



## Module Code & Title

CS6P05 Final Year Project MAD

Food Share - Android App

## Artifact – planning and Requirement analysis

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24 April 2024

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# 1 Introduction

## 1.1 Requirement Analysis

### 1.1.1 Requirement Analysis of the Advertisement Management System (NOT Approved Project)

© 2020 JETIR May 2020, Volume 7, Issue 5

[www.jetir.org](http://www.jetir.org) (ISSN-2349-5162)

# BUSINESS ADVERTISEMENT MANAGEMENT SYSTEM

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#### ABSTRACT

It Provides free/Premium classified advertisements for selling and buying items, real estate, jobs, services, matrimonial, personals, vehicles, employment, insertion of advertisements into print media, computers, packers and movers, rental, tickets, travel and vacation for all Indian cities.

This is the free/premium classifieds in India ad space you are looking for. Classified ads will be posted here free of cost in an organized manner. Send in your free/premium Indian classified ads and see how you get in touch with the world through these free classifieds in India.

This site has took classified ad sites to a whole new level with so many different ways to advertise and/or sell you can do it all on this site. Provides a simple solution to the complications involved in selling, buying, trading in various categories near you. Find/Buy what you want or advertise your product or service on this website.

All of our services are provided through the Internet in a secure and confidential manner. A secure

communication portal is established between the Customer and Business Advertisement Management System provider to allow one-on-one interaction. By building a trusting relationship, Business Advertisement Management System can effectively provide a direct benefit to each and every Customer.

#### I. INTRODUCTION

##### I.1 PURPOSE OF THE PROJECT

The project is fully integrated with Customer Relationship Management (CRM) solution and developed in a manner that is easily manageable, time saving and relieving one from semi automated.

##### I.2 PROBLEM IN EXISTING SYSTEM

- The existing system is a manual system. In this system user needs to save his information in the form of excel sheets or Disk Drives.
- There is no sharing is possible if the data is in the form of paper or Disk drives.
- The manual system gives us very less security for saving data; some data may be lost due to mismanagement.

**Figure 1: Requirement gathering about the advertisement system**

<small>© 2020 JETIR May 2020, Volume 7, Issue 5</small>	<small>www.jetir.org (ISSN-2349-5162)</small>
<ul style="list-style-type: none"><li>• There is no rich user interface.</li><li>• It's a limited system and fewer users friendly.</li><li>• Searching of particular information is very critical it takes lot of time.</li><li>• There is no communication facility between users of this system.</li><li>• The users cannot able to restrict the information.</li><li>• There is no report generation.</li><li>• There is no uploading video facility.</li><li>• There is no online booking for advertisements.</li></ul>	<ul style="list-style-type: none"><li>• The customers and advertisements information files can be stored in centralized database which can be maintained by the system.</li><li>• This system provides uploading video facility.</li><li>• This can give the good security for user information because data is not in client machine.</li><li>• Authentication is provided for this application only registered users can access.</li><li>• User can share his data to others, and also he can get data from others.</li><li>• There is no risk of data management at any level while the project development is under process.</li><li>• Report generation features is provided using crystal reports to generate different kind of reports.</li></ul>

### **1.3 SOLUTION OF THESE PROBLEMS**

The development of the new system objective is to address the solutions for the drawbacks of existing problem domain.

The development of this new system contains the following activities, which try to automate the entire process keeping in the view of database integration approach.

- User Friendliness is provided in the application with various controls provided by system Rich User Interface.
- The system makes the overall project management much easier and flexible.
- It can be accessed over the Intranet.
- It provides email facility between users of this system.

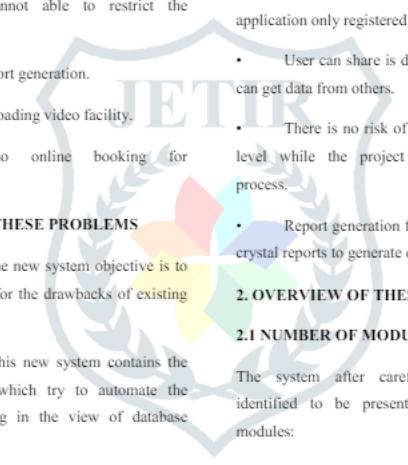
## **2. OVERVIEW OF THE SYSTEM**

### **2.1 NUMBER OF MODULES**

The system after careful analysis has been identified to be presented with the following modules:

- Administrator
- Customers
- General Users
- Web Registration
- Search
- Reports
- Authentication

*Figure 2: Problem Sonication about the advertisement system*

- There is no rich user interface.
  - It's a limited system and fewer users friendly.
  - Searching of particular information is very critical it takes lot of time.
  - There is no communication facility between users of this system.
  - The users cannot able to restrict the information.
  - There is no report generation.
  - There is no uploading video facility.
  - There is no online booking for advertisements.
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The development of this new system contains the following activities, which try to automate the entire process keeping in the view of database integration approach.

- User Friendliness is provided in the application with various controls provided by system Rich User Interface.
- The system makes the overall project management much easier and flexible.
- It can be accessed over the Intranet.
- It provides email facility between users of this system.

- The customers and advertisements information files can be stored in centralized database which can be maintained by the system.
- This system provides uploading video facility.
- This can give the good security for user information because data is not in client machine.
- Authentication is provided for this application only registered users can access.
- User can share is data to others, and also he can get data from others.
- There is no risk of data management at any level while the project development is under process.
- Report generation features is provided using crystal reports to generate different kind of reports.

## 2. OVERVIEW OF THE SYSTEM

### 2.1 NUMBER OF MODULES

The system after careful analysis has been identified to be presented with the following modules:

- Administrator
- Customers
- General Users
- Web Registration
- Search
- Reports
- Authentication

---

Figure 3: Overview of system the system.

**Administrator**

Administrator is treated as a super user in this system. He can have all the privileges to do anything in this system. He is the person who received the Profile of a Customer and accept/reject the registration.

- He is the person who can manage Ads Categories and Subcategories and mange Price Plans.
- He has a facility to communicate using email facility with other Customers.
- He can take care of Backup of Customers, Ads details and maintain history.
- He is able to generate the reports of Customers, Ads and Categories and Subcategories.

Another tasks done by the administrator is he can generates log files, backup, recovery of data any time.

**Customers**

- They have a facility to register to the site with their Personal data.
- Being a Customer (after registration) should able to Post Ads.
- They have a facility to upload images and videos of their Ads.
- They are able to see and update their Ads.
- They have a facility to renewal their Ads based on the expiry dates.

**General Public**

- General Public (i.e. Guest visitors) are able to access the site Home page, Registration Page, etc. common pages of the site.
- This user can able to see the Ads in different Categories and Subcategories along with Contact details, photos etc.
- They are able to Search for a Doctor.
- They are able to see the Categories, Subcategories available, and Packages.

**Web Registration**

The system has a process of registration. Every User need to submit his complete details in the form of registration. Whenever a User registration completed automatically he/she can get a user id and password. By using that user id and password he/she can log into the system.

**Search:**

This system provides search facility to the customers. Customer can search for the categories and subcategories of advertisements.

**Reports**

Different kind of reports is generated by the system.

- Customers Report
- Ads Report
- Categories and Subcategories Report

**Authentication:**

Figure 4: End your user of the advertisement system

**4. OUTPUT SCREEN SHOTS**

Fig 4.1:Home Page



Fig 4.4: Registration Page

**5. CONCLUSION AND FUTURE ENHANCEMENT**

It has been a great pleasure for me to work on this exciting and challenging project. This project proved good for me as it provided practical knowledge of not only programming in ASP.NET and C#.NET web based application and no some extent Windows Application and SQL Server, but also about all handling procedure related with "**Business Advertisement Management System**".

It also provides knowledge about the latest technology used in developing web enabled application and client server technology that will be great demand in future. This will provide better opportunities and guidance in future in developing projects independently.

**BENEFITS:**

The project is identified by the merits of the system offered to the user. The merits of this project are as follows: -

- It's a web-enabled project.
- This project offers user to enter the data through



Fig 4.2: User Home Page



Figure 5: Sample project evidence of advertisements project.



Figure 6: Overview of the system

This is the overview of project report of advertisement management system. you can download source code of this project.

[ADVERTISEMENT MANAGEMENT SYSTEM PROJECT SOURCE CODE](#)

## Project reports that you would like to review

- PATIENT RECORD MANAGEMENT SYSTEM PROJECT REPORT
  - EXAM SCHEDULER MANAGEMENT SYSTEM PROJECT REPORT
  - CONTENT MANAGEMENT SYSTEM PROJECT REPORT
  - PLANNING AND TRACKING SYSTEM PROJECT REPORT
  - CANTEEN MANAGEMENT SYSTEM PROJECT REPORT
  - CARGO MANAGEMENT SYSTEM PROJECT REPORT
  - BUS RESERVATION MANAGEMENT SYSTEM PROJECT REPORT

Figure 7: Advertisement system overview reports



## Online Advertisement Management System

Department: Computer Science and Engineering

Research paper on Online Advertisement Management System by

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### Abstract

This paper presents Online Advertising is the form of promotion that uses online advertisement and World Wide Web(www) to deliver marketing message to attract, retain and enhance the customers. A consumer can have idea and information of even a small business enterprise with respect to large business enterprises regarding products and services. Focus on different trends of online advertising system also has been done which results with the fact that online ads has become a challenge for the print ads as various online applications, social site help to lead towards the data instantly than other advertisement media existing. This is an attractive awareness creating tool of promotion of the business.

An online advertising system is a "service business" dedicated to creating, planning and handling Advertising (and sometimes other forms of promotion for its clients. An ad system is independent from the client and provides an outside point of view to the effort of selling the client's products or services. An online advertisement system can also handle overall marketing and branding strategies and Sales Promotion for its clients.

The conclusion which can be drawn from this study is that there is clear evidence that good management will improve cognitive, affective and conative degree of consumer behaviour.

Figure 8: Article of the advertisement management system

**Keywords:** Online Advertisement, interactivity, advertising management, digital marketing, sales.

**Paper Type:** Research and Viewpoint

## Introduction

Advertising is a form of communication which persuades the consumer for making purchase decision and to provide information to the viewer. When the information is presented in an enjoyable context, it is readily accepted. Thus, we can term advertising as an infotainment concept. The concept of advertising came into existence with the Marketing Mix. Marketing mix well known as 4 Points of marketing i.e. Product, Price, Place, Promotion and advertising is a component of Promotional mix, which is to create awareness among the consumers about the products and services for making the purchase decision. Advertisement can be seen from date backs in the ancient

In modern days, online advertising has become the most important form to promote the products and services and is used for the purpose of communication as well. The internet emerged as a new tool in the mid-1990s, for reaching consumers and also provided a variety of technologies for influencing opinions and desires. The evolution of the Internet provides the new opportunities into the globalization as well as the local region.

st

In 21<sup>st</sup> century, online advertising system provides more exposure and control to the customers and they can also select how much commercial they wish to view. Consumers can explore promotion, get pricing information, participate in product design, arrange deliveries, sales and also can receive post purchase support

We are in a world where we need to introduce ourselves. So, by keeping this in mind we developed a website which is used for marketing our products but this is for small scale businesses. In this project there are several things such as users, content creators, admin. Everyone has a specific role to do. We developed this to help the small businesses. With this website we are targeting middleclass and lower middleclass families. In this website we connect middleclass people to the small business where the customer gets virtual contact with the shop owners and specify their requirements and as the business is also small there may be chance of bargaining which is the common habits of middle-class people. In this website the vendors publish their products. And the users will go through that and if interested they will contact the vendor and do the proceedings. This website is not only for products but also for several purposes such as entertainment, education, sports etc. In this you can advertise about anything. And there is a special thing that the admin will look out everything that is being published and if anything is inappropriate, he can delete the post. Currently it is a non-profitable website as it is in the starting stage. This is what the website is all about.

## Scope of the Study:

Online Advertising system is an non- personal communication about an organization product services or idea by an identified sponsor. The advertising was originally established in online platforms like YouTube, twitter, Facebook etc However focus has started to shift away from the traditional method to online advertising, because recently it get more majority and a need to every internet users because of the changing circumstances of the world. In this research it has been analysed and examined the factors, attitudes, opinion and problems of online advertising system among the internet user.

## Statement of Problem:

In today's world, the internet has become an important part in everyone's day to day life. Living without internet has become tough for majority of the humans around the world and it can be said that the internet is to rule the whole world day by day. In the same time it is also equally important to know the worthiness of the

Figure 9: Introduction to the advertisement system

## **CONCLUSION:**

The effectiveness of Online Advertisement is there which is not necessary to club with the age groups. All are independent. Any of the factor can persuade individuals with no distinctive barriers. As strong the effectiveness of online advertising, as more will be the purchase and accordingly be the relation between E-Commerce and advertisement.

Online advertising is a form of advertisement which is published on the web to serve the web users with up to date information regarding the products and services that are new to the market as well as the products that are already available in the market which needs the promotional activity to reach to the hands of the right persons. It is useful in generating awareness among the viewers about their products and services. The online advertising is a combination of the traditional media ads along with trendy internet styles that can increase brand recall. In today's Internet advertising there are numerous website designed to promote sales and to maintain relationship with customers, so the target audience can make the purchasing decision more efficiently. The opinion about the quality of the website, there is a positive impact, there is a neutral effect on the attitude of the viewers about the online advertising, advertising image, advertising message and brand

loyalty gains top three positions regarding the features attracted in online advertising and time saving, easy tool and convenience in using the online advertising for their needs gained the top ranks in factors that are affected on the viewers of online advertising. Hence, on the whole there has been a positive impact on the concept of online advertising among the users of internet.

### **References:**

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Figure 10: Conclusion about the advertising system.

Projected to reach \$495 billion by 2024, mobile advertising is one of the fastest-growing channels in the mobile marketing mix. In fact, mobile advertising – which covers all the ads you see on your phone, from in-app ads and sponsored posts in your social media feeds to SMS advertisements – gets a whopping 64% of all digital ad funds.

As consumers spend more time on their phones, businesses are trying new and innovative mobile advertising ways to connect with them. They're tapping improved personalizations, targeting, and AR/VR capabilities, among others, to deliver more relevant and immersive mobile ad experiences.

But what exactly is mobile advertising? What are the latest trends shaping this rapidly evolving landscape? And what lies ahead for mobile advertising in 2023 and beyond? Let's find out. While we'll discuss mobile advertising in general in this article, we'll focus more on in-app mobile advertising (as that's your share in this growing mobile advertising market!). In-app advertising – or showing ads inside apps – is an increasingly popular mobile advertising method, and globally, 36% of apps use in-app advertising for generating revenue.

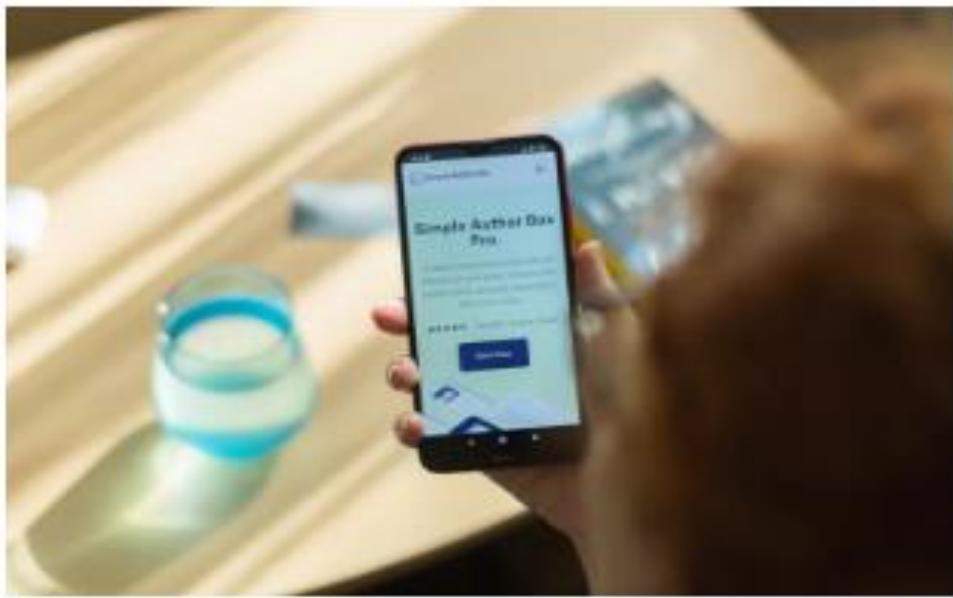
Here goes.

Figure 11: Research the data in the Mobile app advertisement system



Figure 12: Mobile advertisement system logo

## What is mobile advertising?



Simply put: Mobile advertising is showing ads to users on mobiles. Mobile advertising is a subset of mobile marketing focusing on promotions using paid ads. Mobile marketing, in contrast, is multi-channel marketing that encompasses all the channels a business uses to reach, convert, and engage its target mobile traffic. Mobile marketing includes everything from mobile-friendly websites and SMS marketing to app-based marketing.

Given how businesses can reach users via phones, mobile advertising takes many forms. Take mobile search result ads, for instance. When a user makes a search on their phone's browser, search engines show ads along with the organic results. Ads (or sponsored posts) appearing when you browse social networks like Facebook or Instagram are also examples of mobile advertising. Ads you see on any mobile website also count toward mobile advertising. Video advertising – of which YouTube advertising is a huge part – is also a mainstream part of mobile advertising. Yet another form of mobile advertising is in-app advertising. Here, advertisers show ads to app users.

In other words, all ads on mobile count toward mobile advertising. Let's now take a closer look at the current state of the mobile advertising landscape and explore some projections for 2023 and beyond.

Figure 13: Introduction to the mobile advertisement system

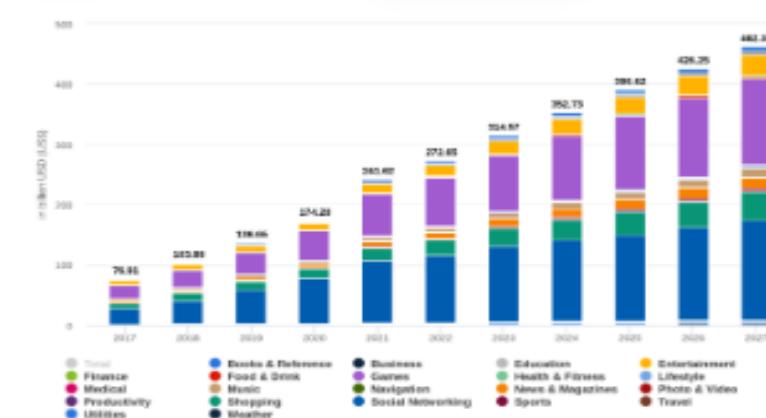
## The state of mobile advertising in 2023

As noted above, mobile advertising has grown steadily over the last few years – it's already surpassed the 327.1 billion U.S. dollars global milestone. As more and more marketers shift their digital ad spend toward mobile, this is only set to increase.

Within mobile advertising, in-app advertising, too, has experienced significant growth. Statista's report on in-app mobile advertising underscores the upward trajectory of this channel. For the sake of this article, we'll focus more on in-app advertising as it can help you unlock untapped revenue and effectively monetize your non-spending app users without compromising the revenue generated from in-app purchases.

In its latest in-app advertising research, Statista estimates in-app advertising to hit 462.30 billion in 2027. This projection includes mobile advertising on social media apps like Facebook and Instagram (which take the majority of the spend actually). But even if you leave that out, app store apps like yours, too, can build an additional revenue stream with advertising.

"As more companies become aware of the possibility of reaching audiences through mobile applications, the market for in-app advertising is now booming and is expected to continue expanding. Given that in-app advertising allows advertisers to target particular audiences based on their activity, preferences, and location, it is one of the most successful types of mobile advertising. According to analysts, in-app advertising will continue expanding as more companies shift their advertising budgets to mobile." – Statista



Let's also talk about mobile ad spending. According to Statista, apps across all verticals are seeing increased ad spending, and the trends are expected to hold well into the future. While the social media and games niches dominate the in-app advertising market, apps across all categories show significant growth in ad spending:

Figure 14: State of 2023 mobile advertising data analysis

## Key challenges in mobile in-app advertising



### Balancing ads with user experience

When done right, ads don't have to cause a bad user experience. However, weaving in-app advertising into an app experience so it feels non-intrusive is tricky. A good starting point is to consider the number of ads you intend to show a user during a session, how often they'll appear, and their formats.

### Addressing privacy concerns

With the newer digital privacy laws, users are much more aware of what data they let an app access, how it processes it, and if it's shared with other parties (like ad networks). While the in-app advertising ecosystem needs you to transfer data, conveying these to users can be a challenge. Using good ATT prompts is crucial. Also, look for privacy-friendly solutions for collecting and managing your user data. Maintaining transparency about your data practices is the best approach here.

### Building a zero/first-party database

One of the main reasons that drives advertisers to mobile advertising is its targeting capabilities. Apps can take targeting to a whole new level as they can collect zero-party data. Many apps actually collect this. One downside, though, is that users can be unwilling to share their data.

### Handling ad fraud

Ad fraud is a common concern for advertisers – and it's present even with in-app advertising. False impressions (by loading ads but not actually displaying them), ad stacking (loading multiple ads where only the top one is actually visible), and fake clicks are some common malpractices. Publishers experience another kind of ad fraud – mainly coming from unethical advertisers.

Figure 15: Basis Analysis of the system development requirement!

## 1.1.2 Requirement Analysis of the Waste Food Management System (Approved Project)

# FOOD WASTE MANAGEMENT SYSTEM

## INTRODUCTION

This project is used to manage wastage foods in a useful way. Every day the people are wasting lots of foods. So we have to reduce that food wastage problem through online. If anyone have wastage foods they are entering their food quantity details and their address in that application and then the admin maintain the details of food donator.

The donator can create the account and whenever they are having wastage food they can login and give request to the admin. And the admin also maintain the buyer(orphanage,poor people,...) details too. After the admin view the donator request and give the alert message like time to come and collect the food.

And the admin collect foods from donator through their nearby agent then provide to nearest orphanages or poor people. After receiving the food from the agent by admin and give alert message to that donator. If the donator need any detail about the orphanage with helping thought they can give request to the admin and collect the orphanage details.

This project is food redistribution is an enormously successful social innovation that tackles food waste and food poverty. The user's details are maintained confidential because it maintains a separate account for each user.

Figure 16: Introduction to the waste food management system

## **Agent Module**

In Agent module, the agent maintain the orphanage details. It can also maintain the donator details. The agent give the request to the admin for collect the food from the donator .After collect the food the agent give the alert message for the donator.

## **HARDWARE AND SOFTWARE REQUIREMENTS**

### **Hardware Requirement:**

- |                |                             |
|----------------|-----------------------------|
| • Hardware     | - Pentium                   |
| • Speed        | - 1.1 GHz                   |
| • RAM          | - 1GB                       |
| • Hard Disk    | - 20 GB                     |
| • Floppy Drive | - 1.44 MB                   |
| • Key Board    | - Standard Windows Keyboard |
| • Mouse        | - Two or Three Button Mouse |
| • Monitor      | - SVGA                      |

Figure 17: Research about the same hardware requirement.

## The problem FOOD DONATION SYSTEM solves

According to the latest survey, 1.3 billion tons of food is thrown as waste every year. Additionally, one-third of the food consumed is stated as leftovers. Presently people who wish to donate items need to personally visit the organizations and donate foods or other items. Otherwise, they have to search for some websites to donate surplus food. In general, the large manufacturers, wholesalers, and organized community provide food items to food banks or waste tons of foods daily. They have to search for some organization that needs food. This process involves a lot of time to contact the organization to check the requirement. If they do not need the food, then the person has to contact another organization. This makes the donor tired and exhausted. Also there are many platforms available who ask for money for food donation for which many users are not ready, Indian users believe in donating surplus food instead of money, they believe donating food is trust worthier than money.

Figure 18: Problem with the food donation system

### Software Requirements:

- Operating System : Windows
- Technology : Java, xml, Api, Android
- Database : My SQL

### References :

You tube

Google

W3 school

Java at point

Figure 19: Research suggestions for project development

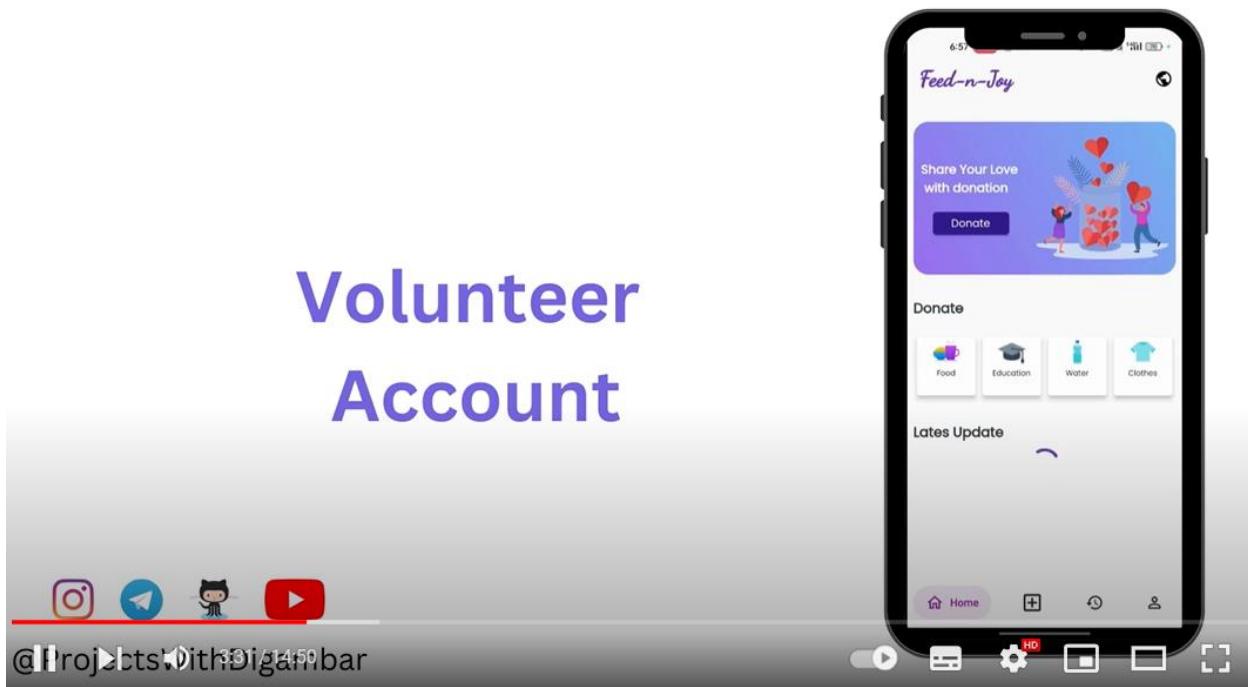


Figure 20: Waste food notations process by research by YouTube.



Figure 21: Food donation process by volunteers.

<https://www.youtube.com/watch?v=r0pPl4gtBv8>

## The Problem of Food Waste

An FAO study using compiled global food production and waste data from 2009 estimated that 32% of all food which is produced for human consumption globally is lost or wasted; this amounts to approximately 1.3 billion tons per year (FAO 2011). When this estimate is converted to calories, approximately 24%, or one out of every four food calories produced, is wasted (Lipinski et al. 2013).

The majority of food loss and waste occur at different stages in the food supply chain for developed and developing regions. In industrialized countries, the majority of food is wasted at the retail and consumer stages, while in low-income countries, food is often lost in the production or processing stages of the supply chain before it even reaches the consumer (FAO 2011). Still, most food loss and waste comes from consumers in areas of mass food consumption (Croke 2016). For instance, food waste at the consumer level in developed countries is estimated at 222 million tons, which is nearly as high as the total net food production (230 million tons) of sub-Saharan Africa (FAO 2011). Figure 1 displays some of the various causes of food loss and waste throughout the food supply chain (Lipinski et al. 2013; Bloom 2011).

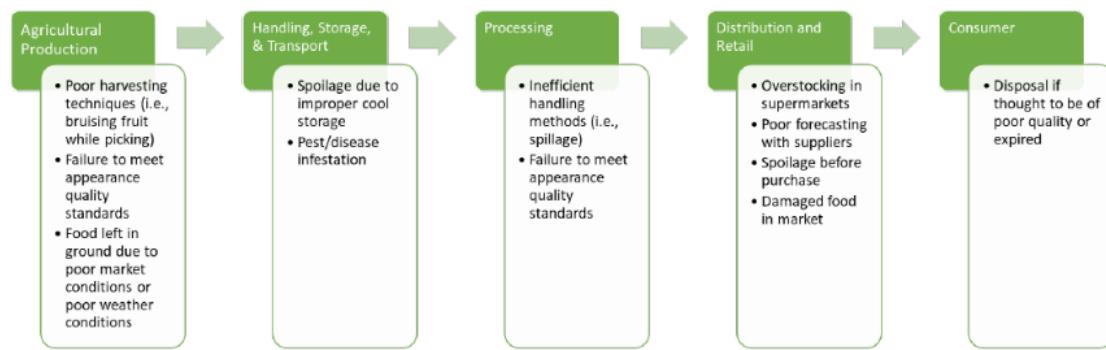


Figure 22: Research about the problem of the food donation system.

## 1.2 Requirement Collection

www.lawcommission.gov.np

### The Right to Food and Food Sovereignty Act, 2075 (2018)

#### Date of Authentication

2075.6.2 (18 September 2018)

Act number 13 of the year 2075 (2018)

#### An Act Made to Provide for Right to Food and Food Sovereignty

**Preamble:** Whereas, it is expedient to make legal provisions on the implementation of fundamental rights relating to food, food security and food sovereignty of the citizens, conferred by the Constitution of Nepal, and making appropriate mechanism therefor, and ensuring access of the citizens to foods;

Now, therefore, be it enacted by the Federal Parliament.

#### Chapter-1

##### Preliminary

1. **Short Title and commencement:** (1) This Act may be cited as the "Right to Food and Food Sovereignty Act, 2075 (2018)." (2) This Act shall come into force immediately.
2. **Definitions:** Unless the subject or the context otherwise requires, in this Act,-
  - (a) "Basic food" means the food designated by the Government of Nepal by a notification in the Nepal Gazette from time to time.
  - (b) "Farmer" means a citizen who makes agriculture the main occupation or business and earns his or her livelihood from agriculture, and this term also includes the family member dependent on such a citizen, or the citizen who labors in agricultural work for six months or more, or a citizen who makes traditional agricultural tools or the family member dependent on such a citizen.
  - (c) "Agricultural land" means any land that is used for agriculture, that grows agro products, or that is determined for the utility in agricultural work under the prevailing law.
  - (d) "Food" means a substance that is processed, semi- processed or unprocessed consumable by the human being, obtained from biological source which is culturally acceptable, and this term also

Figure 23: Research about the Nepal laws

includes a raw material used in the preparation, processing or production of such a substance.

- (e) "Food sovereignty" means the following rights which are used or exercised by the farmers in the food production and distribution system:
- (1) To participate in the process of formulation of policy relating to food,
  - (2) To make choice of any occupation relating to food production or distribution system,
  - (3) To make choice of agricultural land, labor, seeds, technology, tools,
  - (4) To remain free from adverse impact of globalization or commercialization of agricultural business.
- (f) "Food security" means physical and financial access of every person to the food required for the active and healthy human life.
- (g) "Prescribed" or "as prescribed" means prescribed or as prescribed in the rules framed under this Act.
- (h) "Council" means the National Food Council referred to in Section 32.
- (i) "Ministry" means the Ministry of the Government of Nepal that looks after the matters relating to agriculture.
- (j) "Targetted household" means the households identified pursuant to Section 5.
- (k) "Local Level" means the Rural Municipality or Municipality.

## Chapter-2

### Right to Food and Protection from Food Insecurity

3. **Respect, protection and fulfillment of the right to food:** (1) Every citizen shall have the right to food and right to food security.
- (2) The Government of Nepal, Provincial Government and Local Level shall make necessary arrangements, with mutual coordination, for the respect, protection and fulfillment of the right referred to in sub-section (1).
- (3) Without prejudice to the generality of sub-section (1), every citizen shall have the following rights relating to food and rights relating to food security:

Figure 24: Protect the food industry

- (a) To have regular access, without discrimination, to adequate, nutritious and quality food,
  - (b) To be free from the hunger,
  - (c) To be safe from the state of being in danger of life from the scarcity of food,
  - (d) To obtain sustainable access to food and nutrition support by the persons or families vulnerable to famine or food insecurity,
  - (e) To use culturally acceptable food.
4. **Prevention and control of famine:** The Government of Nepal, Provincial Government and Local Level shall perform the following functions, on the basis of prioritization, with mutual coordination, for the prevention and control of famine:
- (a) To regularly identify famine or the person, families, communities and zones vulnerable to the famine; and to maintain its records,
  - (b) To make provisions of food required for controlling famine and the risk of famine,
  - (c) To make provision for food distribution for controlling the famine or the risk of famine,
  - (d) To adopt immediate, short-term and long-term measures for the prevention and control of the famine.
5. **Identification of targeted household:** (1) The Local level shall maintain records in the prescribed form by identifying the targeted households, as prescribed, within its territory, that are vulnerable to food insecurity due to poverty, geographical inaccessibility, disaster or similar other reasons.
- (2) The details of the records referred to in sub-section (1) shall be sent to the Provincial Food Council pursuant to Section 34 and also to the Ministry for the record purpose.
- (3) If the details of the households which are not prone to food insecurity are found to have been included in the records referred to in sub-section (1), or if the households included in the records do not fall under the targeted households for any reason whatsoever, the Local Level may remove the details of such family from the records in any circumstance.
- (4) On the basis of the records received pursuant to sub-section (2), every

Figure 25: Food protection laws.

21. **National Food Plan:** (1) The Government of Nepal shall prepare a National Food Plan upon coordinating with the bodies of the Federation, Province and Local Level related to food.
  - (2) While making coordination under sub-section (1), consultation shall be held, as necessary, with other bodies or institutions of the governmental, non-governmental or private level.
  - (3) The matters to be included in the National Food Plan referred to in sub-section (1) shall be as prescribed.
  - (4) While preparing the National Food Plan pursuant to sub-section (1), the indicators of measurement and monitoring of the progress made during the implementation of the right to food shall be taken as the basis.
  - (5) The Government of Nepal shall include the matters of promotion of the right to food, food and nutrition security and food sovereignty in its periodic development plans.
22. **Operation of food and nutrition security program:** The Local Level shall operate necessary programs as prescribed every year for food and nutrition security.
23. **Indicators of right to food monitoring:** (1) The Government of Nepal shall, in order to implement this Act, prepare monitoring indicators for the right to food and the right to food sovereignty, in consultation with the Council and other relevant bodies.
  - (2) The monitoring indicators for the right referred to in sub-section (1) shall be published for the information of the public in general.
24. **Food and nutrition education and information:** The Government of Nepal, Provincial Government and Local Level shall disseminate the notice and educational information related to the right to food from time to time.
25. **Research and development of scientific technology:** In order to make sustainable development of agriculture, increase food products or promote food and nutrition security, the Government of Nepal, Provincial Government and Local Level shall make arrangement for the necessary study, research and development of scientific technology.

Figure 26: Government implementation to right of food.

- 32. Formation of National Food Council:** (1) In order to manage the acts of protection, promotion and fulfillment of the right to food, right relating to food security and food sovereignty, a National Food Council shall be formed as prescribed, under the chairpersonship of the Minister of the Government of Nepal, who looks after the matters relating to agriculture.
- (2) The functions, duties and powers of the Council shall be as prescribed.
- 33. Monitoring and inspection:** (1) The Council may, for the monitoring and inspection of the availability, hoarding, supplies of food and the operation of distribution system regularly, form sub-committees or designate the Inspection Officer, as prescribed.
- (2) After conducting the monitoring or inspection, the sub-committee or the Officer, conducting monitoring or inspection pursuant to sub-section (1), shall submit its report to the Council.
- 34. Provisions relating to Provincial Food Council:** (1) In order to protect, promote and fulfill the right pursuant to this Act in the Provincial level, a Provincial Food Council shall be formed in each Province, under the chairpersonship of the Minister who looks after the matters of agriculture.
- (2) Other matters relating to the Provincial Food Council shall be as determined by the Provincial Government.
- 35. Functions, duties and powers of Provincial Food Council:** The functions, duties and powers of the Provincial Food Council shall be as determined by the Provincial Government.
- 36. Local Food Coordination Committee:** (1) For the functions including protection and promotion of the right to food, right to food security and food sovereignty in the Local Level, and in order to facilitate food supplies and distribution system in the Local Level, a Food Coordination Committee shall be formed in each Local Level under the chairpersonship of the Mayor of Municipality or the Chairperson of Rural Municipality, as the case may be.
- (2) The Secretariat of the Local Food Coordination Committee shall be situated in the concerned Municipality or Rural Municipality, as the case may be.
- (3) The matters relating to the formation, functions, duties and powers of the Local Food Coordination Committee shall be as determined by the Local Level concerned.

Figure 27: National Food Council Provincial Food Council

## THE CHALLENGES OF ESTABLISHING FOOD DONATION SYSTEM<sup>192</sup>

Deni Lovrenčić<sup>193</sup>

Nenad Vretenar<sup>194</sup>

Zoran Ježić<sup>195</sup>

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### Abstract

*Food donation system is a process usually led by food donation organizations that are collecting food from businesses and individuals or from the ones with excess of goods, storage it, distribute it to the food banks and finally redirect it towards people in community that have a deficit of particular goods. Food donation system is, therefore, a part of charitable activities usually organized by civil society organizations sometimes supported by state or local governments. Although arguments in favor of creating food donation system are very clear and acceptable to most, those included in an attempt to organize it are usually coping with many obstacles and resistance like the need to: lobby governments for change tax and other legislation connected to food donation, convince possible donators that donated food want create negative outcomes to them like black markets, contractions in demand etc. Other set of challenges is in creating efficient donation organization and logistics. As charity organizations are often connected in networks, from organizational point-of-view, food donation systems usually emerged in a hybrid organizational form somewhere between firm hierarchies and pure market organization of transactions.*

*The creation of food donation system in Croatia is in its very beginnings of making a food waste management program and food donation organizations. Therefore, the main aim of this paper is to address some organizational issues that stand in the way of the creation of sustainable food donation system. We analyzed best practice in European countries such as Italy and France who have set the effective laws to enhance food donation. Based on their experience and recommendations from organization theory, we aim to contribute to the present and the future efforts to create efficient and sustainable system that would fit the needs of the Republic of Croatia, and other CEE countries with similar social and institutional context.*

**Key words:** Food donation organizations, food waste, food donation, hybrid organization structure

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### INTRODUCTION

Charity organizations are being analyzed and discussed in economic science for more than a century but the need to understand economic aspects of charity and to develop charity organizations is still very much alive. When defining what charity organizations are, we used Pervey's [1] explanation that charity organizations societies are not associations for purpose of giving relief, but organizations principally formed for the purpose of bringing the existing

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<sup>192</sup> This work has been fully supported by the University of Rijeka under the project number 13.02.1.2.04

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Figure 28: Challenge of food donation.

donations directly to recipients. However, during our field research that included series of interviews with volunteers and activists in Croatian hybrid platform called Food network, and in charity shop in the city of Rijeka, we obtained a knowledge that small local organization are, without cooperation on wider level, in constant misbalance between goods needed and goods that they have in inventories. Furthermore, they are in constant time misbalance as donors are more willing to donate in certain time of the year. The problems of uncoordinated local (and even not local) charity organizations were best seen during 2014 severe floods in several municipalities in Eastern Croatia. During that crisis, some, but not all, charity shops were making a big extra effort to collect and dispatch food, clothes and shoes to the areas hit by natural disaster. In the same time the Croatian Red Cross collected more than 60 million HRK (around 8 million EUR) in donations but failed to distribute it to the ones that were forced out of their homes by the flood and keeping the funds on Red Cross bank account. That was latter poorly explained by inability to identify and locate people in need.[12] Another issue and limitation of peer-to-peer donation system is that Croatia is financially highly centralized country with most financial power in the city of Zagreb (Figure 2 and 3). This creates further misbalance between "wealthy" charities in Zagreb and not so fortunate charities in less developed areas. To address this and other problems of uncoordinated food donation, many countries opted to organize food banks, as intermediates.

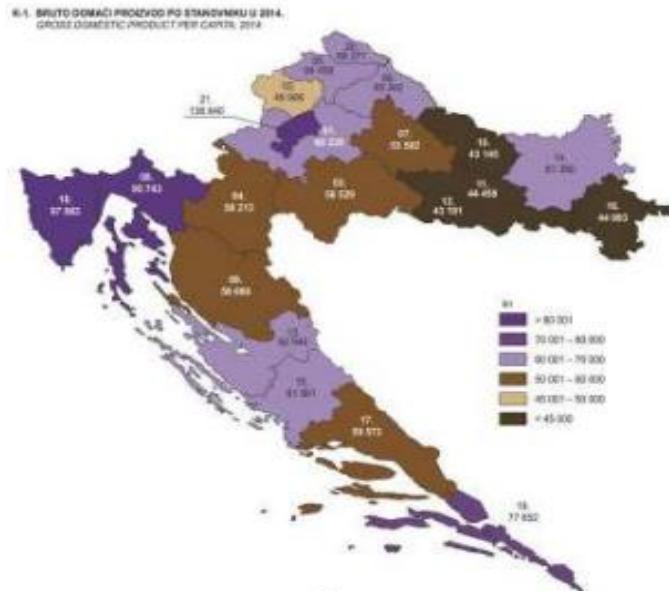


Figure 2: Croatian GDP per capita on county level in 2014 [13]

County	2017			2017		Total of Croatia
	M	F	2017 - total	% M	% F	
Zagreb	4109	5180	9288	44	56	4,76
Krapina-Zagorje	1657	2091	3747	44	56	1,92
Sisak-Moslavina	5797	7829	13626	43	57	6,98
Karlovacka	2517	3512	6029	42	58	3,09
Varaždinska	2010	2220	4230	48	52	2,17
Koprivnica Križevci	1652	2031	3683	45	55	1,89
Bjelovar-Bilogora	3586	3927	7513	48	52	3,85
Primorje-Gorski Kotar	4000	5764	9763	41	59	5,00

Figure 29: History of internal data

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# Aahar - Food Donation App

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**Abstract-** The sharp rise in the amount of food waste creates the need for charity in terms of donations. Food is mostly lost everyday in numerous restaurants, parties, social gatherings, college canteens and many other social activities in the present scenario. By visiting each organisation several times to reduce the problems with food waste, people donate food manually. Where there are platforms that have made attempts to help people donate food, the current framework offers a new internet-based application that provides all poor people/organizations with a forum for recycling surplus food. The device has seen to be an efficient way to donate items over the Internet to organizations, etc. It highlights the ability to prevent food waste. It offers details about the inspiration behind such an application, explaining the current mechanism of contributions and how the product works to benefit society. This framework would establish a shared communication platform for hotels/restaurants, charities and individuals, where charities and individuals can contact restaurants that have remaining food directly and report generation. Showing how much food is given by which restaurant and giving reward points Food Donor, Food Receiver, Third Party Provider, Admin are the key modules in this framework where Food Donor can be any organisation, entity or college that wants to donate food and build a new food donation request and Food Receiver can be any food-seeking charity corporation. A fresh food donation request will be produced on the site and a message will be sent to the third-party provider responsible for transporting food from the food donor to the food recipient until the request is approved.

**Keywords-** Food Donation, Phone, Volunteer, Mobile application, Food wastage reduction.

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## I. INTRODUCTION

The Food Donation Platform paper provides and provides a forum that links donors with NGOs. A concept is proposed for a food donation network and the effect on society through this medium is discussed. In this article, the downside is that no GPS service is available. That implies that the structure does not make it easy for the company or charity.

The paper 'Beyond Food Sharing: Promoting the Reduction of Food Waste With ICTs' was published in 2016 and maintaining food sustainability is crucial to enhancing the quality of life of people at all levels of society. The paper 'Beyond Food Sharing: Supporting the Reduction of Food Waste With ICTs' was published in 2016. The current economic crisis has increased the number of people living in food-poverty situations, especially in developing regions. In spite of a growing understanding of the value of waste reduction and food surplus management, ICTs are still vague and poorly reported in this domain.

This paper explains the use of ICT resources to restore numerous food surpluses. Supply chain phases and also details the path ahead for an interconnected collection of ICT instruments to reduce waste from manufacturers to

households. Food pollution is an upsetting epidemic in deeply populated nations like India. There is ample evidence from the highways, garbage bins and landfills to prove that. Relationships, bins, restaurants, social and family events and services remove too much of the food.

Food wastage is not only a symptom of craving or contamination, but also of various financial problems. In view of rapid shifts in propensities and way of life, the exclusive expectation of living has resulted in the loss of food.

We can use these items by offering them to numerous associations, such as shelters, senior homes, and so on, through squandering rather than. The item is a web-based android program that focuses mainly on through gifts of cause. Many people do not realize how much food they throw away every day, from unconsumed extras to spoiled goods. In landfills or burning offices, about 95 percent of the produce that we waste ends up. In 2013, we negotiated of food squander. Numerous individuals wish to give stuff to destitute associations for over 35 million tons.

Similarly, several groups seek to order various items they require, such as clothes, food grains, books, utensils, and so on, but there is no open source. That will satisfy their prerequisites.

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Figure 30: Research about the Food donation Mobile app

association and will provide a stage for contributors and searchers after they register effectively in the system. He/she should express something unique in the document on the unlikely chance that a client wants to offer something. This message will appear as a note to various consumers in the gifts page. This message will be located in the information base in the backend. The shelters who want to guarantee the gift can reply to the contributor and reach him/her when a note is received.

This framework's UI will be simple and easy to use, and Android is based on the framework. As of now, we expect the major waste that usually exists in India to be eliminated and that is important. We are searching and hoping to refresh and refine a similar that will amount to the application's efficiency and usefulness, like books, fixed, clothes, etc.

In any case, The application is limited to Android Mobile phones with Android OS and higher renderings. The application would still be profitable if contributors and searchers are similar to each other. usage case graph shown above shows 3 entertainers: Donor, Recipient and Admin. Activities such as registration and signing into the system are carried out by the donor. He will also set things up for gift and see all gift criteria (things desired by associations). Both the admin and the donor can see the region of the recipient.

Similarly, the admin will screen and refresh the knowledge base. Both the admin and the recipient will see the region of the donor. The Recipient will also conduct tasks such as stating things, more seeing things listed, asserting donations.

### 1. Conventional Paper-Based System:

The traditional paper-based scheme is one of the most commonly used food ordering schemes. All the documents are kept on paper in this method. The primary downside to this scheme is that records can quickly get misplaced or destroyed. Cash, time and paper are also lost. No type of dynamicity is given by paper-based systems. Just a minor alteration calls for the entire menu card to be re-printed.

This machine does not work perfectly because it has some bug and from the point of view of a consumer it is time consuming, even a significant amount of human efforts are required. 2.2 Machine use in hospitality management. The automation of the food ordering system was pioneered with the advent of computers. PC connection was developed where the waiter would enter the order in the system after taking the orders. Then the respective orders were seen on a computer in the kitchen.

The kitchen staff arranged the dishes accordingly, notifying the waiter who retrieved and served the dishes to the respective tables upon completion. The scheme was also able to intimidate the waiter about a dish's

availability. The waiter was allowed to inquire for adjustments or even delete a customer's order if a particular dish was unavailable. Bills were created at the cash counter after serving the food.

All the information entered by the customer is fed into the machine that had direct access to the management through this application to sell the food products. The biggest benefit of our method is that our application helps everyone to cook food and sell it.

### 2. Advantages:

- Since we use applications like Google Map and GPS, the cost of project construction is economically feasible.
- The machine will still be live, providing a 24/7 service.
- At a relatively low cost, the machine can make food available.

### 3. Disadvantages:

- Availability of internet to use application .
- Cannot prevent fraud users from entering their product.

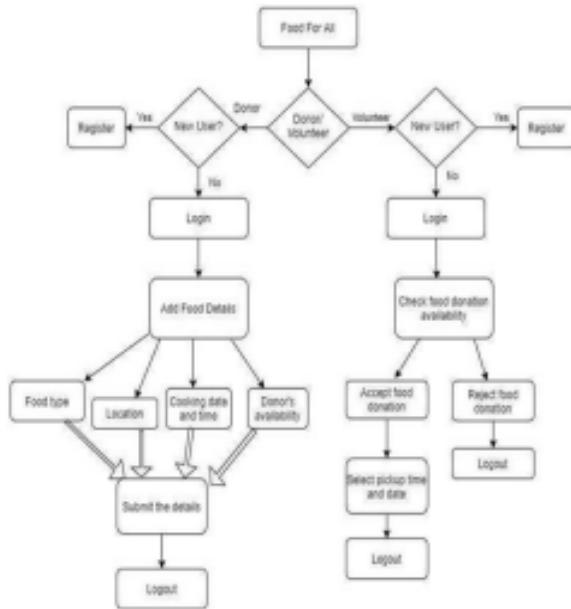


Fig 1.Flowchart Diagram .

## V. MODULES

### 1. Login & Registration:

For both the guest and the agent, this stage involves login and enlistment. By preserving separate documents for each customer, the subtleties of the client are kept classified.

Figure 31: Advantages and disadvantages of the waste food management system.

The expert can only see the subtleties of the enlisted guest concurrently.



Fig 2. Signup as Donor or Volunteer.

## 2. Administrator Module:

In administrator module, the overseer keeps up the specialist subtleties just as the donator subtleties. The executive gathers the food from the specialist. The overseer gives the shelter subtleties straight forwardly to the donator.

## 3. Donator Module:

In the donor module, the donor allocates the food waste to the shelter. In this way we can reduce foodwaste issue, the donor gives the solicitation to the donator. The suggested application is android-based, generated using java and xml on Android Studio, requires web association and will offer contributors and searchers a stage after they register effectively in the system.

He/she should express something unique in the document on the unlikely chance that a client wants to offer something.

This note would appear as a notification to various customers in the Gifts column. This message would be stored in the database on the backend. The shelters who want to guarantee the gifts can reply to the contributor and reach him/her when a note is received.

This framework's UI will be simple and easy to use, and Android is based on the framework. As of now, we expect the major waste that usually exists in India to be eliminated and that is important. We are searching and hoping to refresh and refine a similar that will amount to the application's efficiency and usefulness, like books, fixed, clothes, etc.

In any event, the program is limited to Android Smart phones with Android OS and higher renderings. If contributors and searchers are placed next to each other, be optimistic. The usage case graph shown above shows 3

entertainers: Donor, Recipient and Admin. Activities such as registration and signing into the system are carried out by the donor. He can likewise set up things for gift and view all gift demands (things needed by associations). The Admin and Donor both can see the Receiver's area. The Admin can likewise screen and update this information base. The Admin and Receiver both can see the Donor's area. The Receiver can likewise perform activities like mentioning for things, seeing mentioned things further more, asserting donations.

Fig 3. Food Donation Form

## 4. Recipient Module:

In Agent module, the Receiver keep up the halfway house subtleties. It can likewise keep up the donator subtleties.

Khichuri 3 packets 1-12-20 6 : 46 PM 56, Mohamadpur, Dhaka-1220 >
Rice 3 packets 7-11-20 9 : 20 AM Gulshan-02 >
Rice with meal 4 packets 7-11-20 5 : 8 PM 12, Azimpur >
Khicuri 4 packets 6-11-2019 3 : 44 PM 66/1 west rajabazar >

Fig 4. Food Donation Entries

Figure 32: About the system user

## 3 Methodology

Evaluating the effectiveness of the underprivileged school donation web application includes a literature review of similar programs that have been implemented in Sri Lanka and other countries. The literature review aims to identify the impact of food donation programs on the nutritional status and academic performance of school children. The research methodology also includes a survey of users of the underprivileged school donation web application. The survey will assess the user experience, satisfaction with the system, and any suggestions for improvement.

### 3.1 Requirement Analysis

The first step in the implementation process is to gather the requirements for the web app. This will involve conducting a needs assessment with potential donors, school administrators, and other stakeholders to identify the key features and functionalities required in the web app.

#### 3.1.1 Data collection

The data will be collected through a review of relevant literature, reports, and documents related to school donations and web app development. The study will also use qualitative data collection techniques such as interviews and focus group discussions with potential donors and other stakeholders such as school principals and teachers to identify the key features and functionalities required in the web app, and to explore the challenges and opportunities of using a web app to promote school donations. The study will also use quantitative data collection techniques such as online surveys to gather data on user satisfaction and engagement with the web app.

#### 3.1.2 Data analysis

The data collected through qualitative data collection techniques will be analyzed using content analysis and thematic analysis. The data collected through

quantitative data collection techniques will be analyzed using statistical analysis.

#### 3.1.3 Expected outcome

The expected outcomes of this study are the development and evaluation of a web app for school donation in specific nine provinces in Sri Lanka with a clickable map, and the identification of strategies for improving the effectiveness and sustainability of the web app. The study will also provide insights into the challenges and opportunities of using web apps to promote school donations in specific nine provinces in Sri Lanka.

## 3.2 System Design

The proposed web application is designed to facilitate donations for underprivileged schools in nine specific provinces in Sri Lanka. The system design consists of a front-end, back-end, and database architecture. The front-end of the app will be developed using React and Redux and will include a clickable map as a key feature. The back-end will be developed using Node.js and Express, with API endpoints to handle donation requests and transactions. MongoDB and Mongoose will be used as the database management system for the web app. The system will be deployed on a cloud-based hosting service such as AWS or Heroku to ensure scalability and reliability. The ultimate goal of this system design research is to provide a detailed and comprehensive overview of the proposed web app, highlighting its key features, functionalities, and technologies used.

## 3.3 Implementation

The implementation process for the web app will consist of several stages. First, the requirements will be gathered to identify the key features and functionalities of the app, such as the clickable map, donation process, and user authentication. Second, the user interface will be designed, and a prototype will be created to ensure that the app meets the user's needs and expectations. Third, the front-end, back-end, and database components of the app will be implemented using the MERN stack technology.

Figure 33: Planning for system development.

### 3.4 Testing

Testing is a critical aspect of software development, and it is essential to ensure that the web app developed for school donation is reliable, secure, and functions as intended. The testing process will include several stages, including unit testing, integration testing, and user acceptance testing.

### 3.4 Deployment

To ensure the success of the deployment, the system would need to have a user-friendly interface. The process of selecting a province and scheduling an event should be straightforward. The system should also be accessible on mobile devices to increase convenience for potential donors. Additionally, the system should have strong security measures to protect user data and prevent unauthorized access. The deployment scenario should also include regular system updates and maintenance to ensure the system's continued effectiveness.

donors can easily donate money and food, and admins can manage and summarize all donation activities, including the most needed provinces.

The donor can then make a donation by clicking on the donate button and (Fig 1.3) entering the materials and quantity they wish to donate, along with any notes. The donor can select the date of donation and make a request.

The donor can check the status of their donation requests by clicking on the View More button (Fig 1.4). The donor can view the details of their pending, approved, rejected, and completed requests, and can cancel or edit their requests (Fig 1.5, Fig 1.6 and Fig 1.7) as needed.

The donor-admin can view the updated details of donation materials in the system through a bar chart and can click on a province on the map to view (Fig 1.1) donation materials related to that province.

The Donor-Admin Donation Activity button (Fig 1.8) allows the donor-admin to view (Fig 1.9) the requests made by donors, requests approved by the admin, and completed donations. The admin can approve or reject donation (Fig 2.0) requests by clicking on the Approve or Reject buttons (Fig 2.1), and can view the full details of completed (Fig 2.2) donations.

Overall, the Manage Donation Activities function in the web app provides a user-friendly interface for donors and donor-admins to manage their donations and view the status of their requests in a clear and organized manner.

## 4 FUNCTIONALITIES

### 4.1 Manage Donations

The Manage Donation Activities function in a web app allows donors and donor-admins to easily manage their donations and view the status of their requests in a user-friendly interface. The function provides a bar chart (Fig 1.1) of all previous donations, including details about the type of materials available and required in the system.

The donor can select a province on the map of Sri Lanka (Fig 1.1) to view donation materials related to that province. Once the donor chooses a province, (Fig 1.2) a bar chart displays the details of the donation materials required in that province.

Figure 34: Development phase analysis

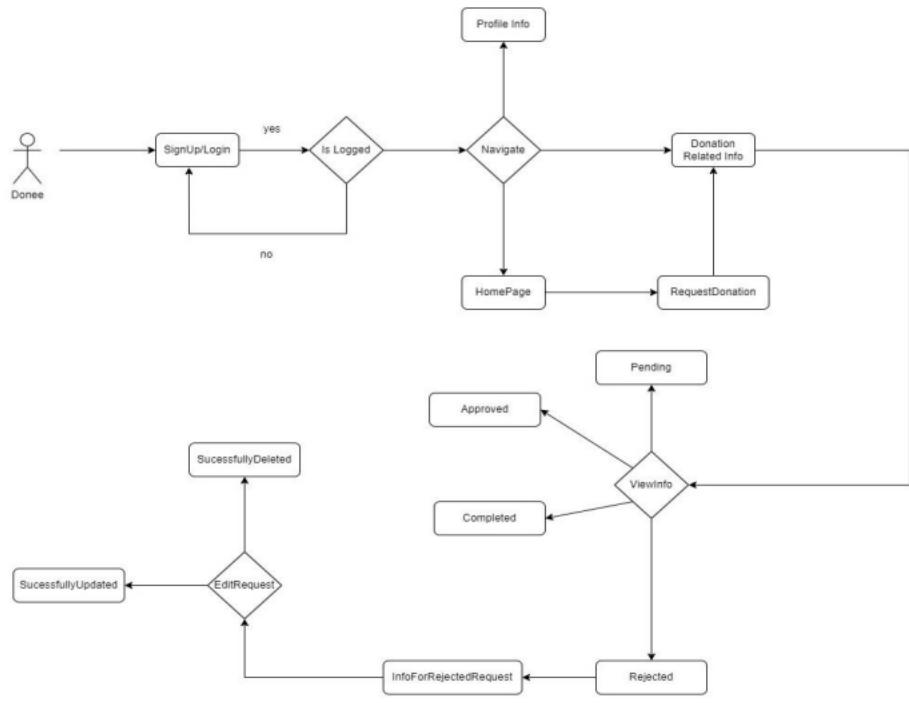


Figure 35: System flow chart



Government of Nepal  
National Planning Commission  
Singha Durbar, Kathmandu

Dil Bahadur Gurung, PhD  
Acting Vice Chairman

## Foreword

Globally more than 690 million people are suffering from hunger; about two billion adults are overweight and 462 million are underweight. It is quite disappointing to note that this problem is being aggravated by global crisis due to COVID 19 pandemic and present Russia-Ukraine war resulting in increased poverty and food insecurity.

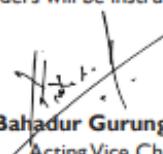
Nepal is not exception, despite good progress in food security and nutrition, we are living with a situation of unsustainable food systems, and our **unique mountain food systems is highly vulnerable** to the impact of climate change and other natural disasters. It is utmost important for us to achieve an equitable, resilient and sustainable food systems, which will also contribute to achieve Sustainable Development Goals (SDGs) by 2030. Realizing this, and as a member state of UN, the Government of Nepal in collaboration with stakeholders actively engaged in UN Food Systems Summit 2021 process and accorded high priority to transform its existing food systems.

The Food systems Dialogues (three National and seven Provincial) convened in 2021 identified six national pathways for transforming the food systems. **First** pathway emphasizes on ensuring policy coherence (especially in the agriculture, food security and nutrition, education, and health) and food governance; encourage farmers/youth to engage in agricultural sector to intensify the production of affordable, safe, healthy and nutritious food for all people in a sustainable way; **second** focuses on setting up of regulatory mechanisms to effectively monitor the quality of foods and educating people to consume healthy and nutritious local food, reduce food losses/waste, and promoting, protecting and supporting breastfeeding practices. Similarly, **third** pathway acknowledges the importance of adopting agroecosystem based resilient planning and revitalization of indigenous food systems and conserving and utilizing biodiversity. The **fourth** one emphasizes on investing in Research and Development and innovation in the agricultural sector to diversify the food systems and promote value chains; developing entrepreneurship skills of farmers including SMEs to raise their income and improve their livelihoods. **Fifth** pathway prioritizes for ensuring longer-term investments on developing resilient food systems and community to withstand shocks and stresses and final **sixth** one further highlights the role of the Right to Food and Food Sovereignty Act, to ensure accountable food governance at all levels for transforming the food systems.

This report elaborates all the pathways and strategic actions and provides a useful reference to all stakeholders, experts and practitioners.

I would like to extend my sincere thanks and appreciation to the UN System, development partners and key stakeholders for their strong commitments to contribute to transform our food systems and achieve SDGs by 2030. UN World Food Programme deserves special thanks for the support in coordinating provincial and national dialogues events as focal agency on behalf of UN agencies.

We understand that the countries like Nepal need to avail resources for increased investment, technology transfer, and capacity development that may suit the local needs. It is my firm belief that concerted efforts and joint actions by the governments, development partners, private sector and all stakeholders will be instrumental in this endeavour.



Dil Bahadur Gurung, PhD  
Acting Vice Chairman  
National Planning Commission

Figure 36: Government announcement.

# UN Food Systems Summit 2021

## The Food Systems Summit

Food systems touch every aspect of human existence and affect the health of our bodies, environment, economies, and culture. They have the potential to nurture human health and support environmental sustainability. However, food systems are currently not meeting the healthy food and nutritional requirement of growing population in the changing climate and market needs. Our food system is under pressure from natural resource degradation, climate crisis, conflict, outmigration of youths and feminization of agricultural tasks, privatization of production process and resources and inequality. A failed food systems threatens education, health, and economy as well as human rights, peace, and security. Therefore "Transforming food systems is crucial for delivering all the 2030 UN Sustainable Development Goals."

The Food systems Summit held in September 2021 was underpinned by an inclusive engagement process to deliver progress on all 17 UN Sustainable Development Goals (SDGs). In preparation for the historic global summit, a diverse range of stakeholders from all Member States — from Government to Members of Parliament, from youth activists to indigenous leaders, from smallholder farmers to private sectors, civil societies, scientists,

and CEOs – were invited to identify the most powerful ways to make food systems stronger and more equitable; ultimately driving progress on all of the SDGs, and UN Member States were encouraged to focus on how their national food systems could, in the coming decade, align with the 2030 Agenda for Sustainable Development and the SDGs.

## Purpose, objectives and expected outcomes

The Summit was designed to release new bold actions, innovative solutions, and strategies to transform our food systems. The summit aimed to:

1. Generate significant action and measurable progress towards the 2030 Agenda for Sustainable Development and issue a call for action at all levels of the food systems.
2. Raise awareness and elevate public discussion about how reforming food systems can help us all to achieve the SDGs by implementing reforms that are good for people and the planet.
3. Develop principles to guide governments and other stakeholders looking to leverage their food systems to support the SDGs.
4. Create a system of follow-up and review to ensure that the Summit's outcomes continue to drive new actions and progress.

Figure 37: UN Food System 2021 report

# Action Track 1: Ensure access to safe and nutritious food for all

This Action Track aims to end hunger and all forms of malnutrition and reduce the incidence of diet-related non-communicable disease (NCD). Achieving this goal requires delivering on the right to food to ensure that all people always have access to enough affordable and safe food. This in turn entails a need to increase the availability of a safe, nutritious, and diverse diet, making food more affordable and reducing inequities in food access.

## Context in Nepal

### Food Security

When considering food security, it is essential to consider its components- availability, accessibility, utilization, and stability. Availability is considered in terms of domestic production of food and imports. The production and productivity of major crops between the year 1999-2018 is presented in

Table 1. The area growth is significant for potato and vegetables; however, it is not seen for food grains. The change in area for staple food crops is negligible indicating that the only alternative to increasing production is by increasing yield. It is notable that the yield of most of staple food crops in Nepal is very low compared with neighbouring countries and globally.

Table 1. Annual compound growth rate of area, production, and yield of major crops (%)

Description	Area	Production	Yield
Paddy	-0.36	1.36	1.73
Maize	0.76	3.36	2.60
Wheat	0.73	2.88	2.15
Potato	2.67	4.84	2.17
Vegetables	3.78	5.65	1.87

Source: Author's calculation based on data from MoALD 2020

Figure 38: Nepal country food production

The production growth of livestock products and fish is presented in Table 2, and shows that the growth of chicken was the highest followed by fish

and egg. Growth in the production of other meats and milk products remained between 3-4 percent per annum.

Table 2. Annual compound growth rate of production of milk, meat, egg and fish (percent)

Commodities	Growth (1999-2018)
Milk	3.54
Goat Meat	3.80
Chicken	10.19
Mutton	3.58
Total Meat	3.55
Egg	6.08
Fish (Pound Culture)	8.08

Source: Author's calculation based on data from MoALD 2020

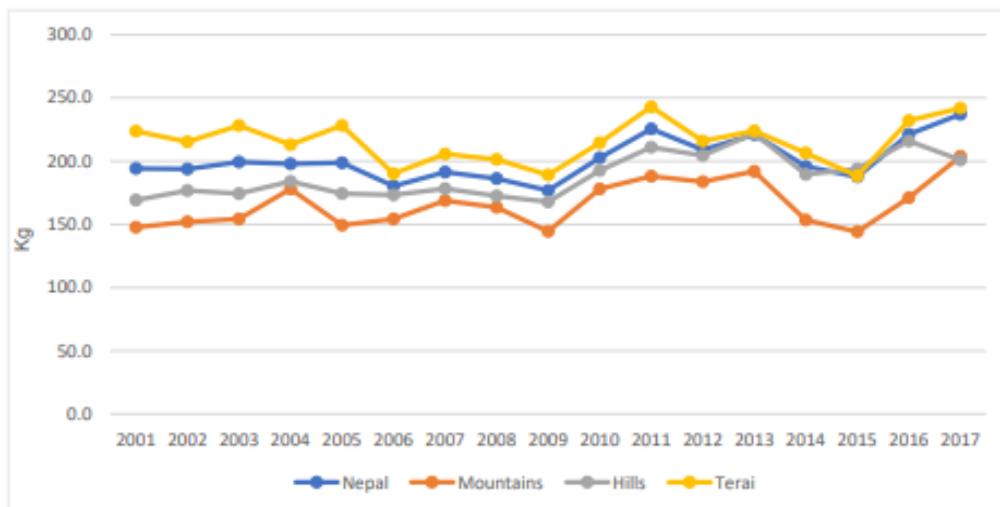


Figure 2: Per capita food availability (2001-2017)

An increasing trend can be seen in terms of per capita food grains availability, increasing from 194 kg in 2001/02 which to 237 kg in 2017/18 (MoALD, 2020). However, availability is lower than this national level figure in mountain and hill areas (Figure 2).

Edible food production data by province is available for only a two-year period. There has not been a significant difference in availability during this period except in Province 1, Madhesh and Bagmati Province. Per capita availability in Bagmati Province is lowest

as overall production is low and the population density in the Kathmandu Valley is high (Figure 3).

While food security in Nepal has improved in recent years, 4.6 million people still remain food-insecure, with 20 percent of households mildly food-insecure, 22 percent moderately food-insecure, and 10 percent severely food-insecure (MOH et al., 2017). Overall, households in rural areas of the country - where food prices tend to be higher - are more likely to be food-insecure than people living in urban areas. The percentage of households with severely food insecure is higher in rural areas (11.7%) than in urban areas (8.8%). In terms of the food insecurity at province level, the percentage of households

Figure 39: Calculation of the data in the chart

facing severe food insecurity is the highest in Karnali Province (17.5%) followed by Sudurpaschim Province (13%) and Madhesh (10.7%). Although Madhesh produces surplus edible food grains, more than 30 percent of the households fall under moderately to severely food insecure category. This may be due to high population density in Madhesh, the unaffordability of purchasing food from markets for poor households and a traditional system of feudalistic land ownership practices.

The determinants of household food security show that male-headed households, household members with both agricultural and allied occupation, age of the household head, percentage of irrigated land, number of livestock owned by the

household, and with owner operator were positively related while the household size and time taken to reach the nearest market were negatively related (Joshi & Joshi, 2017). In the eastern region of Nepal (Province 1), it was revealed that the educational attainment level of household's head positively contributed to enhancing the situation of household food security, female-headed households were more food insecure compared to male headed households, although they play major role in household food security. Similarly, households with larger land holdings, nearness to road heads and markets, and members having off-farm and non-farm occupation contributed positively to food security, whereas bigger household size contributed negatively to food security (Joshi & Joshi, 2016).

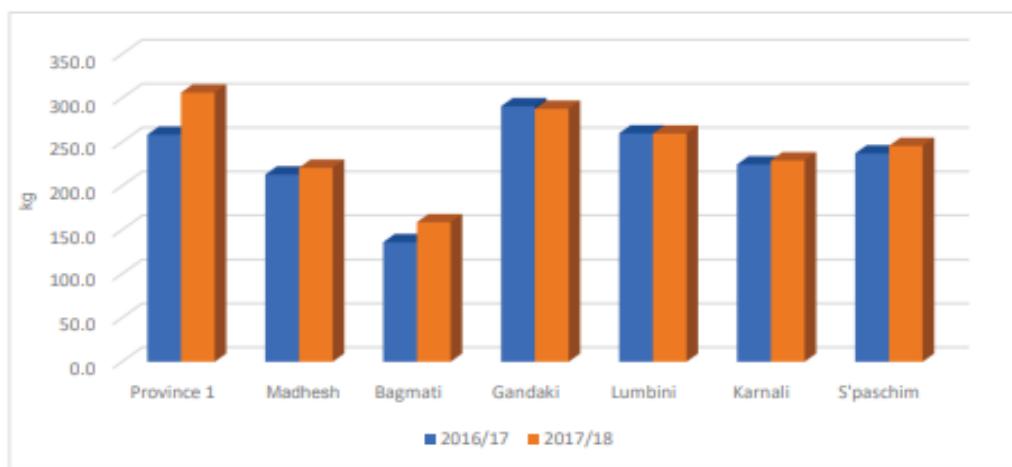


Figure 3: Province-wise per capita food availability, Nepal

The production of major food grains has a coefficient of variation ranging from 11-20 percent during recent decades, indicating that the scenario was not favourable in terms of stability in production. Factors contributing to these annual variations are the inadequacy of irrigation infrastructure and its ineffective management, ineffective service delivery, and increased incidence of natural calamities such as drought and flood. In Nepal, cereal import dependency has been rising, while Nepal's capacity to import food (in terms of export earnings from goods) has been falling. The volatility of food production has increased in recent years, with climate shocks increasingly seen as the main reason (Joshi, 2018).

### Nutrition

The Nepalese diet relies heavily on energy rich staple foods. A higher share of energy from staples indicates a low diet quality because it has a small amount of bioavailable protein and micronutrients. This leaves those consuming large amounts of staples compared to other foods (like fruits, vegetables, and meat) vulnerable to protein and micronutrient deficiencies.

Although malnutrition remains a concern, Nepal has made progress in terms of child nutrition. The percentage of young children under 5 years of age for stunting was 57% in 1996, which reduced to 32% in 2019, a reduction of almost one percent

Figure 40: Display the data in the Bar graph

per year. During this period, the percentage of underweight children declined from 42 to 24 and wasting from 15 to 12% (Figure 4). Nepal's under-

five mortality rate (per thousand) has declined from 118 in 1996 and 61 in 2006 to 28 in 2019 (NPC & UNICEF, 2019).

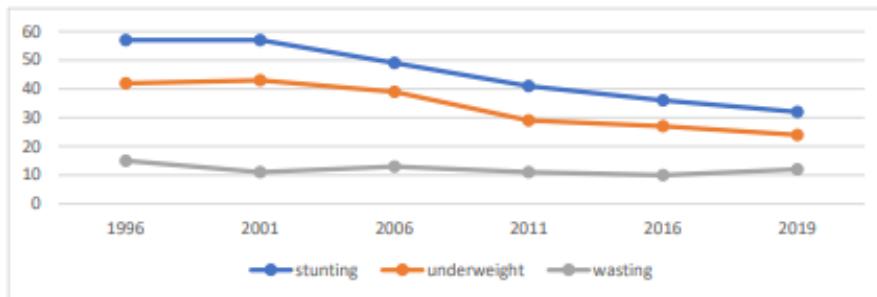


Figure 4: Trend in Children Nutrition Status (%)

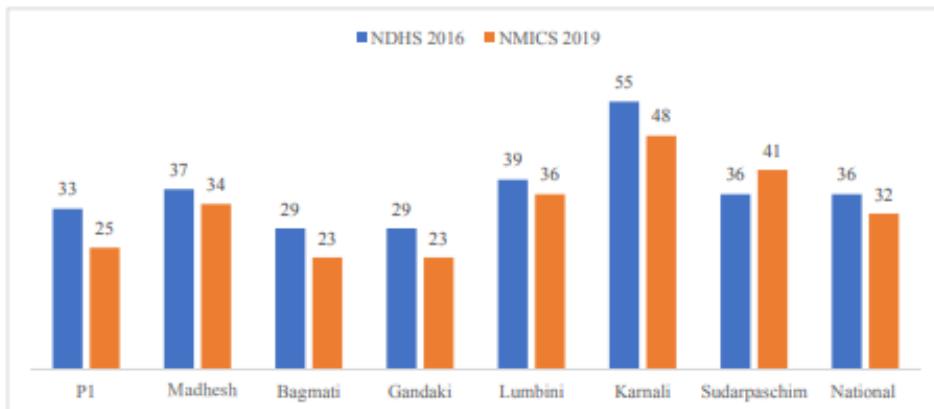


Figure 5: Prevalence stunting by province (%)

By province, the level of stunting and wasting was the highest for Karnali Province (47.8% and 17.6% respectively) and lowest in Gandaki for stunting (22.6%) and Bagmati for wasting (4.7%) (Figure 5 and 6).

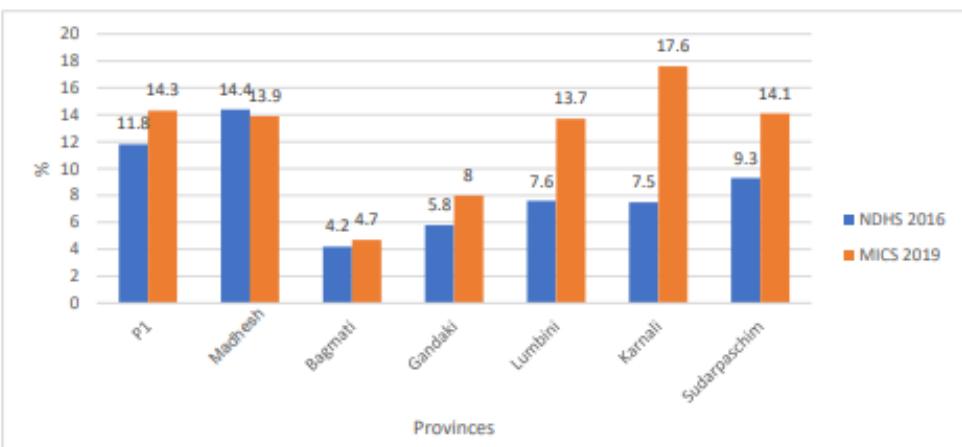


Figure 41: Data Nepal region.

The most consumed foods are made from grains (71% among breastfeeding children and 97% among non-breastfeeding children), followed by food made from legumes and nuts (54% among breastfeeding children and 78% among non-breastfeeding children), and food made from roots and tubers (44% among breastfeeding children and 62% among non-breastfeeding children). The percentage of children fed according to the minimum recommended standards has improved between 2011 and 2016. In 2011, 24% of children aged 6-23 months were fed a minimum acceptable diet, and in 2016, this increased to 36% (MOH et al.; 2017).

The family size and age of household head were negatively correlated with Dietary Diversity (DD). DD was lower among the Madhesi, and unprivileged ethnic groups compared to the Chhetri group, and among farm households compared to non farm households. TV and telephone ownership

are positively associated with DD. Increases in remittance and cash transfer are positively associated with DD, and DD is lower among poor households than among non-poor households, showing that income is a clear determinant of DD. Parent illiteracy also is negatively correlated with lower DD, though DD is higher in households containing an illiterate father than in those containing an illiterate mother (Kumar et al., 2020).

#### **Access to affordable healthy and nutritious diets**

Comparing household food consumption (gm per day per Adult Male Equivalent-AME) with food-based dietary guidelines (FBDG) for different food groups shows that the consumption of starchy staples, fats/oils and dairy product was higher than the FBDG. However, the consumption of vegetables was less than 44%, fruits less than 35% and proteins less than 15% than that of FBDG (Table 3).

Table 3. FBDG and actual consumption of foods at household (gm/day/AME)

Food Groups	FBDG	Consumption	% Change
Starchy staples	435	488	12.2
Vegetables	350	197	-43.7
Fruits	150	98	-34.7
Protein Foods	120	102	-15.0
Dairy	250	271	8.4
Fats and oils	30	34	13.3
Total	1435	1192	-17.1

Source:World Bank (2021)

#### **Cost of Recommended Diet (CoRD)**

The share of CoRD to the total food expenses was 83%, and 34% of the total household expenses in Nepal. The CoRD in Nepal per adult per day (in \$2011 PPP) was 1.79 while the consumption was 2.16. Comparing CoRD against the mean daily food expenses to measure the affordability of a nutritious diet shows that 55% of households spend less on food than CoRD in Nepal. The share of the cost to meet starchy staples need to total CoRD was 23% and 6.4% for fats/oils. The combined share of fruits and vegetables takes a large share (about one-third of CoRD). The share of protein food cost to total CoRD was close to a fifth while that of dairy was at

17%.The households over spend on starchy staples, protein, and oils.

Days of food consumption patterns weekly clearly demonstrate that the consumption of milk and dairy products, meat, eggs, and fruits is poor, which may lead to protein deficiency if not properly managed. A single food may not fulfil all the macro and micronutrients, therefore multiple foods should be included to fight against diseases and promote growth and development. The data shows the satisfactory consumption of cereals, roots and tubers, fat, and sugar. However, high biological availability of food amounts like meat, fish, and egg

Figure 42: Types of food and vegetable

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### **1.3 Aim and Objective of the project**

- The objective of our application is to enable a link of communication and interactions among NGOs, donors and the needy.
- The people wishing to donate will be able to see all the options available with them to do the same. The item they wish to donate then shall be collected by a volunteer who is connected to the donors via our application.
- The donated item shall safely reach the intended needy persons after this interaction. In other words, our project has the following objectives:
  - Reduce lack of awareness
  - Enable easy interaction between donors and organizations
  - Make work faster and quicker by digitising it via our app

### **1.4 Problem Specification**

- It is crucial for all the NGO volunteers to communicate with each other in order to give proper delivery to the needy people.
- It is also important for the people to know about NGO's, so that they can donate at their items ease.

### **1.5 Work Plan**

- We have completed the requirement gathering and the analysis phase for our app/software. We have also finished preparatory documents.
- We have also performed other activities like study of relevant PSAR and development of various canvases such as AEIOU, Empathy, Ideation and Product development canvas. We also began the designing part of the application.

Figure 43: Problem specification.

## 1.3 Methodology selection

DEFINITION

# waterfall model

By [Ben Lutkevich](#), Site Editor | [Sarah Lewis](#)

## What is the waterfall model?

The waterfall model is a linear, sequential approach to the [software development lifecycle](#) (SDLC) that is popular in software engineering and product development.

The waterfall model uses a logical progression of SDLC steps for a project, similar to the direction water flows over the edge of a cliff. It sets distinct endpoints or goals for each phase of development. Those endpoints or goals can't be revisited after their completion.

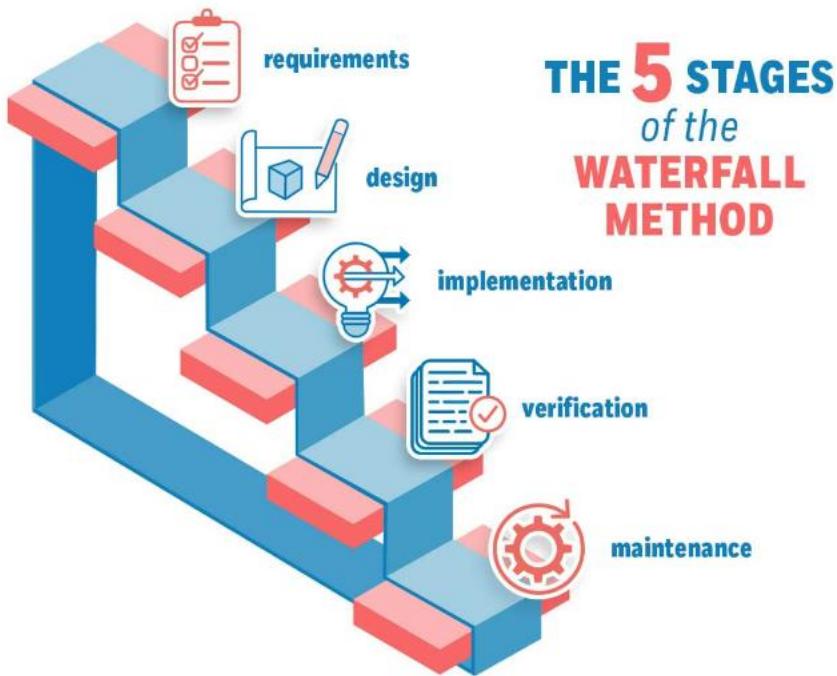
Dr. Winston W. Royce at the Lockheed Software Technology Center introduced the concept in a paper published in 1970 on his experience developing software for satellites. However, Royce didn't use the term *waterfall*; instead, he referred to the downstream value of documentation.

Figure 44: Definition of waterfall methodology

## Waterfall Methodology: History, Principles, Stages & More

Written by Ahad Waseem | Edited by omer

Last updated on Mar 02, 2023



If you're discerning potential project management methodologies for a new project, you might've come across a lot of project

Figure 45: phase of waterfall methodology

## What is a prototype?

A prototype is a simple visualization of the product to test the concept.

There are thousands of new ideas that originate every day to solve a particular problem. Executing an idea can be a long and expensive process. Alongside this, no one can, with absolute certainty, say that their vision will work or that users will ultimately want and use their products. Sometimes even great ideas fail because they are overly complicated to use or understand.

Agile development pivots around faster time to market, learning, integration, and adaptability. A prototype is built on the principle of failing fast, freely experimenting, and learning while trying to reach the desired result. Finding failures propels learning and optimizes solutions to reach your goal.

## What is the primary purpose of prototyping?

Teams build prototypes with varying degrees of fidelity to capture design concepts and test them on users. You can refine and validate your designs with prototypes to ensure that you are building the right thing your user will use, without wasting time and resources. Because of this, prototyping is a cost-effective way to learn from failure, promoting innovation and creativity.

In the product discovery phase, it's plausible that the product team has numerous compelling ideas. However, there are many initial uncertainties (e.g., technical feasibility, seamless process fit, etc.). The best way to avoid letting uncertainties drive the decision is to test the concept and learn about the possibilities. Prototyping

Figure 46: Definition and outline the prototype methodology

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## Prototype Model

← Prev

Next →

The prototype model requires that before carrying out the development of actual software, a working prototype of the system should be built. A prototype is a toy implementation of the system. A prototype usually turns out to be a very crude version of the actual system, possibly exhibiting limited functional capabilities, low reliability, and inefficient performance as compared to actual software. In many instances, the client only has a general view of what is expected from the software product. In such a scenario where there is an absence of detailed information regarding the input to the system, the processing needs, and the output requirement, the prototyping model may be employed.

Figure 47: About the prototype methodologies

## What is Scrum?

Scrum is a management framework that teams use to self-organize and work towards a common goal. It describes a set of meetings, tools, and roles for efficient project delivery. Much like a sports team practicing for a big match, Scrum practices allow teams to self-manage, learn from experience, and adapt to change. Software teams use Scrum to solve complex problems cost effectively and sustainably.

## What is Scrum methodology?

Certain principles and values characterize Scrum methodology:

### Scrum principles for project success

#### Transparency

Teams work in an environment where everyone is aware of the challenges that others might be experiencing. Regular face-to-face conversations between cross-functional team members and project owners prevent miscommunication and information bottlenecks.

Figure 48: Definition of cream method radiology

## Scrum Methodology

- A framework under which people can address complicated adaptive challenges while producing high-value goods in a productive and creative manner.
- Created by Ken Schwaber and Jeff Sutherland

Figure 49: Introduction to the Scrum methodology

## Scrum Methodology – Workflow

1. Vision
2. User stories
3. Scrum planning
4. Product backlog
5. Sprints
  - a) Sprint planning
  - b) Sprint backlog
  - c) Daily Scrum Meeting
  - d) Development
  - e) Testing / QA
  - f) Sprint Review
  - g) Sprint Retrospective
6. Release Product



Figure 50: Workflow of Scrum

## Sprint Backlog

Forecast	To-Do	In-Progress	Done
Fix My Profile 5		aliquip	ipsum duis sit ipsum
Filter Service Tickets 8	dolor ipsum culpo	vale culpa	aliquip
Quick Tips 3	ipsum sit duis		

Figure 51: Spring backlog

# Project Milestone

- A project milestone is a management tool for identifying a certain point in a project's timeline.
- The timeline points can be used to identify the beginning and end of a project, as well as the conclusion of a key phase of work.

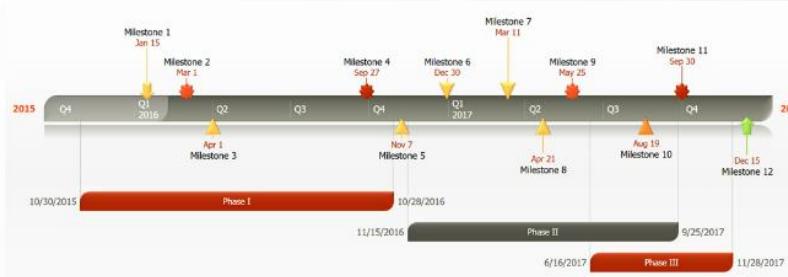


Figure 52: Milestone of Project development

# Gantt chart

A Gantt chart is a project management tool that depicts the progress of a project.

It usually contains two sections: on the left, a list of tasks is outlined, and on the right, a timetable with scheduling bars is used to visualize work.

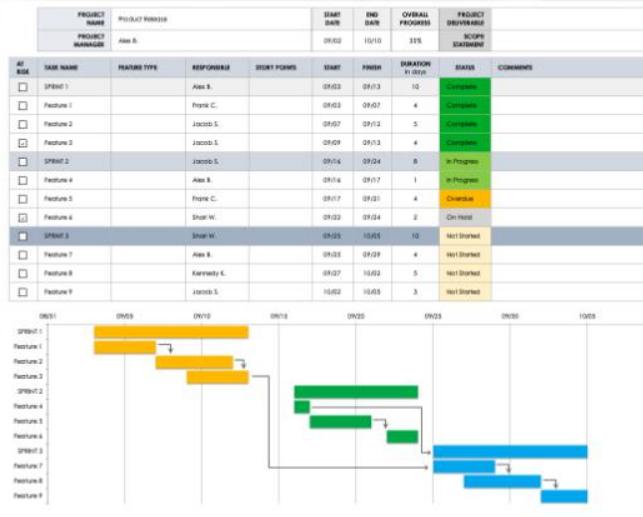


Figure 53: Gantt Chart

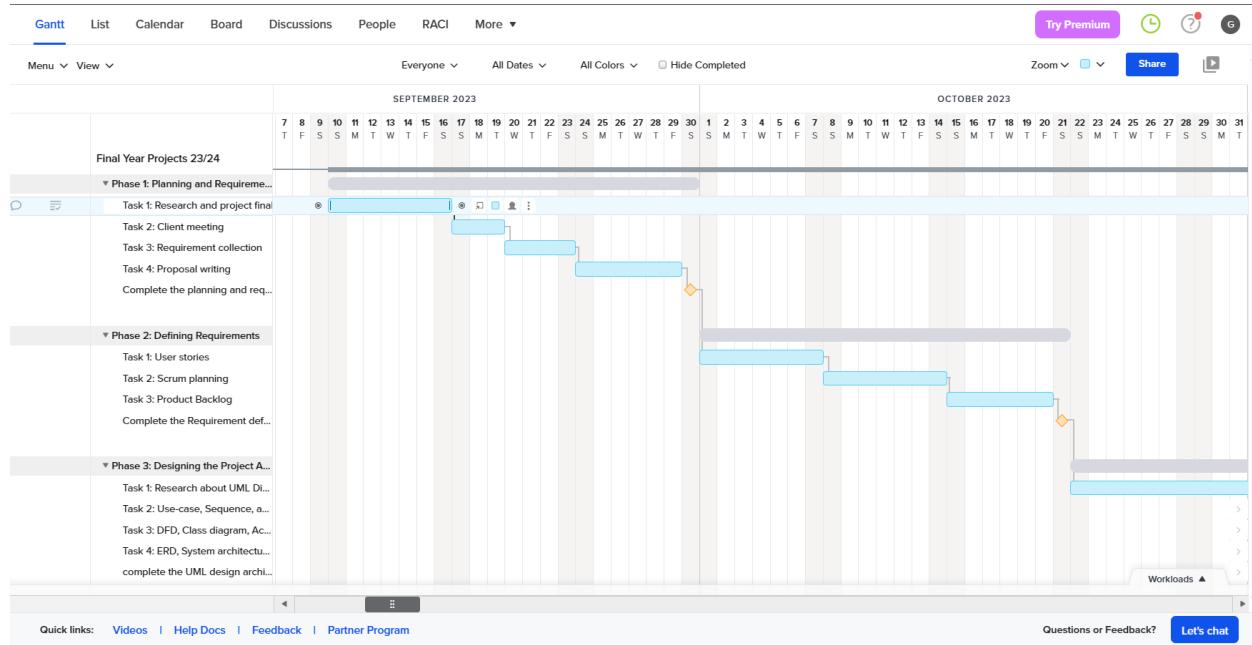


Figure 54: Develop the Gantt chart

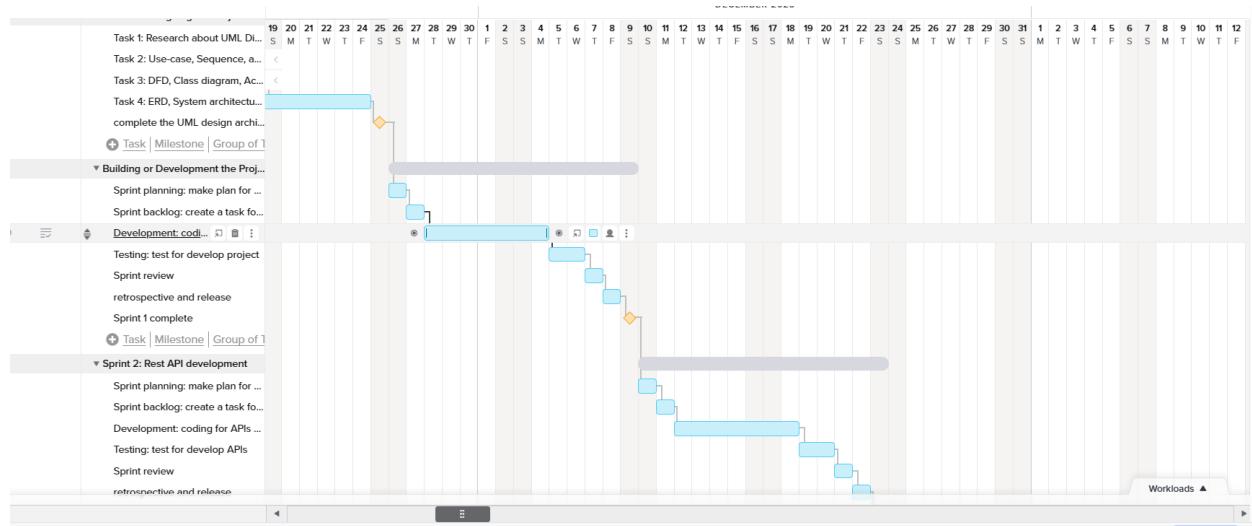


Figure 55: Develop the Gantt chart in the project

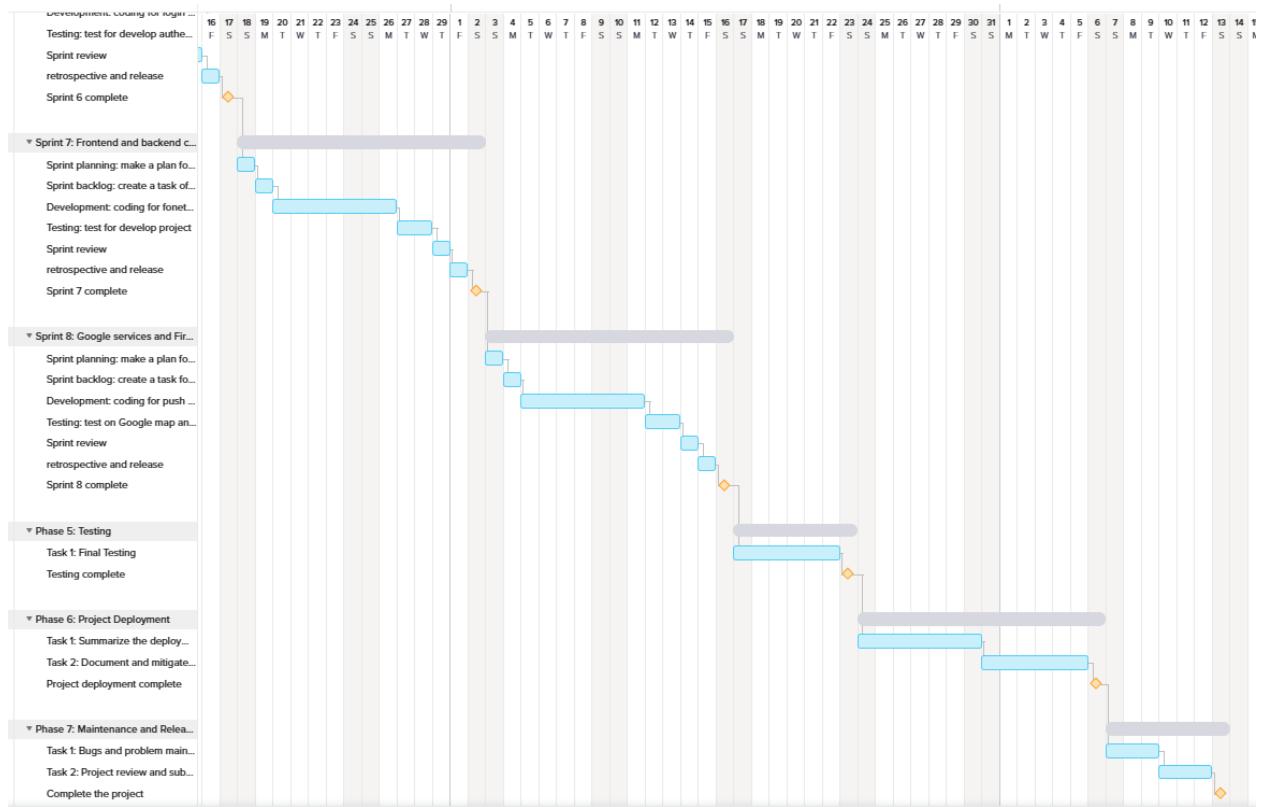


Figure 56: Project plain into plain the Gantt chart.