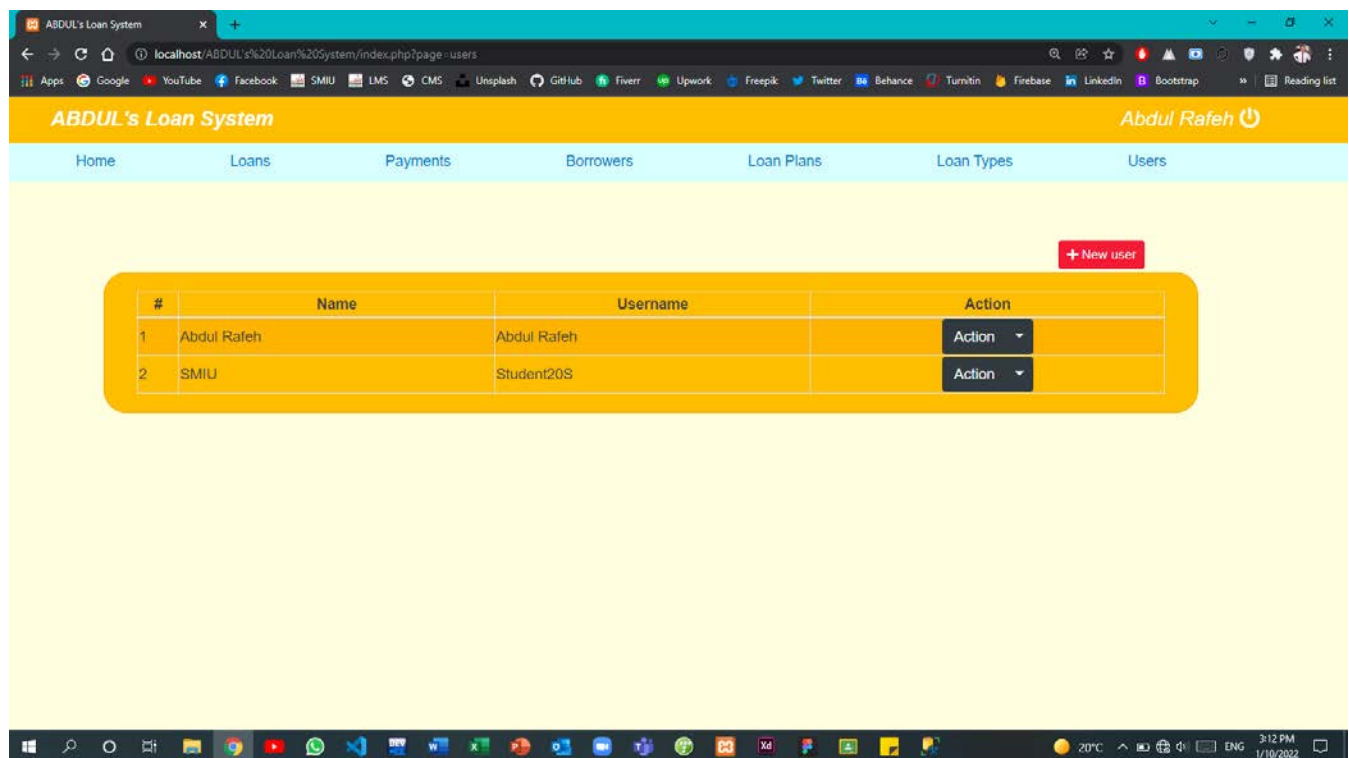
ABDUL's Loan System

Username

Abdul Rafeh

Password

Sign In



IDE:

- Visual Studio.
- Sublime Text.
- SQL Server Management Studio.