



ChippArcade

CHIPP.WTF

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ABSTRACT

In recent years, we can observe the rapid growth of software engineering and development and even more rapidly growing game development. This Project is an Online Gaming Website Where one can play multiple games. We implemented an Advanced Authentication System For Providing Better Authentication for user experience. Online gaming can refer to any type of game that a user can play through the Internet or through a computer network but most of the time, online gaming refers to video games played over the Internet, where multiple players are at different localities. The ChippArcade provides an easy interface that will enable users to play a game of their choice. It provides users with more pleasure and joy to their minds by playing these traditional arcade games such as snake game, pinball, pong, etc. A registered user can directly enter the website by login in using his/her username and password. Basically, the website contains three arcade games where the user can select a game and play.

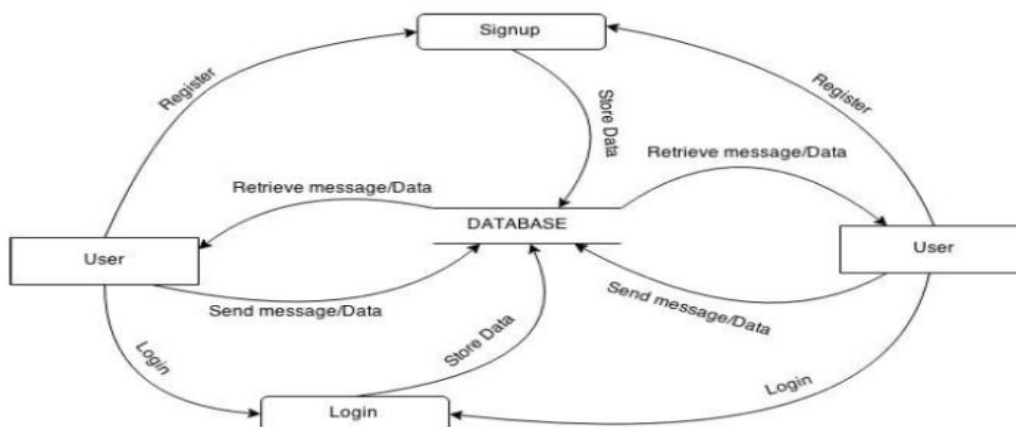
OBJECTIVE AND MOTIVATION

We are living in a tough time of self-quarantine and we are always engaged in technology to keep ourselves optimized. Somewhere between early Buddhists to date worries of game addiction have given a scientific understanding of benefits to play. In today's world, online gaming is very popular with people of all age groups. The Annual research conducted by The Office Of Communications tells us that gaming is yet one of the top activities that are enjoyed by 6-16-year-olds online, while many of them are gaming via mobile devices while a few go online using their games console. Starting with sport-related games to mission-based field games and quests inspiring many users to complete challenges, interactive games cater to a wide range of interests of the user, which enables the users to link up and play together. Most games nowadays have an online element allowing the users to take part in leaderboards, join in groups, or chat with others using the chatbox. Internet connectivity in a game adds new fun for gamers as it allows players to find and play against other players. These can be their friends or family members or even other users in the game from around the world particularly in multiplayer games. This leaflet provides an introduction to online gaming and advice for parents specifically related to gaming. Our goal is to show the basic layout of the online gaming website using HTML and JavaScript.

WORKFLOW

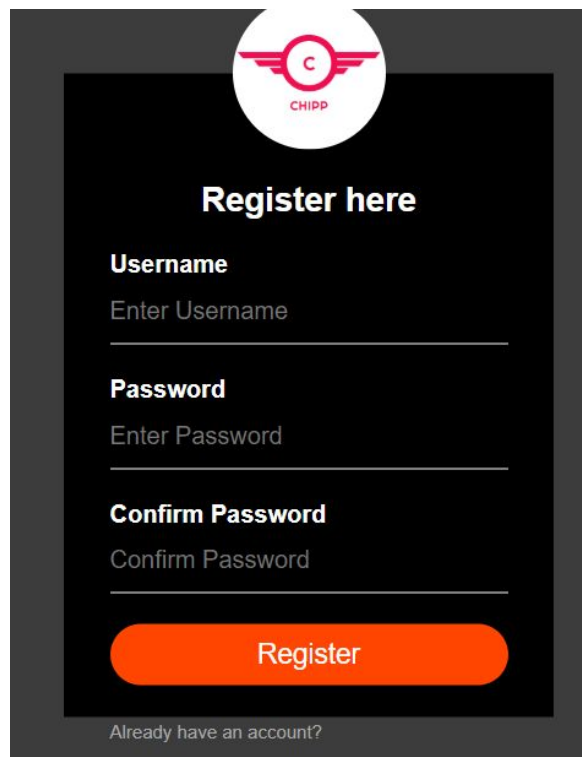
All around planned sites offer substantially more than just-style. They draw in guests and assist individuals with understanding the product, organization, and marking through an assortment of pointers, including visuals, content, and communications. That implies each component of your site needs to move in the direction of a characterized objective. So here is a brief description of the workflow of our web application.

- I. Login page
- II. Registration page
- III. Home page
- IV. Individual page for every game
- V. About us page



Register page

We have our register page first for new users who wants to jump in and play their favorite arcade game. To access these games they need to register first. Upon registration, their data will be added to the database and allows them to log in.



The image shows a registration form for a website called CHIPP. At the top, there is a circular logo with a red 'C' and wings, and the word 'CHIPP' below it. The form has a dark background with white text. It includes three input fields: 'Username' with the placeholder 'Enter Username', 'Password' with the placeholder 'Enter Password', and 'Confirm Password' with the placeholder 'Confirm Password'. Below these fields is a large orange button labeled 'Register'. At the bottom of the form, there is a link that says 'Already have an account?'.

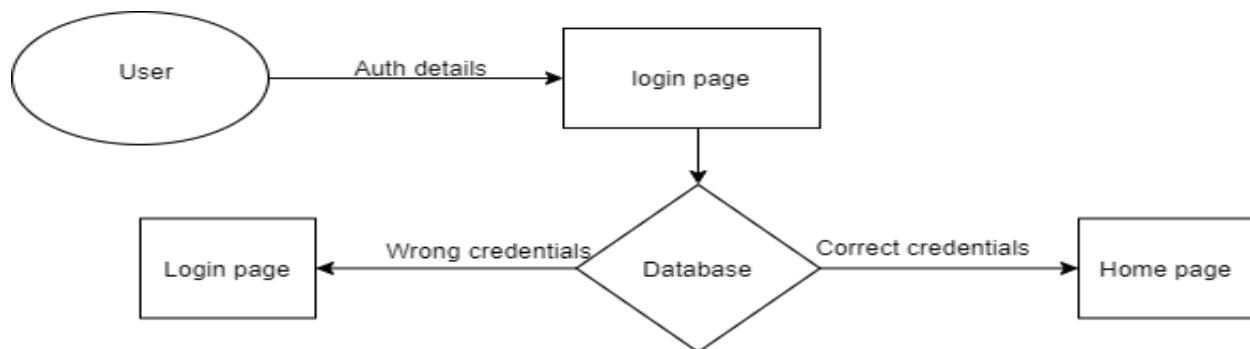
Shown above is the registration form designed using HTML and CSS and implemented as a JSP file. Once the user fills their details by filling up the form and clicking register their information would be added to the SQL database, shown below is the SQL database table of a few registered users.

uname	password	confirm password
Ruthvik	chipp	chipp
Snehi	chipp_pinni	chipp_pinni
Amey	chipp420	chipp420
Zenvith	chippzen	chippzen
gamer	yourUncle	yourUncle
light	yagami	yagami

Login page

We designed the login page similar to the registration page using HTML and CSS and implementing as JSP file. Shown below are the visual representation of the login page and the workflow of the same.

Login page



Workflow of the login page

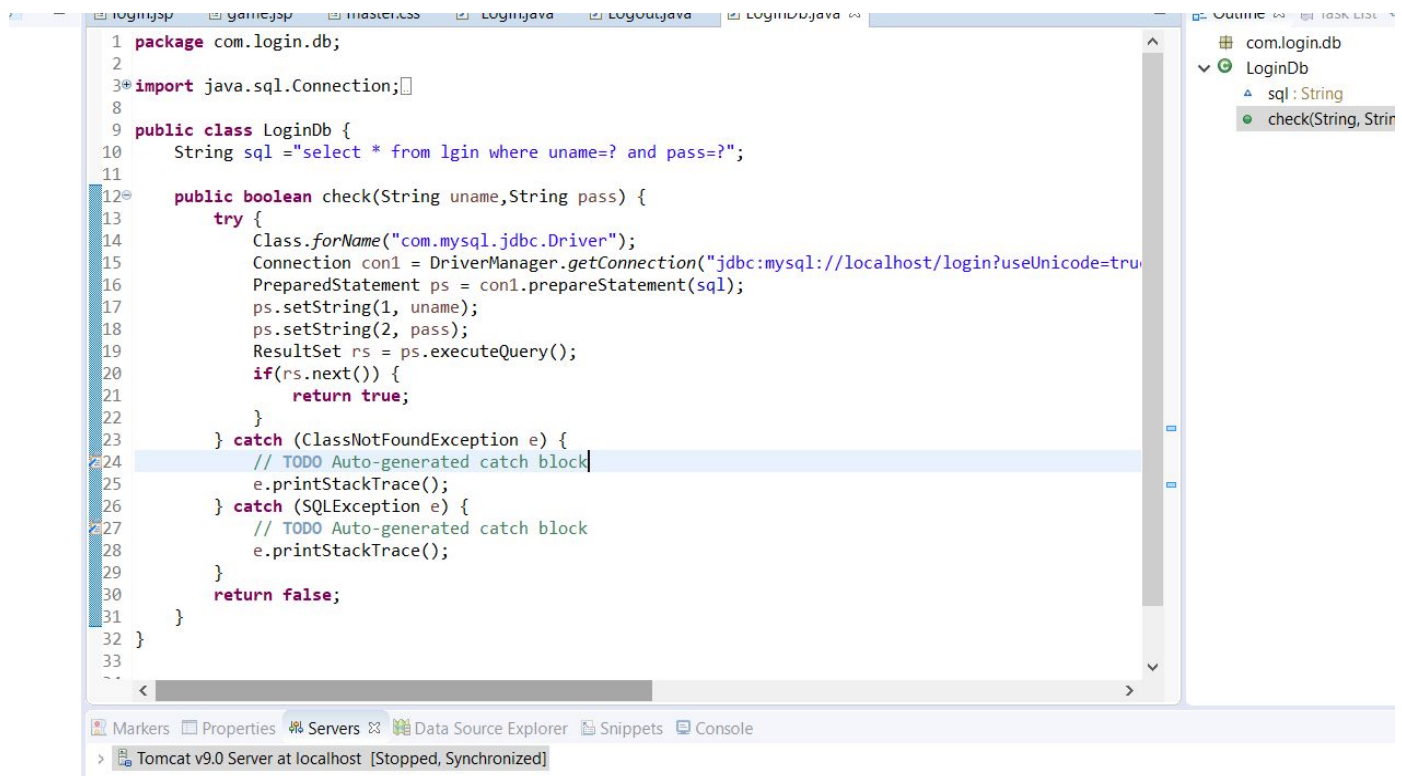
As shown above, in the flow chart the user enters their credentials into the login page and the credentials are verified with the ones in the database and if the credentials match, the user is redirected to the home page else if the credentials do not match with the database the user's access is denied and stays in the login page itself.

```

1 package com.login;
2
3 import java.io.IOException;
4
12 |
13 @SuppressWarnings("serial")
14 @WebServlet("/Login")
15 public class Login extends HttpServlet {
16
17     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
18         String uname = request.getParameter("uname");
19         String pass = request.getParameter("pass");
20
21         LoginDb ld = new LoginDb();
22
23
24         if(ld.check(uname, pass)) {
25             HttpSession session = request.getSession();
26             session.setAttribute("username", uname);
27             response.sendRedirect("game.jsp");
28         }
29         else {
30             response.sendRedirect("login.jsp");
31         }
32
33
34

```

This part of the code collects the data and sends it to the server for verifying the credentials submitted by the user in the database. After receiving the details the below code verifies the credentials with the database. After a successful login, the user is redirected to the home page, or in case of an unsuccessful login the user stays in the login page itself (as shown in the code above).



```

1  package com.login.db;
2
3  import java.sql.Connection;
4
5
6
7
8
9  public class LoginDb {
10     String sql = "select * from lgin where uname=? and pass=?";
11
12     public boolean check(String uname,String pass) {
13         try {
14             Class.forName("com.mysql.jdbc.Driver");
15             Connection con1 = DriverManager.getConnection("jdbc:mysql://localhost/login?useUnicode=true");
16             PreparedStatement ps = con1.prepareStatement(sql);
17             ps.setString(1, uname);
18             ps.setString(2, pass);
19             ResultSet rs = ps.executeQuery();
20             if(rs.next()) {
21                 return true;
22             }
23         } catch (ClassNotFoundException e) {
24             // TODO Auto-generated catch block
25             e.printStackTrace();
26         } catch (SQLException e) {
27             // TODO Auto-generated catch block
28             e.printStackTrace();
29         }
30         return false;
31     }
32 }
33

```

The screenshot shows an IDE with the following components:

- Editor:** Displays the Java code for the `LoginDb` class. The code includes a package declaration, an import for `java.sql.Connection`, and a `check` method that attempts to connect to a MySQL database and verify user credentials.
- Project Explorer:** Shows the project structure with a package `com.login.db` containing the `LoginDb` class. A snippet named `sql : String` is also visible.
- Console:** Shows the status of the Tomcat v9.0 Server at localhost, which is currently [Stopped, Synchronized].

If the user wants to log out of the website the below code is executed where the present session is invalidated and redirects the user to log in page.

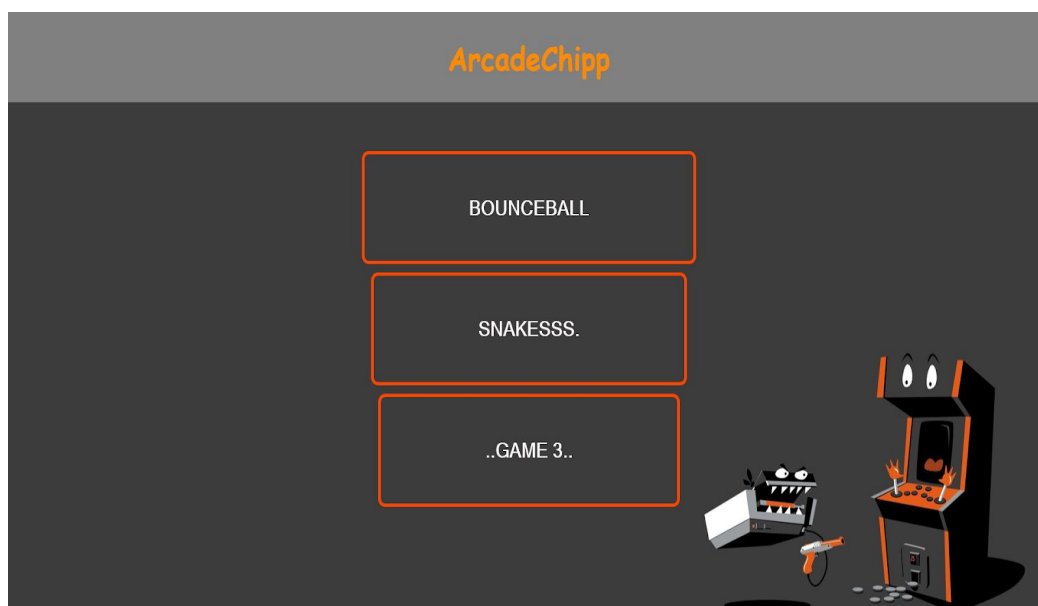
```

3+ import java.io.IOException;
7
8
9+ /**
0  * Servlet implementation class Logout
1  */
2  @SuppressWarnings("serial")
3  @WebServlet("/Logout")
4  public class Logout extends HttpServlet {
5
6
7+     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException {
8         HttpSession session = request.getSession();
9         session.removeAttribute("username");
0         session.invalidate();
1         response.sendRedirect("login.jsp");
2
3     }
4
5
6
7 }
8

```

Home page

Upon successful login, the user is directed towards the home page shown below is a basic layout of the home page which is designed using interactive CSS.

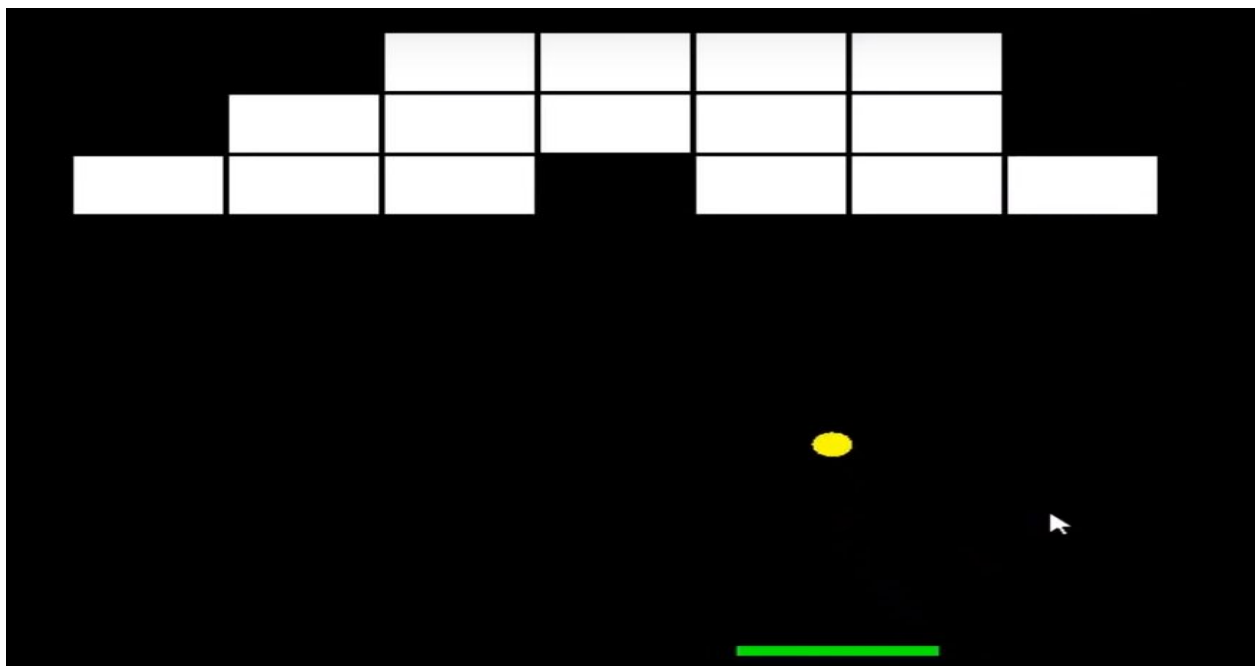


Each button is a hyperlink to another page, once the user selects his preferred game of choice, the user will be taken to that page, from here the user can even log out of the session.

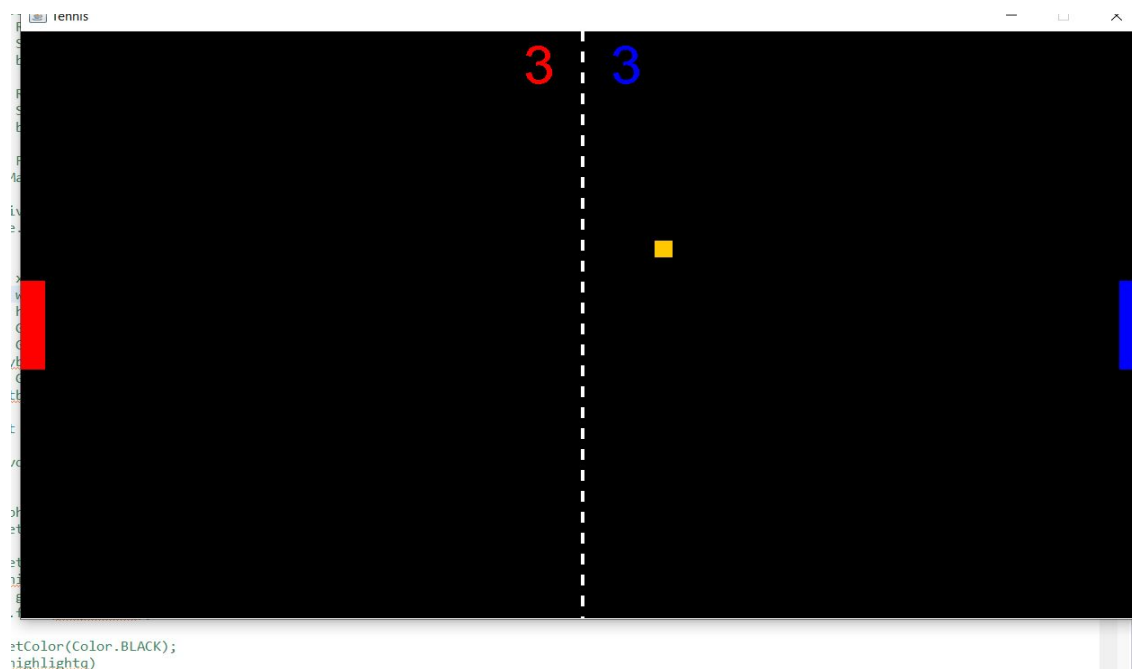
Individual page for every game

Each game has it's own page where the user can interact, score points and have fun and each game is a digital version of an arcade game.

The three arcade games which are available on the website are Pong, snake game and brick breaker which made so much impact when arcade game used to be the mainstream of gaming.



Brick breaker



Pong

About us

A contact form titled "CONTACT US" in orange. It has four input fields: "NAME" and "EMAIL" on the first line, "ADDRESS" on the second line, and "MESSAGES" on the third line. Below the fields is a dark grey "SEND" button.

The above image shows our about us page which takes in feedback from the users and has our information.

FUTURE IMPLEMENTATION

We have completed the project with a clear website and all functional and non-functional requirements of all the modules are met. The product is easily usable and properly documented. The system can be extended by adding more features. The project has gone successfully through all the phases and the test cases are checked thoroughly.

Further Extensions include :

- Games with multiplayer options and 3D models.
- Group messaging system.
- Advanced notification system.
- Providing virtual environments
- Characters to battlefield games etc.

CONCLUSION

Chipp Arcade has been successfully implemented as specified by the requirements. The implementation and test cases have been checked and run in a step- by- step procedure. Each module has been developed and tested individually so as to obtain the required output in the desired form. On this note, we learned many things. While working on this project, we got valuable experience in the stages involved while developing any web application that could be useful while working as web developers. Future improvements can be made in certain areas of the project. We want to further improve the project to incorporate more features by including more games with multiplayer options, and an Advanced messaging system with notification, building a virtual environment for better user experience, etc.

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