

NutriSpec Project

Project Guide: Mr. Oliver Hader

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Planning

Concept

Our application 'NutriSpec' aimed at every individual to search, consult nutritionist and maintain their Nutrition plan. This also connects client with Nutritionists based on the location of the client, Nutritionists to manage their clients' data and consult online. It enables nutritionists to provide their service online by interacting with clients over this application.

Nutritionists can enrol with the 'NutriSpec' company administrator and make their profile visible/reachable to millions of clients. They can also get a personalized Nutritionist page with details of their clients and related data. Nutritionist can update the client information with the consultation reports and diet prescriptions. Also, he can monitor the progress of the client. A nutritionist can also write blogs and success stories in the application.

Client can search for a Nutritionist without requiring a registration. A location-based search is possible with 'NutriSpec.' Client can get contact details of the Nutritionist and view the Nutritionist profile, ratings, qualifications, blogs and success stories. Client can also contact Nutritionist via 'NutriSpec' online contact form.

Registration of each user to help monitor the individual separately and accurately. The record of user's history would be analysed to ensure better diagnosis which would be concentrated to the concerned user. User Personalization would also make users more engaged in the activities which would increase the probability of completing the tasks and thus resulting in maintaining good health. Relevant and tailored experiences also boost user retention.

Structure & Navigation

ID	TITLE	SCOPE	URL/PATH
1	Home Page	Login links to Nutritionist and Client home pages and also shows images in carousel	/overview
2	Client Home	List all nutritionist, search nutritionist, view blogs	/client-home
2.1	My reports	Display prescriptions from nutritionist	/client-home/reports
3	Nutritionist Home	List all enrolled client details, prescribe client, disenroll client, view blogs	/nutritionist-home
4	About Us	Information about NutriSpec	/about-us

5	Contact Us	Contact form (name, email, subject, message)	/contact-us
6	News	Recent News and announcements	/news
6.1	Vlog	Health and nutritional videos	/news/vlog
7	Legal Information	Legal information, address information, privacy policy.	/legal-information

Table 1: Page Structure and content map of NutriSpec Application

Layout and Wireframes

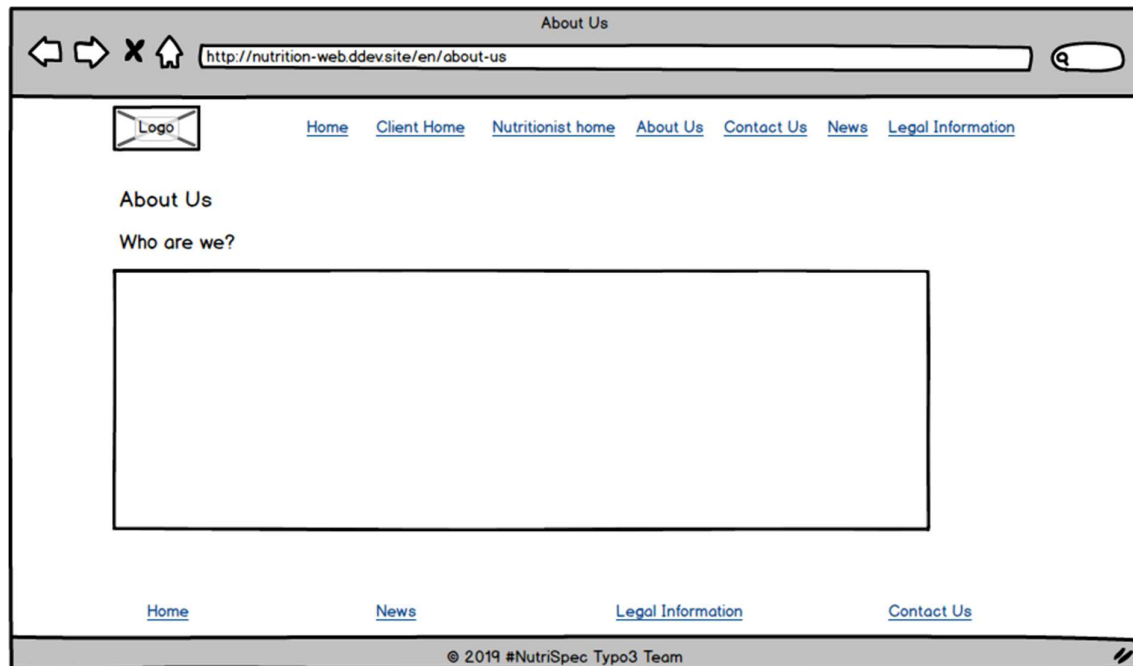


Figure 1. About Us page of NutriSpec

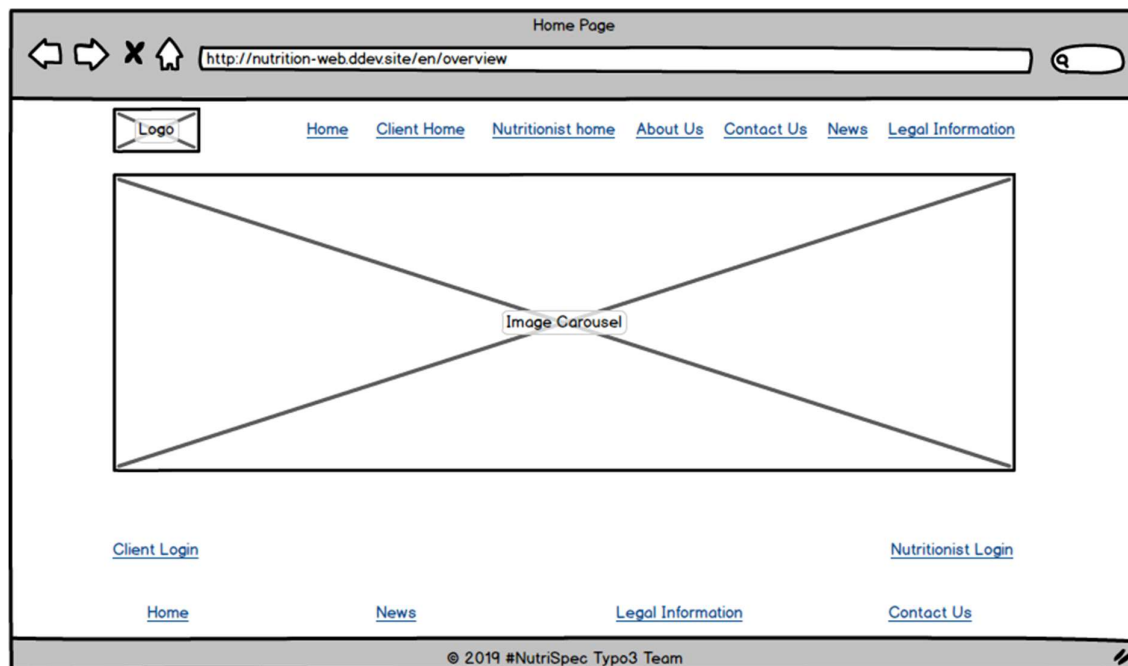


Figure 2. Home page layout showing logo and carousel

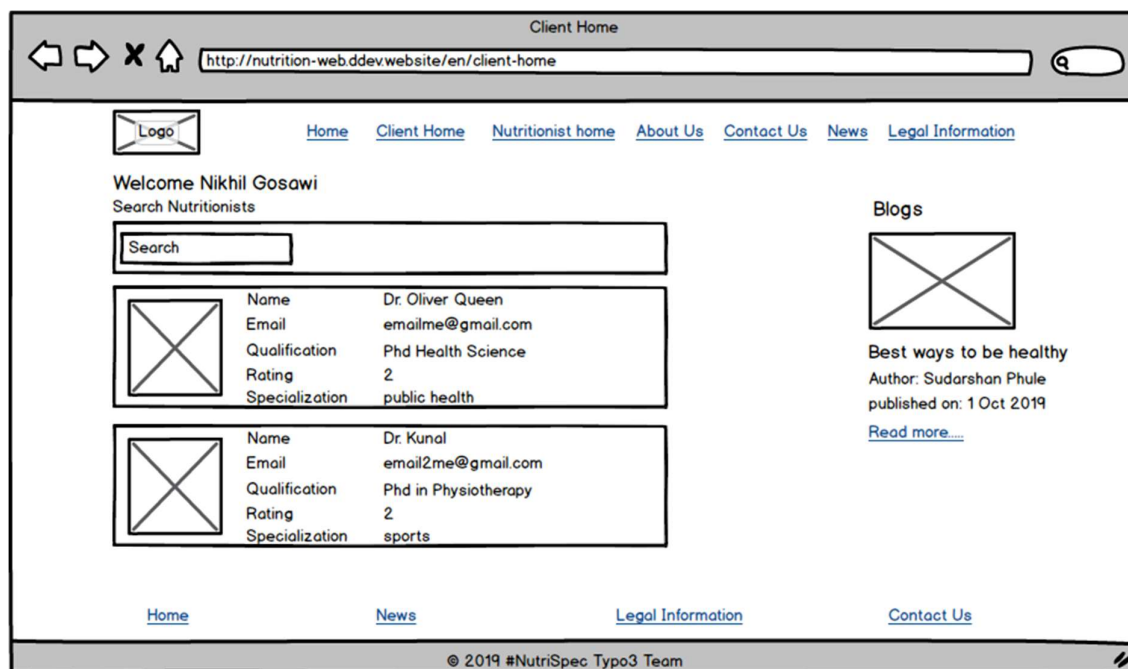


Figure 3. Client page of NutriSpec

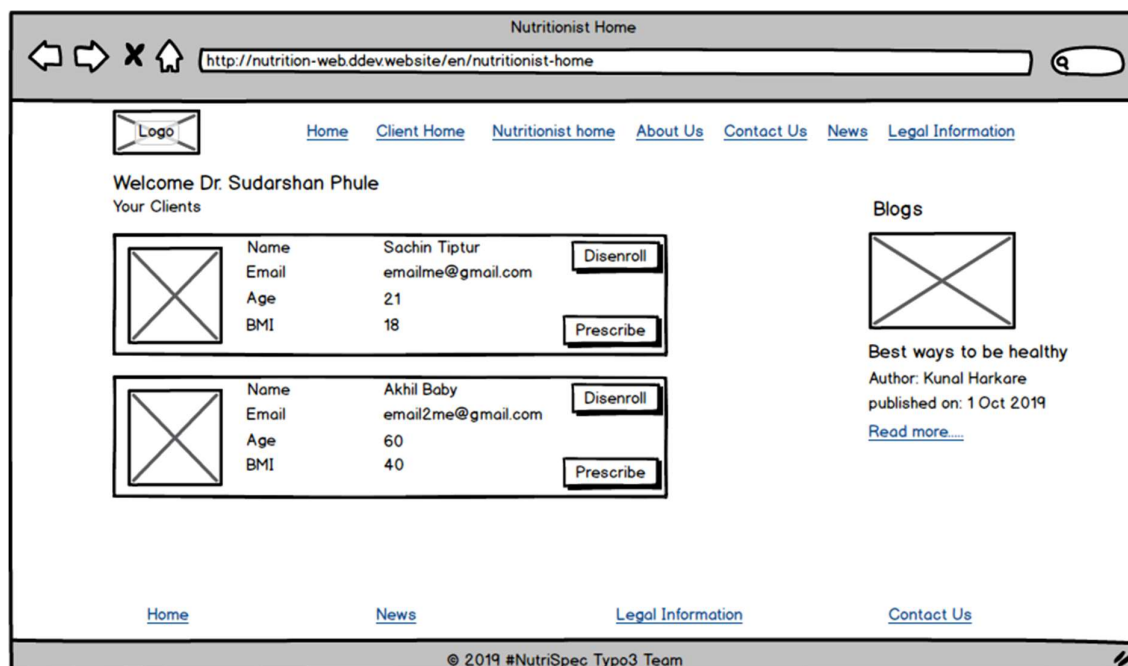


Figure 4. Nutritionist page showing list of clients

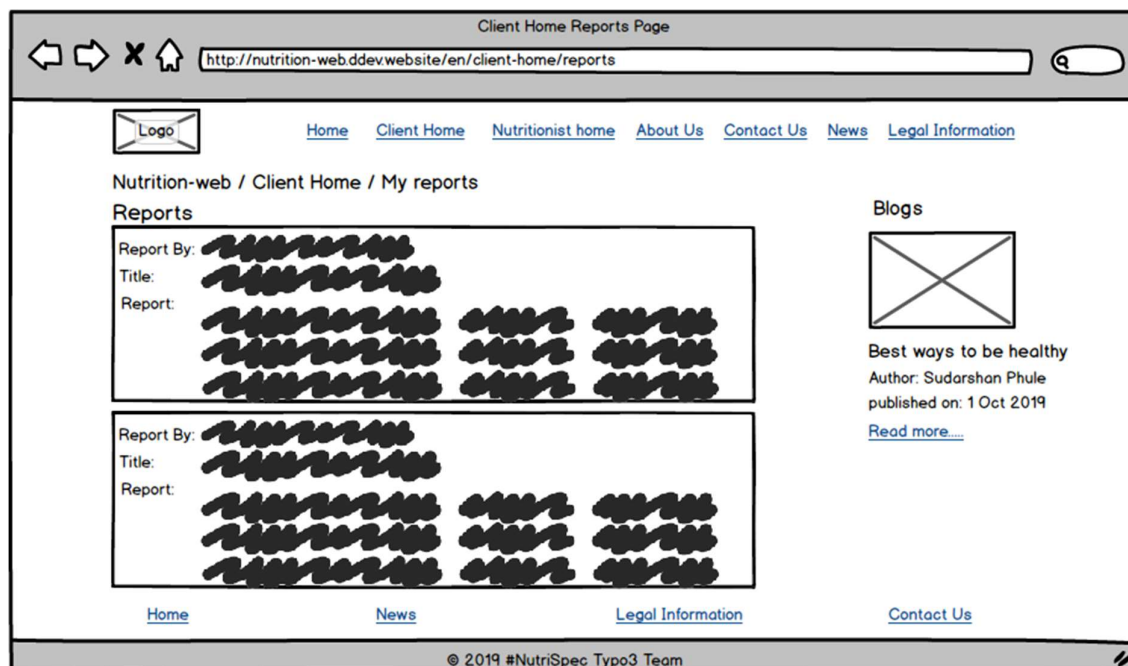


Figure 5. Client's Report page

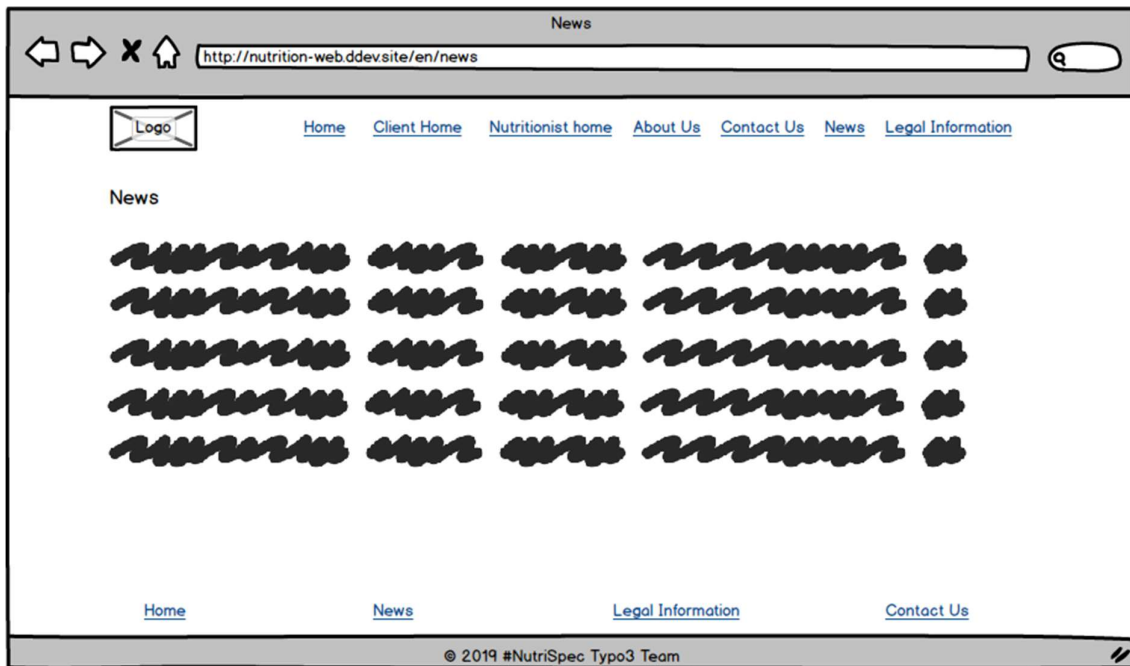


Figure 6. New page

Figure 7. Contact Us page

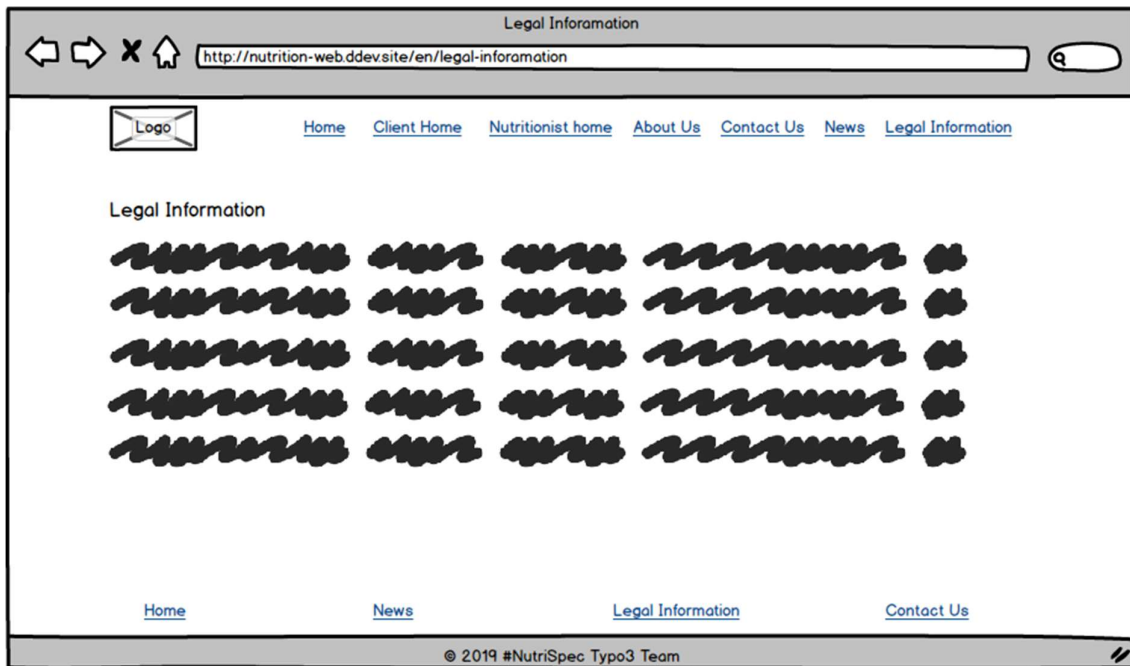


Figure 8. Legal information page

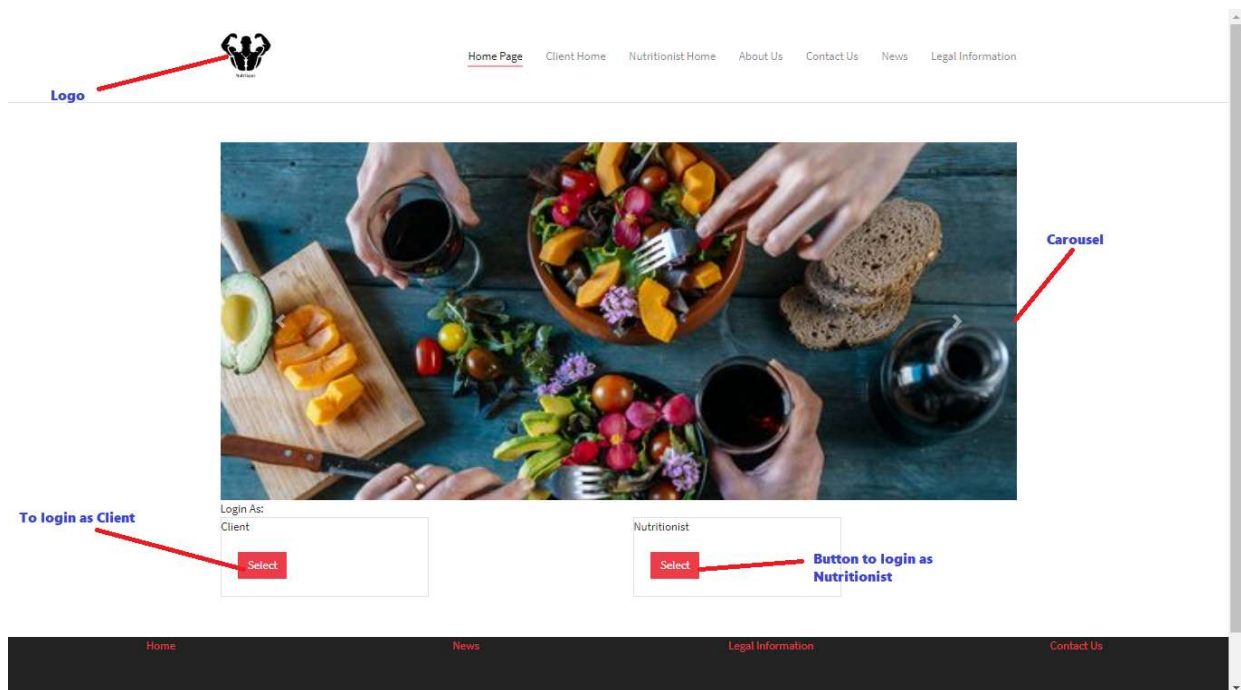
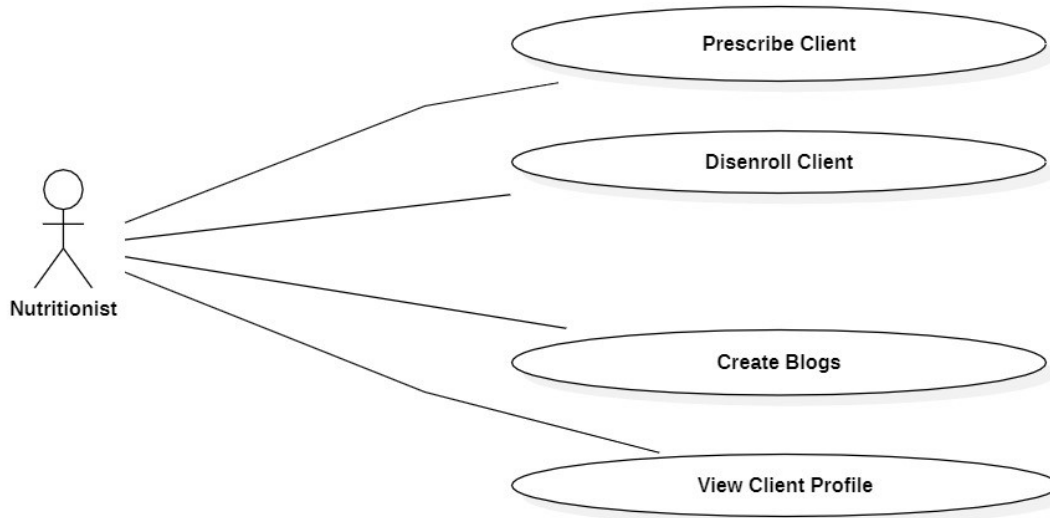


Figure 9. Home Page layout

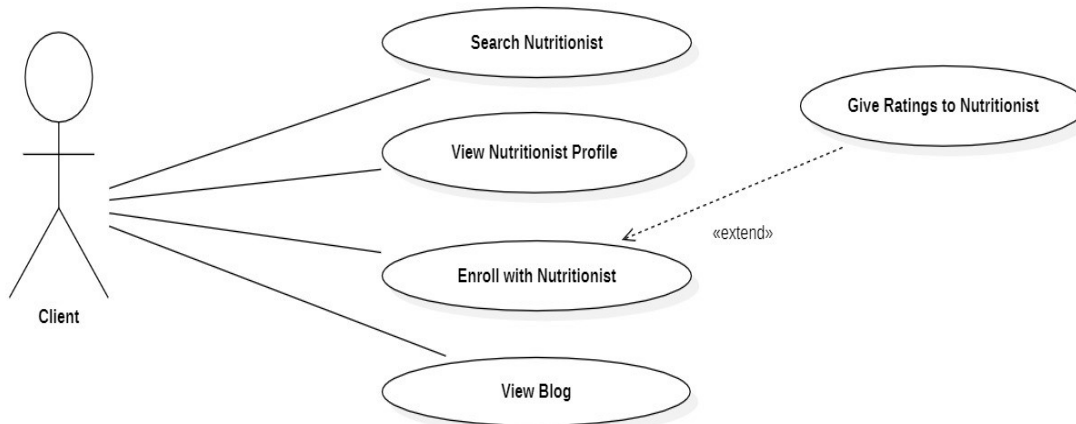
Use Cases

There are basically two types of users who can use this application. First one is nutritionist who can list his all clients, view client's information, prescribe client and can create blogs.



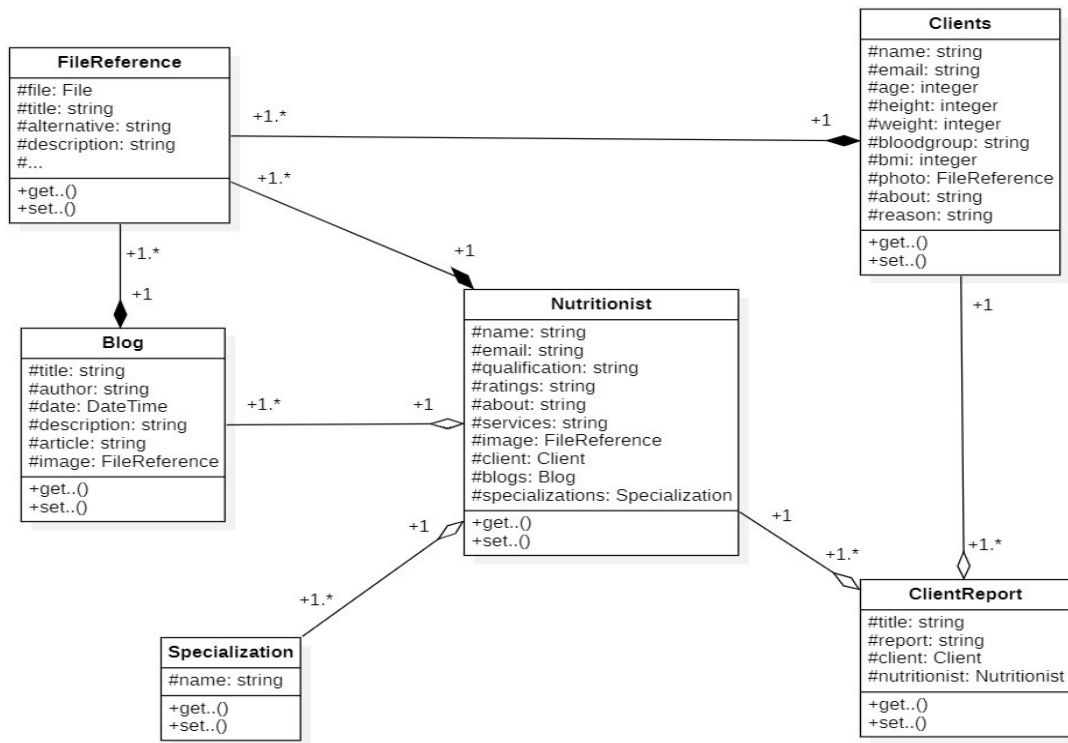
Nutritionist Role Use Case

Second actor is client who can search for nutritionist, view nutritionist profile, enrol with nutritionist, view blogs and give ratings to nutritionist.



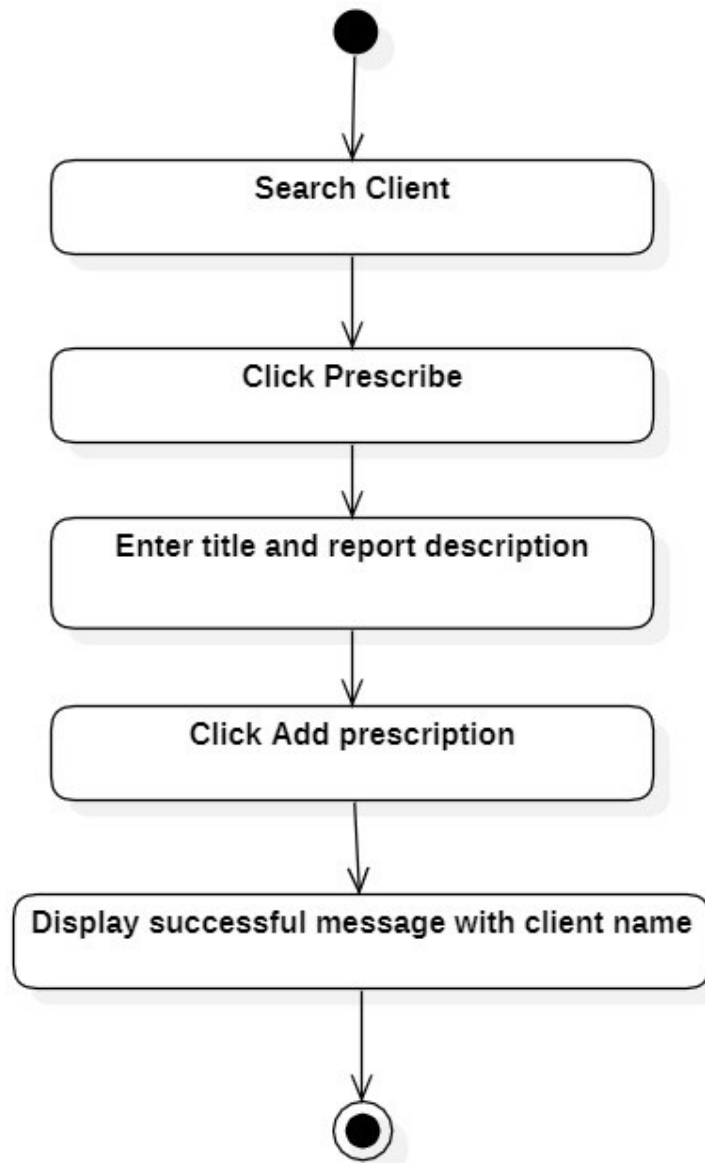
Client Role Use Case

Domain Model/ER Diagram/Class diagram



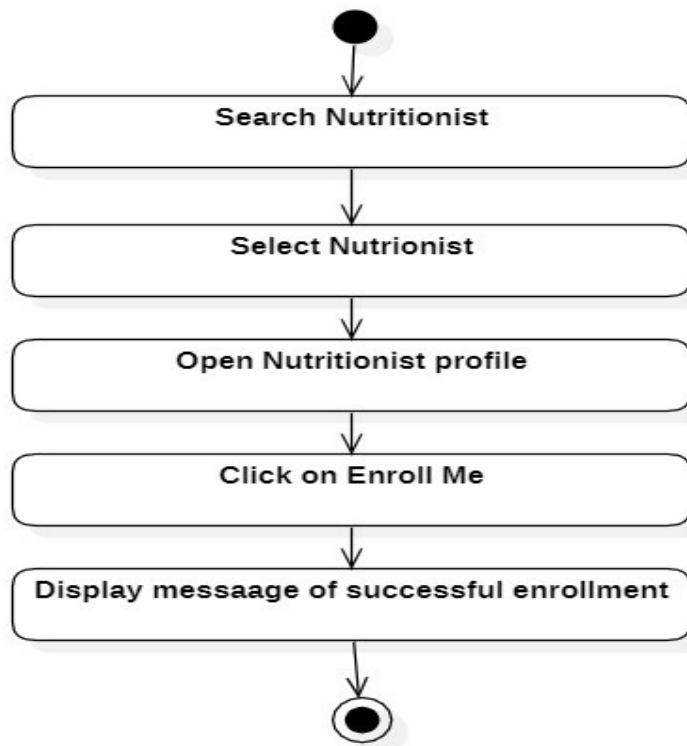
Class Diagram

Activity Diagrams

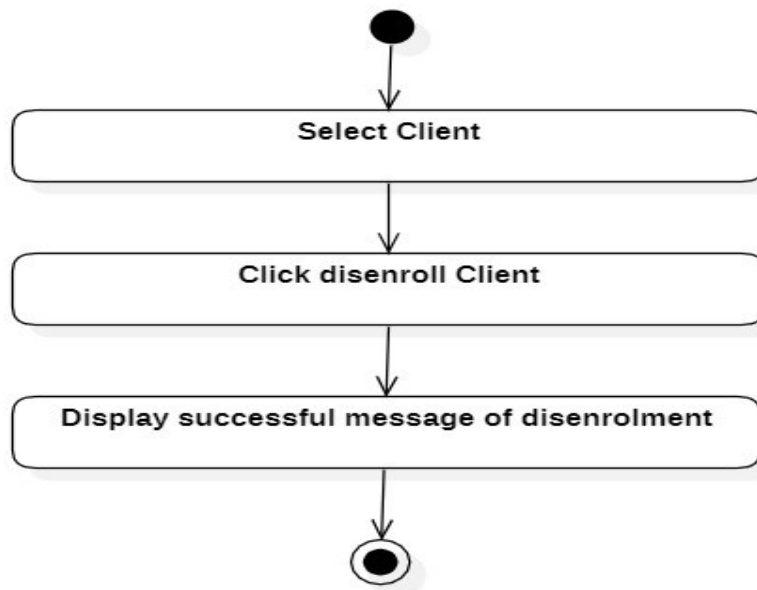


Prescribe client activity diagram

Activity diagrams of enrol and disenroll client



Enrol with nutritionist activity diagram



Disenroll with Client activity diagram

Project Organization

ID	Epic	Owner	Activity	Outcome	Estimate	Priority	Notes
1	Local	Individual Team member	Install a local development Environment	setup local Typo3 environment	2	10	Linux, DDEV, Docker, Git, PHPStorm, Source Tree
2	Local	Individual Team member	setup a local Typo3 Environment	get an overview of Typo3 features	3	10	DDEV, Composer, Inroduction package, TYPO3 v9 LTS
3	Local	Individual Team member	get detailed insight into TYPO3s extensibility and customization	adjust the base system for own demands	10	9	Hands-on with introduction package and customizing
4	Concept	Team	Concept definition and Planning of NutriSpec	Concept description and list of use cases	2	9	
5	Design	Team	Designing Wirefeames	Wireframes of how the actual web page looks	1	8	Balsamiq tool exploration and wireframe construction
6	Design	Team	Logo design	Design a Logo for NutriSpec	1	8	
7	Design	Team	Domain Modelling and Controllers design	TYPO3 Domain Model and Class definitions and diagrams	2	8	
8	Implementation	Team	Installing Bootstrap package and customize	Customized bootstrap for NutriSpec	3	8	
9	Implementation	Team	ExtBase implementation for NutriSpec	Customized ExtBase for NutriSpec	3	9	User Login part removed
10	Implementation	Team	Custom human readable routing URL's for NutriSpec	Simple URL for NutriSpec	1	9	
11	Testing	Team	Manual Tests	Verification of Page navigations	1	9	Defining test cases and executions
12	Testing	Team	Automation tests	Verification of page inputs and outputs	2	9	This includes:Configuring Automation framework and tools, implementation of test suits and execution
13	Deployment	Team	Deploy website	Publicly available web url	1	9	Used web server host provided in the course

Implementation

Source Code: <https://github.com/nikhilgosavi007/nutrition-web>

Site Package

This section describes the changes done in Site package for NutriSpec.

Page Design

All pages are implemented using default bootstrap shipped with TYPO3

Root Page

Default bootstrap page with 3 column page layout

Home page, Client home, Nutritionist Home

Default bootstrap page with 2 column page layout using bootstrap card style for displaying list of nutritionist and client

Contact Us

Default bootstrap page with form content element for submitting messages

Vlog

Default bootstrap page with external media as content element

News, About Us, Legal Information

Default bootstrap pages with Text and images as content elements

Menu Structure

ROOT	https://707namkp-xw6adv.project.anyhost.it/en/
Home Page	https://707namkp-xw6adv.project.anyhost.it/en/overview
Client Home	https://707namkp-xw6adv.project.anyhost.it/en/client-home
My Reports	https://707namkp-xw6adv.project.anyhost.it/en/client-home/reports
Nutritionist Home	https://707namkp-xw6adv.project.anyhost.it/en/nutritionist-home
About US	https://707namkp-xw6adv.project.anyhost.it/en/about-us
Contact Us	https://707namkp-xw6adv.project.anyhost.it/en/contact-us
News	https://707namkp-xw6adv.project.anyhost.it/en/news
Vlog	https://707namkp-xw6adv.project.anyhost.it/en/news/vlog
Legal Information	https://707namkp-xw6adv.project.anyhost.it/en/legal-information

Core Functionality

Record Storage Folders

Nutritionist Data

Contains database records that represent models in application. Following are the models that are represented as records in database:

- Blog - Model entity that represent blogs written by nutritionists
- Client Report - Model entity that represent prescription reports generated by nutritionists
- Clients - Model entity that represent all clients
- Nutritionist - Model entity that represent nutritionists
- Specialization - Model entity that represent specialization field of nutritionists

fileadmin/user_upload

Contains images used throughout the system for site images

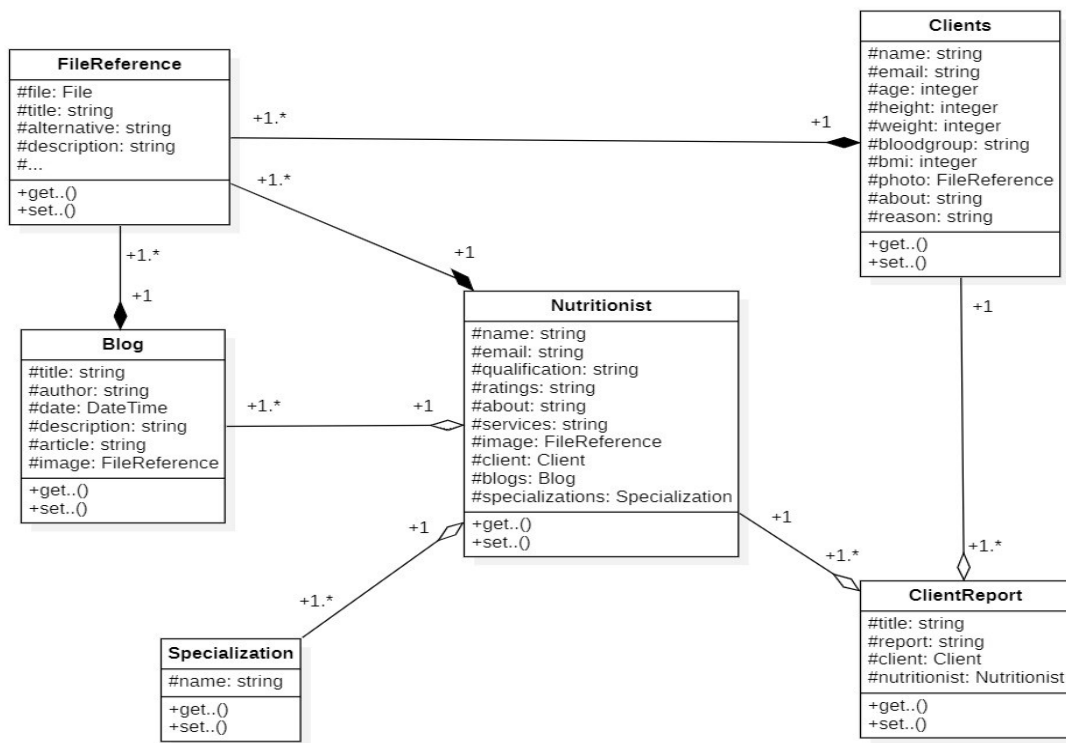
Roles

NutriSpec contains following roles:

- Client Role - Clients of the NutriSpec application who can avail nutrition related suggestions from nutritionists by enrolling with them.
- Nutritionist Role - Nutritionists registered with NutriSpec application who can suggest diets and activities to clients.

Exbase Application

Domain Model



NutriSpec contains nutritionists and clients as main actors. A Nutritionist has attributes like name, email, specializations etc which can be seen by Clients before enrolling with the nutritionist. Nutritionist can write nutrition related blogs. Client Report holds an association between Client and Nutritionists which associates client with nutritionist based on reports assigned by nutritionist to clients. Nutritionist also has Clients which are added to Nutritionist after enrolment. All domains containing images has a FileReference to the respective images.

Plugin & Controller Orchestration

HomePage Plugin

This plugin is used to display home page of NutriSpec Application which contains login for nutritionist and Client.

Nutritionweb

This plugin is used on Client Home Page. It is used for the following:

- display nutritionist details to client
- enroll with Nutritionist
- view prescriptions assigned by Nutritionist
- view blogs written by Nutritionists

Client list

This plugin is used on Nutritionist Home Page. It is used for the following:

- display Client details to Nutritionist
- Unroll with Nutritionist
- assign prescription to Nutritionist

Deployment Strategy

Project deployment is done via deployer. Used below credentials and authentication method to deploy.

Authentication method: public key

Login credentials: username and hostname received from indie.one@hosts.h4ck3r31.net

Password: received from indie.one@hosts.h4ck3r31.net

Procedure:

1. Load public key to host by using following command

```
ssh-copy-id -i ~/.ssh/id__rsa.pub <username@hostname>
```

2. Log in to the server

```
ssh <username@hostname>
```

3. Added following lines to config file in “C:\Users\Sudarshan\.ssh”

```
Host <hostname>
```

```
User <username>
```

```
IdentityFile ~/.ssh/id_rsa
```

4. Upload local NutriSpec application to remote server using deployer toolkit

```
ddev composer require --dev oliver-hader/typo3-deployer
```


5. From phpStorm directory location vendor/oliver-hader/typo3-developer/src/ “host.dist.yml” & “deploy.dist.php” files are copied to root directory and renamed by refactoring as “host.yml” and “deploy.php” respectively

6. Prepare the required files as below:

- Set project name value to “nutrispec-app” in “deply.php” file
- Exclude file “host.yml” from git repository by adding it to gitignore file
- Insert hostname in “host.yml” file and update username and do database settings
- update hostname in site-configuration and push deployer configuration to git
- Shared Public Key authentication with DDEV container ddev auth ssh

6. Deploy local state to remote host using public key authentication

ddev exec vendor/bin/dep deploy production

Quality Assurance

Manual Test Cases

Environment: Local execution on user laptop

URL: <https://707namkp-xw6adv.project.anyhost.it/en/overview>

Results and Test Cases in detail:

Test ID	Subject	Scenario	Approach	Expectation	Result
100-01	Home page	Regular visitor, user is not logged in	Visit '/overview' page	Visitor able to see home page and basic functionality	Pass
200-01	Nutritionist Home	Nutritionist User, nutritionist logged in	Click on '/nutritionist-home'	Nutritionist able to see nutritionist home page	Pass
200-02	Disentroll Client	Nutritionist User, nutritionist logged in	visit 'nutritionist-home' and click on Disenroll Client tab against a client	Disentroll client	Pass
200-03	Prescribe	Nutritionist User, nutritionist logged in	visit '/nutritionist-home' and click on prescribe button against a client	Prescribe to client	Pass
200-04	Read more blog	Nutritionist User, nutritionist logged in	Visit '/nutritionist-home and click on 'Read more' link against blog	Read more information of blog	Failed- Not able to see more data
300-01	Client Home	Client User, Client logged in	Click on client-home tab	Client able to see client home page	Pass
300-02	Search nutritionist	Client User, Client logged in	click on '/client-home' from home page	Client able to search for nutritionist	Pass
300-03	Read Information about Nutritionist	Client User, Client logged in	visit client page '/dr-akil-baby' and click on any Nutri about nutritionist	Client able to see information about nutritionist	Pass
300-04	Read more blog	Client User, Client logged in	visit client-home and click on Read more against a Blog	Client able to read more information in blog	Pass
300-05	Report	Client User, Client logged in	Place mouse pointer on '/client-home' and click on report	Client able to see report	Pass
400-01	About Us	Regular visitor, user is not logged in	Visit home page and click on about-us	Visitor able to see information about company	Pass
400-02	Contact Us	Regular visitor, user is not logged in	Visit home page and click on '/contact-us'	Visitor able to contact with client	Pass
400-03	News	Regular visitor, user is not logged in	Visit home page and click on '/news'	Visitor able to see news	Pass
400-04	Legal Information	Regular visitor, user is not logged in	Visit home page and click on '/legal-information'	Visitor able to see legal information	Pass

Automated Test Cases

Webpage inputs and outputs are verified using Automated test cases. Katalon studio based on Selenium is used for implementing and testing NutriSpec test suits. Katalon Studio uses open-source test automation frameworks such as Selenium and Appium by eliminating their technical complexities. This enabled us to set up, create, run and report automated tests.

Automated test scripts were written and executed for below scenarios:

- Enrol with Nutritionist
- Add Prescription to Client
- Unroll with Client

Details about automated test case is given in below repository:

<https://github.com/Kharkare/NutriSpecTestCaseProject.git>

Conclusion

Overall experience in learning TYPO3 was good and enhanced our web development skills and CMS knowledge. It exposed us to different tools and environments like Docker, DDEV and Github. With the time and the limited knowledge, we were able to build a NutriSpec web site with all basic functionalities like navigating to different pages, providing ability to contact and enrol with Nutritionists, to view vlogs and news on the site. But not able to implement some features like location-based search, chatbots and registration etc.

From our little experience, below are few pros and cons of TYPO3:

Pros

- Long term software support for LTS versions
- Supports multi-lingual websites and managing multi-language content in an easy
- Able to manage very large and complex websites required for big business & major organisations
- Good range of free 3rd party plugins

Cons

- Complexity is high to set up & maintain (i.e. apply bug fixes, security updates), and to add new features
- Limited 'themes' to change look & design of website without use of professional web developers
- No automatic updates for the CMS