

# A SOCIAL WEBBING SERVICE VIVIFIED ON DESIGN PATTERNS

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**Abstract-** Women are the largest untapped reservoir of talents in the world. Today, in the current global scenario, women are facing a lot of favoritism. Nowadays opportunity of showcasing a women's talent is quiet marginal. This paper presents a women-friendly Android application and website using design patterns. The application provides a platform for women users to create their own account and share their expertise. The unique feature of this system is the provision of shopping; it also acts as an e-commerce application. Account holders; on the other hand, make use of the system in the aspect of the business. Such a system ensures talent exhibition and money making for women from any society. The app is made more compactable and improved ease of use with the help of design patterns.

**Key Words:** talent, android app, website, design patterns, social networking, e-commerce.

## 1. INTRODUCTION

The 21st century has proved to be the trendsetter for women empowerment. Despite that woman in the present scenario are limited with a platform to showcase the talents. In today's society, women from various levels are skilled in various fields. Opportunity is a great factor here; most women cannot take part due to their own personal reasons. Smartphones and social media play a vital role in the present storyline. Keeping in line with this, the system paves a wide way for empowering women personalities.

Pratibha Patel, the former president of India stated that 'Women have talent and intelligence, but due to social constraints and prejudice; it is still a long distance away from the goal of gender equality'. Whatever be a women's talent, it should be pulled out and give better recognition and respect. Empowering women to participate fully in economic life across all sectors is essential to building stronger economies, achieve internationally agreed goals for development and sustainability, and improve the quality of life for women, men, families, and communities. Women empowerment is a must for the betterment of our country's future, as women are better managers than men.

Social media is one of the powerful emerging tools across the globe. The use of social networking sites has become one of the popular ways of socializing. The growth of cell phones, especially smartphones, has made social networking just a finger tap away. The three reasons why mobile technology will help in this innovation are smartphone use among women are adversely increasing hence they are easily accessible, crowd-sourcing and affordable scalability. From

the latest analysis, fully 45% of cell phone owners use a social networking site on their phone, and 33% do so on a typical day. India ranked second in Facebook and third in Twitter usage. These social networking sites not only pave a way for communicating across the globe but they have played a major role in empowering women, encouraging the civic participation among women from all over the world. But still many women in our society are scared of social media and social commitments. This paper focuses on how a women's friendly application can be used wisely to empower women in a conservative culture like India. Social media could enhance women's participation in economic and political life, and allows them to increase their self-expression and promote social change, and this is a strong belief that has risen up in the society. However, women face barriers in real life that hinders women from participating in social media and seeing the impact it has on their lives. The barriers are disclosure of personal information's, lack of technical knowledge.

Most of the applications available today are facing many design issues. Software design patterns are used in such situations to rectify and make the application much reliable and compactable. Hence this application is exclusively for women users, it should be modeled in an easy to use form. The quality of application can be enhanced using patterns. The development using design patterns ensures better user interface, e-commerce application, category classification, mobile & web application and so on.

## 2. MOTIVATION

In the present scenario, it is difficult to figure out an application which is exact user friendly. The design issues are still non solvable. This project aims to develop an application which is completely user friendly solving the major design issues by introducing architectural patterns. Another motivation behind this project is to build a women friendly platform to enlighten their expertise, discuss their issues, serve them with prior facilities like help line number and health tips.

## 3. THE PROPOSED SYSTEM

The proposed system describes an application which provides a wide environment for female users to build their own identity. The features of the proposed system are:

- Provides users to showcase their talents.
- Provides user to upload photos, videos so that user can maintain own profile.

- Provides users to sell their products.
- Provide users with legal support.
- Provide users with women helpline facilities.

### 3.1 SYSTEM ARCHITECTURE

The following architecture diagram shows the module based classification of the system:

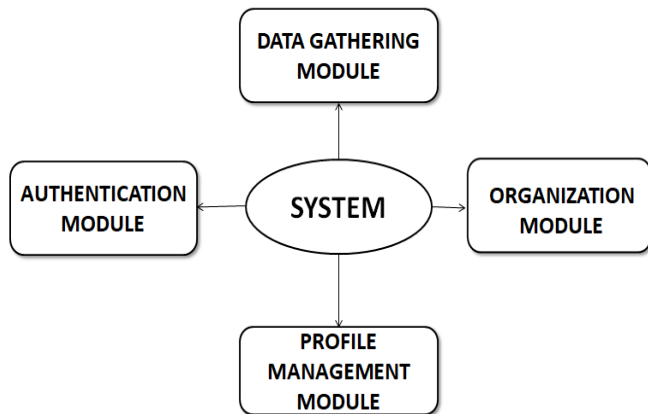


Fig- 1: Development modules

The proposed application consists of four modules as shown above. The modules are namely, data gathering, authentication, organization, profile management.

#### (a) Data gathering module

This module collects the basic needed general information from the user. This module helps user for initial login and regular usage.

#### (b) Authentication module

The system is privileged to women users. For authorizing the user, the system encompasses a credibility enabling the module. By scrutinizing user's aadhar identity card (a multi-purpose National ID card) authentication is performed.

#### (c) Organization module

This is the core module of this system. Based on the information gathered from user the entities are categorized. This categorization makes the system more reachable to reputed and non-reputed users.

#### (d) Profile management module

The entire administration of application is managed by this module. The various women-friendly associated services like empowering activities, legal support, help line services etc. are enhanced in this module.

### 3.2 SYSTEM COMPONENTS

#### 1. Web application

The application enables information access via web. The system serves both as informative and interactive.

#### 2. Database server

This component hosts the database which would store information related to the uses their various area of interest then are made available to the developers. The data is hosted in a MySQL database and accessed by the Android application and the web template.

#### 3. Android application

The Android application helps user with hand held services. It makes the whole application access in a single touch.

### 3.3 THE SYSTEM PROCESS DIAGRAM

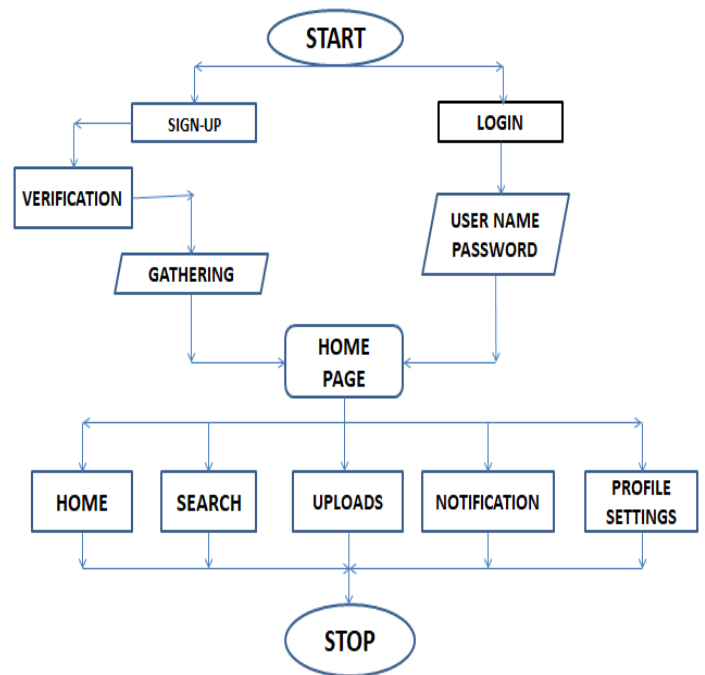


Fig- 2: Process flow diagram

### 4. DESIGN PATTERN ORIENTED SOFTWARE ARCHITECTURE

When there is a need of solving a recurring problem, solutions have to be fabricated. Usually, solutions are termed out in the aspect of referring old problems and its way of solving it. For this, existing problem- solution pairs have to be analyzed. By scrutinizing the specific problem- solution pairs helps in deriving patterns to solve proposed problem. These patterns can be reused for similarly occurring problem.

The goal of design patterns is to help software developers in resolving commonly occurring problems which are encountered during software development. The software design patterns widely defined as: “a software design pattern is a general, reusable solution to a commonly occurring problem within a given context in software design. It is not a finished design that can be transformed directly into source or machine code.”

#### 4.1 USAGE OF DESIGN PATTERNS

- It can speed up the development process by providing proven development paradigm.
- It improves code readability, reusability preventing narrow issues which cause major problems.
- It provides standard terminology and is specific to particular frame work.
- It helps unexperienced developers to learn software design in an easy and faster way.

#### 4.2 QUALITIES OF DESIGN PATTERNS

- (a) Reusability: The level to which a design can be reused to form another design.
- (b) Modularity: The level to which the implementation of functions of a system are individualistic from one another.
- (c) Generality: The level to which a system provides huge set of functions at run time.
- (d) Scalability: The level to which a system can subsist with large amount of data.
- (e) Robustness: The level to which a system continues to function well under anonymous conditions.

#### 4.3 ROLE OF DESIGN PATTERNS

The design patterns are categorized into three- creational, structural, and behavioral. The creational patterns deals with object creation mechanism whereas structural and behavioral are concern with interaction and relationship among objects respectively. These patterns are again categorized with respect to existing design issues. Of these defined patterns, the following are implemented in this project:

##### 4.3.1 SINGLETON PATTERN

Singleton pattern is one of the simplest design patterns. This type of pattern comes under creational patterns. This pattern is adopted when an application needs one and only one instance of an object. This system is exclusively for female user; hence the usage of singleton pattern comes here. Fig shows, if gender is a class then it can have one and only one instance called female.

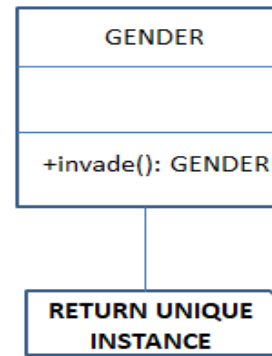


Fig- 3 Singleton pattern

##### 4.3.2 DECORATOR PATTERN

Decorator patterns provide a flexible alternative for extending it characteristic functionality, and allow attachment of additional responsibilities to an object dynamically. Hence this pattern is adopted when there is a need to add additional behavior to existing objects. This pattern comes under structural design patterns. Fig shows, the category class when calls sort functionality immediately it performs sorting based on the defined objects. To make the sort more precise it dynamically adds state to individual objects.

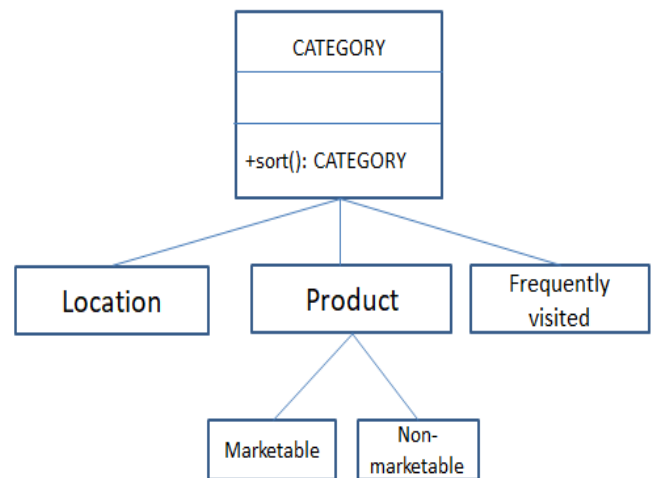


Fig-4 Decorator pattern

##### 4.3.3 OBSERVER PATTERN

An observer pattern falls under behavioral patterns, which is concern with the relationship among objects. This is used when there is one-to-many dependency between objects. This pattern is encountered when a giant design does not scale well as requirements are recorded. Fig shows a class talent where each user may have more than one talents. So one-to-many dependency is implemented using observer patterns.

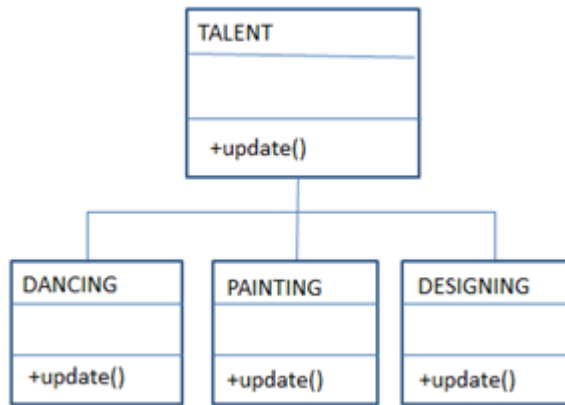


Fig- 5 Observer pattern

The above mentioned patterns help in creation, interaction, organization of this system.

### 5. EXPERIMENTAL SETUP

The experiments were performed using an Intel(R) Core(TM) i3- 3217U CPU @ 1.80GHz CPU with 4.00 GB RAM and 1 TB hard disk; system type 64- bit Operating System, android mobile with the support of Wi-Fi. In the development of the Cleo (woman empowerment application) mobile app and website the software requirements are Front End is Android studio IDE for Android, Visual Studio 2012 IDE for website development; Back End is Django, MySQL database, connective Wi-Fi router software.

### 6. CONCLUSION

This paper presents necessary guidance for women users to participate fully in economic life across all sectors which is essential to build stronger economy, achieve internally agreed goals for development and substantially and improve the quality of life for women. The proposed system model helps user in creating their own account containing their exertion in any area, helping them with physical and mental guidance. It provides with some women helpline numbers, advice from eminent personalities, health tips etc. Hence using this single application user may enlighten their talent, have an earning, and civilize their persona, mettle themselves. The design issues faced by current applications are solved using patterns, the android app and web template is made compactable and versatile.

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