

MES COLLEGE OF ENGINEERING, KUTTIPPURAM  
DEPARTMENT OF COMPUTER APPLICATIONS  
20MCA246 – MAIN PROJECT

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**PRO FORMA FOR THE APPROVAL OF THE FOURTH SEMESTER MAIN PROJECT**

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*(Note: All entries of the pro forma for approval should be filled up with appropriate and complete information. Incomplete Pro forma of approval in any respect will be rejected.)*

Main Project Proposal No : \_\_\_\_1\_\_\_\_  
\_\_\_\_\_

Academic Year : 2021- 22  
Year of Admission : 2020

1. Title of the Project : TRIBAL HOMING AND BELONGING
2. Name of the Guide : Febin Aziz
3. Student Details (in BLOCK LETTERS)

Name	Register Number	Signature
<u>SARATH P</u>	<u>MES20MCA-2044</u>	_____

Date:

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**Approval Status :**    Approved / Not Approved

Signature of  
Committee Members }  
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**Comments of the Guide**

**Dated Signature**

Initial Submission : \_\_\_\_\_

First Review : \_\_\_\_\_

Second Review : \_\_\_\_\_

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**Comments of the Project Coordinator**

**Dated Signature**

Initial Submission: \_\_\_\_\_

First Review \_\_\_\_\_

Second Review \_\_\_\_\_

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Final Comments :

Dated Signature of HOD

#### **Introduction & Objectives:**

The tribes constitute a sizeable proportion (8.8%) of the total population of India. They are the citizens of India and hence promotion of their welfare is of equal importance. Majority of the tribes depend on land and forest to make a living. Their social life is also interwoven around the land they live on. They have thus a physical and emotional attachment and dependence on land and forest. Governments have undertaken various steps in this regard, but also various voluntary organizations have evinced interest in this task. They have been trying to elevate the tribes from the state of ignorance, illiteracy and poverty. The Welfare programs have not been effective due to “ inadequacies in the administrative machinery, lack of sensitive, trained management, lack of general preparedness for large investments, deficiency in accounting systems, procedural delays and lack of proper monitoring and evaluation. The tribes inhabiting the forest villages do not get the benefit of various welfare schemes, due to no availability of title of land in their favor, and also because, in many cases, the jurisdiction of the block and revenue authorities does not cover forest villages.

I try to develop a new application to supplement the tribal needs. This application tries to develop a system which helps in effective distribution of the food and Medical aids to the tribes. Even though the governments provide many such welfare program, using this application other unaided organizations or individuals interested in helping tribes also get an opportunity to show their part. In corporation with the governmental and non-governmental welfare programs we try to implement an efficient welfare system for the tribes, in which our major concern is to supply them with proper care and importance. To ensure that all the tribal families are receiving what they deserve, we implement a QR code scanning section of their corresponding Identity card for each family. Here we use a secure QR scanning system with face information. Which is done in order to assure that no aids are been misused by anybody. In this app text summarization concept is used to summarize requirements of the tribes. That is coordinator can upload report based on tribe’ s problems and needs. So by using text summarization concept ,District officer can find what are the common needs and problems of tribes. Based on this District officer can take proper actions. And this project also implements online shopping system where tribal can sell their handmade product to public

**Problem Definition:****Existing System:**

There is no existing software for the tribes to improve their life style and solve their problems. They are very much away from our society and also, they are not aware about the facilities, rights etc. that is available to them. Now it very difficult to get good health care, education, food etc. to them. And they lived in very poor condition. According to the 1991 Census, nearly 70 per cent of the tribal are illiterates. Although it cannot be denied that education can act as the instrument for betterment of the tribal ensuring greater participation for them in the development process, still there are certain factors which inhibit the tribal from taking to education. Because of economic backwardness and insecure livelihood, the tribal face health problems, such as prevalence of disease, like malaria, cholera, tuberculosis, and jaundice, problems associated with malnutrition like iron deficiency and anemia, high infant mortality rates, low levels of life expectancy, etc.

**Proposed System:**

The proposed application is designed to uplift the life of tribes. It mainly concentrated to improve the health condition of tribes, providing proper food for them and improve their literacy. The application notifies the different packages and schemes that are provided by the government. This application provides an environment to them for marketing their products. Public can view all the notification related to their products so that public can purchase. Through this application we can improve their education, employment and empowerment. And also we using data mining concept for mine the reports about tribe. We can sort the common problems and needs of tribe. And using District officers can take proper action to solve the issues.

This application implements a QR code scanning section of their corresponding Identity card for each family. Here use a secure QR scanning system with face information. Using this we can ensure that all the tribal families are receiving what they deserve, and it is done in order to assure that

## **Basic functionalities**

### NLP —Text Summarization using NLTK: TF-IDF Algorithm

1. *A High weight in TF-IDF is reached by a high term frequency(in the given document) and a low document frequency of the term in the whole collection of documents.*
2. TF-IDF algorithm is made of 2 algorithms multiplied together.
3. Term Frequency
4. Term frequency (TF) is how often a word appears in a document, divided by how many words there are.
5.  $TF(t) = (\text{Number of times term } t \text{ appears in a document}) / (\text{Total number of terms in the document})$
6. Inverse document frequency
7. Term frequency is how common a word is, inverse document frequency (IDF) is how unique or rare word .
8.  $IDF(t) = \log_e(\text{Total number of documents} / \text{Number of documents with term } t \text{ in it})$

The 9 steps implementation

1. 1. Tokenize the sentences
2. 2. Create the Frequency matrix of the words in each sentence.
3. 3. Calculate Term Frequency and generate a matrix
4. 4. Creating a table for documents per words
5. 5. Calculate IDF and generate a matrix
6. 6. Calculate TF-IDF and generate a matrix
7. 7. Score the sentences
8. 8. Find the threshold(limit)
9. 9. Generate the summary

## Verification using QR code scanning

A **QR code** (an initialism for **Quick Response code**) is a type of matrix barcode (or two-dimensional barcode) invented in 1994 by the Japanese automotive company Denso Wave. A barcode is a machine-readable optical label that contains information about the item to which it is attached. In practice, QR codes often contain data for a locator, identifier, or tracker that points to a website or application. A QR code uses four standardized encoding modes (numeric, alphanumeric, byte/binary, and kanji) to store data efficiently; extensions may also be used.

The Quick Response system became popular outside the automotive industry due to its fast readability and greater storage capacity compared to standard UPC barcodes. Applications include product tracking, item identification, time tracking, document management, and general marketing.

A QR code consists of black squares arranged in a square grid on a white background, which can be read by an imaging device such as a camera, and processed using Reed-Solomon error correction until the image can be appropriately interpreted. The required data is then extracted from patterns that are present in both horizontal and vertical components of the image. We can verify by using scanning QR code

# Facial recognition system

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A **facial recognition system** is a technology capable of matching a human face from a digital image or a video frame against a database of faces, typically employed to authenticate users through ID verification services, works by pinpointing and measuring facial features from a given image. Facial recognition systems are employed throughout the world today by governments and private companies. Their effectiveness varies, and some systems have previously been scrapped because of their ineffectiveness. The use of facial recognition systems has also raised controversy, with claims that the systems violate citizens' privacy, commonly make incorrect identifications, encourage gender norms and racial profiling, and do not protect important biometric data. These claims have led to the ban of facial recognition systems in several cities in the United States.

## User Modules

We implement this welfare Application with the help of 5 modules basically. They are:

- Admin
- District officer
- Councilor
- Coordinators
- Expertise
- Online shopping manager
- Public

### 1. ADMIN

Admin module manage all officers and handle package information from government and other organization.

- District officers Management
- Add District officers
- View District Officers
- Edit / Delete District officer
- Add Packages from government and other organizations
- Allot packages to each district
- View summarized Reports (district base)

## 2. DISTRICT OFFICERS

District officer' s mange the councilors and analyze the package allotted from the administration module.

- Manage Councilors
  - Add Councilor
  - View Councilor
  - Edit / Delete Councilor
- View Allotted package
- View forwarded report from council and take necessary action
- Service allocation to tribes

## 3. COUNCILOR

Councilors login to site with their security password and register the coordinator. And manage all tribes with their information.

- Manage Coordinators
  - Add Coordinator
  - View Coordinators
  - Edit / Delete Coordinators
- View Tribes
- View reports from coordinators and forward to district officer
- View request entry from coordinator and take necessary action
- Service allocation to tribe

#### 4. CORDINATORS

Coordinators add tribal families to the software and also report their problems. Coordinators have direct interaction with tribes and they supply necessary foods and medicines.

- Login
- View profile
- Add Tribal families
- Add/Edit Basic Information
- Add Family members information
- Search and view tribe details
- Report tribal related problems
- Supply the Food/Medical aids
- Add Notifications to public
- Request entry for service.
- Service entry with tribes Identity card verification (secure QR with face information)

#### 5. EXPERTISE

Expertise communicate with tribes and find their problems. And they conduct awareness programs for tribes.

- View tribal related problem
- Conduct awareness program
- Make advice to tribal
- Communicate to tribal
- Add report

#### 6.ONLINE SHOPPING MANAGER

They manage product related functions.

- Add product
- Manage product
- Stock update
- Manage request product
- Online payment

## 7.PUBLIC

They view and purchase tribal products. And view notification related to tribes.

- View Notifications
- View tribal product
- Purchase product
- Online payment

## **HARDWARE AND SOFTWARE REQUIREMENT**

This specifies the hardware and the support software required to carry out the development.

### ➤ **Hardware Requirements**

The selection of hardware is very important in the existence and proper working of any software. Then selection hardware, the size and capacity requirements are also important.

- Processor : 64 bit
- RAM : Min 3 GB
- Hard Disk : 10 GB

### ➤ **Software Requirements**

One of the most difficult task is selecting software for the system, once the system requirements is found out then we have to determine whether a particular software package fits for those system requirements. The application requirement:

- OPERATING SYSTEM: WINDOWS 10
- FRONT END: HTML, CSS, JAVASCRIPT
- BACK END: Mysql
- IDE: JetBrains Pycharm, Android studio
- TECHNOLOGY USED: PYTHON, JAVA
- FRAME WORK USED: Flask