# Nandha: A web application for stress relief and Management

K. Sujana

[1] *BTECH, Computer Science and Engineering, SRM Ramapuram, Tamil Nadu, India*

## ABSTRACT

*Mental health awareness is something that is sorely lacking in India and the stigma associated with it causes people not to seek out help when they really need it. Therefore, this small web application will seek to create a safe outlet for relieving stress and other psychological factors that are affecting users through interactive features. Some of the proposed features:-*

- *An online chat where users can talk to each other and interact with the community.*
- *A Q & A system where anonymous users can vent their problems and get advice from qualified members. Or share their experiences.*
- *Play small mini-games and compete with each other for high scores.*
- *A creative section where users can post and read short stories, jokes, poems etcetera.*
- *A news client that will create a feed of articles relating to mental health awareness, productivity, general well-being etc.*
- *Language support for both English and Tamil speakers.*
- *A list of links to other web resources that will help the users to deal with more serious problems.*
- *A scheduler that helps schedule events.*
- *Routine Planner to further motivation.*

*The project will be developed in Eclipse IDE as a dynamic web application that uses HTML, CSS, jQuery and other such libraries for the front-end design, JavaScript for scripting, the Hibernate framework for Java will be used to connect the application to the MySQL database that stores user information for login and other purposes. External design templates and various other technologies such as (Unity3D or Flash for making mini-games) could also be used.*

**Web Application : -** *Mental Health , Online community, Stress and anxiety relief etc….*

---

## 1. BACKGROUND

Resources for mental health are incredibly few in India and even the ones available aren't very accessible. So the basic idea for an online platform which helps relieve anxiety and other problems and provides access to wider support and resources came to be. The features of Nandha are based on healthy ways that a person can use to cope with their problems.

### 1.1 Coping Mechanisms

Good coping mechanisms aren't solutions to a problem but a way to treat it. While a serious mental health issue is something a psychiatrist or a therapist should handle, there are cost-effective ways to cope with minor issues. Some of these are:-

- Anticipation: Anticipating an event and preparing in advance for it, such as exams, meetings etc.
- Social Coping: By means of a support system where everyone mutually helps each other out.
- Improving Health: By means of diet, exercise, improved hygiene etc.
- Humor: Jokes and gags help relieve the seriousness of a situation.

- Expression: By honestly expressing our thoughts and emotions, we can come to a worthwhile conclusion.
- Time-Management and Planning: An established routine provides a secure environment.
- Etcetera.

**1.2 Non-Serious Mental health afflictions And Serious Mental Health afflictions**

As mental health research furthers, more and more categories are formed. This section provides a general glance at what constitutes a serious mental illness and what doesn't. A serious mental illness is one that acutely affects a person's life and functioning. Aside from that, according to law, disorders such as:

- Schizophrenia
- Paranoid and other psychotic disorders
- Bipolar disorders (hypomanic, manic, depressive, and mixed)
- Major depressive disorders (single episode or recurrent)
- Obsessive-compulsive disorders
- Etcetera

The illnesses mentioned above classified as serious mental illnesses due to their common debilitating effect on a patient's well-being. Obviously, such disorders must be treated by a professional.

Some of the non-serious mental illnesses as per classifications are:-

- Personality Disorders
- Dysthymia Disorder
- Seasonal Affective Disorder (SAD)
- Generalized Anxiety Disorder
- Acute Stress Disorder
- Attention Deficit / Hyperactivity Disorder
- Social Phobia
- Etcetera

## 2. SYSTEM ARCHITECTURE

This section details the practical side of the project, detailing how it functions and how it will be built. A web application, according to its definition on Wikipedia is a client–server computer program in which the client side runs in a web browser. An easy example would be google.com or facebook.com. Nandha would be similar to a social networking website due to its focus on community support. However, Nandha is a private web application in the sense that only users who do register can access the application.
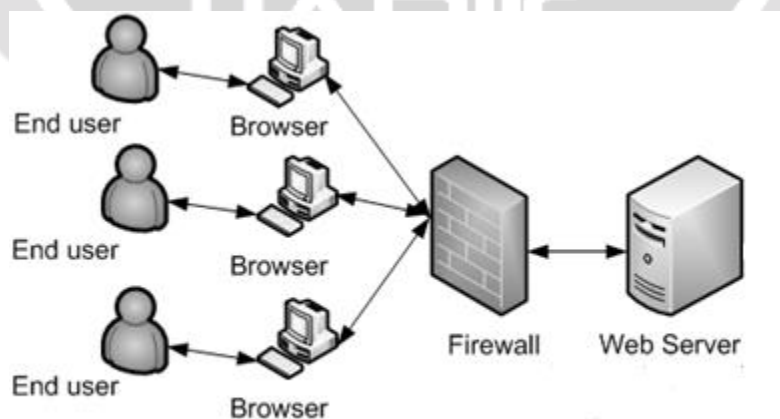


**System Architecture**

The application will work by hosting the application on a local server so that devices on the network can access it. It will be optimized to work on different kinds of devices such as desktops, smartphones, tablets etc. The database and files will be stored on a database server that the application must access to retrieve information.
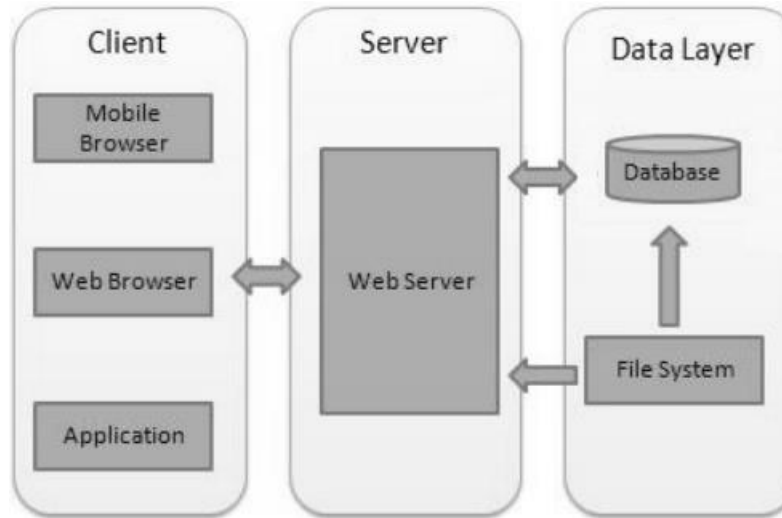
**Relationship Mapping**

**2.1 Databases and files**

The application will have to be mapped with multiple databases such as a user database to hold all the data of registered users. It will need multiple tables to hold discussions between users, one for titles of these discussions and another for the discussion and its responses. The chat will need an archive system where the users can access previous conversations. And finally, the images and text that the users upload in the creative section will have to be stored on the database server so they can be accessed by the application the next time it is loaded.

**Table -1:** User Database

| Username | Password | Email ID | Date of Birth | About Me | Date of Join |
|----------|----------|----------|---------------|----------|--------------|
| Abc | Abc.77 | Abc@77.com | 12/08/1977 | Weary traveler. | 6/12/2017 |
| Xyz | Zzz.33 | Zzz@sms.com | 19/02/1998 | I love life. | 12/6/2017 |

**2.2 Software and Tools Used**

The basic functionality of the web application can be summed as follows.
- The databases are hosted on a local instance of mySQL server.
- The webpages are stored on a local instance of Apache tomcat Server.
- The MySQL database is accessed by the webpages using a JDBC connector and Hibernate framework.
- The webpages can accessed from a web browser by end-user devices on the same network.

And to facilitate this functionality, we use the following software and tools.
- Java Development Kit 1.8 and Java Runtime Environment 1.8
- Eclipse IDE
- Apache Tomcat Server v9
- Hibernate Framework
- Apache Maven build tool
- MySQL Workbench and MySQL server
- Languages such as HTML & CSS, Javascript, Java, SQL, XML and Ajax.

## 3. LIST OF MODULES

The list of modules was briefed in the abstract and will be expanded in this section.
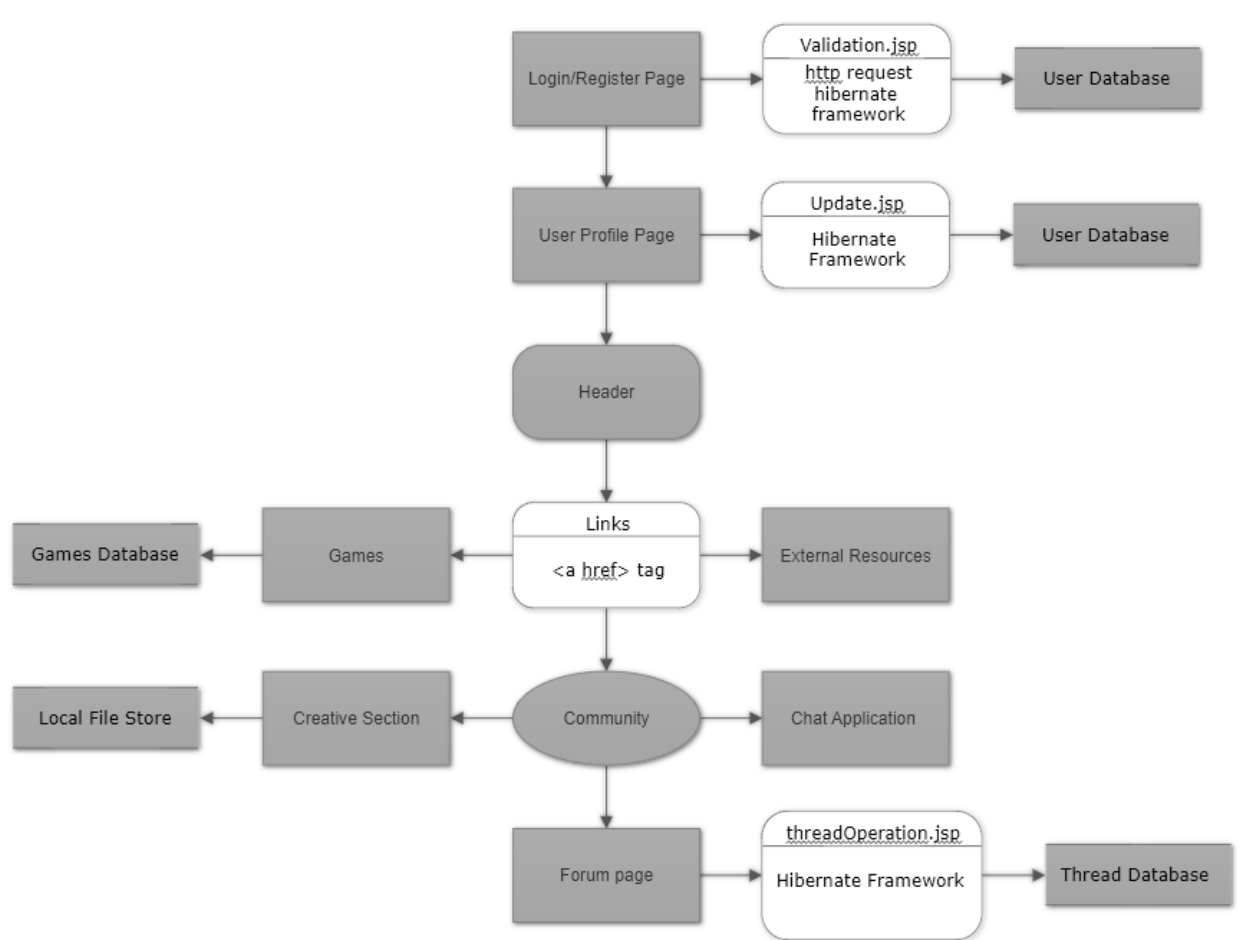
**Detailed Data Flow Diagram of the Application**

### 3.1 User Module

The user module refers to the components of the web application that deal with the creation and maintenance of user accounts. These are:-

- LOGIN/REGISTER PAGE:
  This page will serve as the first page of the project, allowing users access to the rest of the project. Users can choose to login into their existing accounts or create a new account.

- USER PROFILE:
  This page accesses the database, compiles the details of the user and    displays it. It also allows the user to edit their profile. It includes details like full name, Email Id, Date of birth etc. which can be formatted and updated.
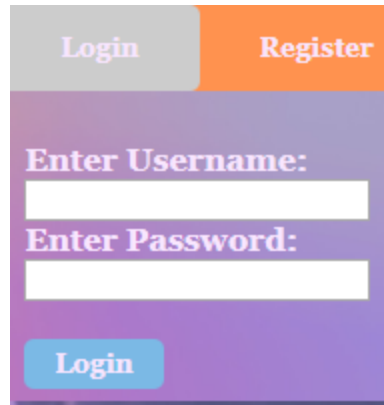
**Fig -2**: Login/Registration dialog box

As told previously, the user module uses Hibernate Framework for Java to map the database from the mySQL server to the application. Hibernate Framework uses SQL commands INSERT to insert a new user into the database and UPDATE to update the details of a user. Bootstrap alerts are used in case there is an error such as incorrect password or invalid data.

**3.1 Additional features**

Now this section covers the features of Nandha that try to provide relief to users. These are:-

- MAIN FORUM PAGE:
  This page displays the links to discussions created by other users on the forum. The users can open the discussions and read them and also reply to them. It also gives the user the access to create a new discussion themselves.
- GAMES PAGE:
  A page that where users can play mini-games with a leader board for high scores.
- CREATIVE PAGE:
  This page allows users can post their original content in the form of text such as poems or stories or jokes.
- NEWS PAGE:
  Where links to news articles relating to mental well-being and awareness are posted.
- LINKS:
  This page links to mental health resources from the World Wide Web.
- SCHEDULER:
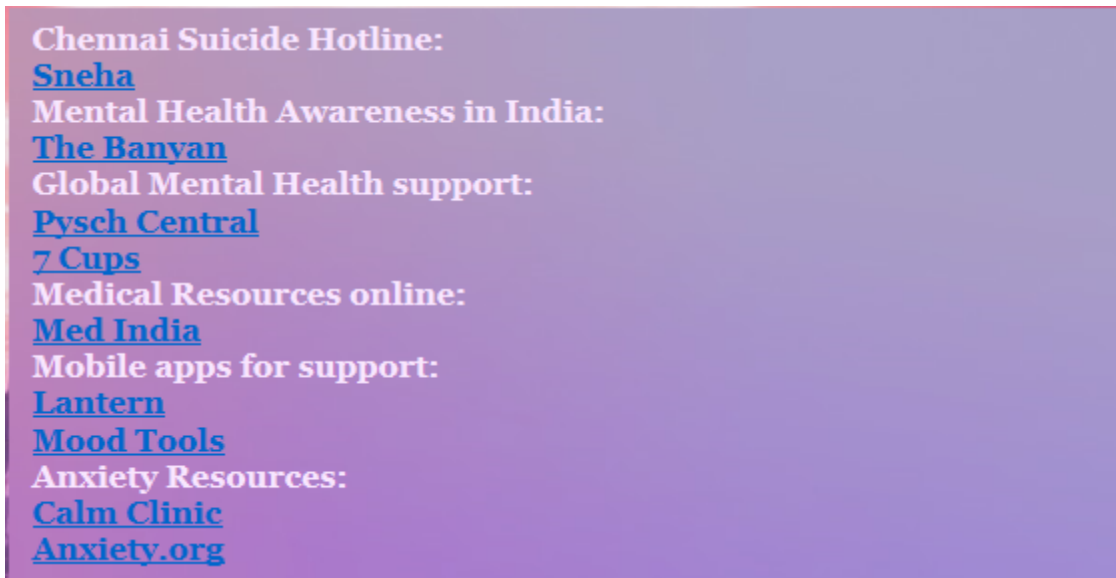  This page provides a scheduler for users to create a personal schedule for the next month.

Chennai Suicide Hotline:
Sneha
Mental Health Awareness in India:
The Banyan
Global Mental Health support:
Pysch Central
7 Cups
Medical Resources online:
Med India
Mobile apps for support:
Lantern
Mood Tools
Anxiety Resources:
Calm Clinic
Anxiety.org

**Fig -2**: Some external Links

## 4. CONCLUSIONS

In conclusion, Nandha is a web application that will hope to provide mental health awareness and resources to users by means of coping resources and community support. Further improvements to the functionality can be made in the future based on the necessity.

## 5. REFERENCES

[1]. Julie Doron, Véronique Thomas-Ollivier, Hugo Vachon, Marina Fortes-Bourbousson. Relationships between cognitive coping, self-esteem, anxiety and depression : A cluster-analysis approach. Personality and Individual Differences, Elsevier, 2013, 55 (5), pp.515-520.
[2]. http://www.humanstress.ca/stress/trick-your-stress/steps-to-instant-stress-management.html
[3]. https://www.bcbsil.com/provider/standards/serious_vs_non_serious.html