

A Synopsis on

FOOTHEALTH WEBSITE FOR A MEDICAL PRODUCT BASED COMPANY

Submitted in partial fulfillment of the requirements
of the degree of

Bachelor of Engineering

in

Information Technology

by

Abhishek L. Pote (17104073)

Name of Guide

Dr. Sameer Nanivadekar

Name of Co-Guide

Prof. Kiran Deshpande



Department of Information Technology

A.P. Shah Institute of Technology

G.B.Road,Kasarvadavli, Thane(W), Mumbai-400615

UNIVERSITY OF MUMBAI

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CERTIFICATE

This is to certify that the project Synopsis entitled ***“FOOTHEALTH WEBSITE FOR A MEDICAL PRODUCT BASED COMPANY”*** Submitted by ***“Abhishek L. Pote (17104073)”*** for the partial fulfillment of the requirement for award of a degree ***Bachelor of Engineering in Information Technology*** to the University of Mumbai, is a bonafide work carried out during academic year 2019-2020

Prof. Kiran Deshpande
Co-Guide

Dr. Sameer Nanivadekar
Guide

Prof. Kiran Deshpande
Head Department of Information Technology

Dr. Uttam D.Kolekar
Principal

External Examiner(s)

1.

2.

Place: A.P. Shah Institute of Technology, Thane

Date:

Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

(Abhishek L. Pote(17104073))

Date:

Abstract

In today's modern era people are suffering from many acute conditions and diseases which are never heard of many a times people also get joints pain or fractures due to some disease or accidents happening eventually, considering your legs as vital function in your day to day activities its really important and sensitive to take care of foot problems one might be facing due to any accident or disease. One may face problem recognizing the causes of these foot problems ,the symptoms associated with them and also possible treatment which might help solve foot problems. Many a times wearing wrong fit shoes or footwear can also cause some serious heel and forefoot pain which only gets worsen by time if not treated. For this we are developing foothealth a website which will brief many patients regarding their conditions, symptoms and possible treatment.

For such conditions which are severe and should be brought into light for treatment is one of the purpose the company to develop the website which will post information related to foot conditions, symptoms, treatment and prevention which will be medically reviews by physiotherapists and then will be uploaded to this website to make people aware of possible injuries to be coming and how to avoid them. The website will include many different features such as demonstration through 3D modelling for better understandability by user regarding their conditions. This website also contains the advertisement of new technology developed by company to tackle foot problems effectively and make patients realise that this product can help save them injuries in near future.

The technological stack used here is Django's MVT(Model,View,Template) structure for back-end processing of the website which will be effective in handling the website without any consent of web developer once it is live. The backend database used here for storage and retrieval purpose is MYSQL because of its easy integration and relational database properties. Frontend of this website is powered by JavaScript, HTML, CSS and Bootstrap which are powerful tools for efficient as well as desktop and mobile friendly websites. Using Django gives more flexible and dynamic control to website for future upgrades.

Introduction

The development of Foothealth website is considered regarding the increasing foot pain conditions ,symptoms and treatments regarding foot. Normal patients as well as athletes suffer a lot of foot injuries which gets worsen with time because of improper attention or treatment and ignoring behaviour towards the condition. For such conditions which are severe and should be brought into light for treatment is one of the purpose the company to develop the website which will post information related to foot conditions, symptoms, treatment and prevention which will be medically reviews by physiotherapists and then will be uploaded to this website to make people aware of possible injuries to be coming and how to avoid them. The website will include many different features such as demonstration through 3D modelling for better understanding by user regarding their conditions. This website also contains the advertisement of new technology developed by company to tackle foot problems effectively and make patients realise that this product can help save them injuries in near future.

Objectives

- To develop a blog and product advertisement website for foot health/physiotherapy product based company.
- To develop fully fledged, functional and dynamic website for organization.
- To integrate 3D models for demonstration of foot conditions.
- To develop remote assessment using 3D model and forms.
- To provide with an easy to post content and product advertisement website.

Literature Review

The current websites related to foot health lacks some or other functionality which we will be incorporating inside our website which solely focus on providing foot problems, their symptoms, treatment and prevention alongside with product designed to company to help identify physiotherapists the foot problem one might be facing and coming up with solid solutions to help tackle those problems. Currently websites providing this information doesn't have appropriate product to be introduced to patients which will help for their foot treatment while this side will be having number of product ranges which will be used by physiotherapists to help tackle the problem.

For instance, consider foot.com [6] where information is introduced on foot conditions which is quiet minimal information to be posted considering a medical condition. Also it will be more informative for patients to understand when information will be broken down into much detail by already masters in this field which are the doctors associated with organization who will be providing with much of a detail view and information related to conditions and also accurate treatments or preventions to be posted. This website would also include the product, it's use and nearby physiotherapists to users location which use this technology to treat their patients. Unlike others it will also be include some special section for diabetic patients which will include the different set of information for their conditions ,treatment and prevention. There is also an connect to expert section where users or patients can interact with experts on their conditions and can get a real insight into what can be best possible ways to tackling the conditions.

The current technology stacks used by website consist of either WordPress or PHP for their content management while we are using Django along with some WYSIWYG editors for our content management which will make an easy to upload articles or blogs functionality for content manager(CM) of website. The content management system is a core part of uploading articles and blogs which will be take care by ckeditor for our website

Considering rest foot conditions related websites doesn't incorporate 3D models for better understanding and usability by users. The proposed 3D models in [3] can be used to integrate in website for foot conditions but we will try to incorporate our 3D foot model which will be interactive and responsive and will also give information regarding the pain area on model

which will be responsive as user clicks on foot region where he/she feels pain and then it will pop up with the article showcasing what kind of condition it is and may redirect to related article where its cause, treatment and prevention must be posted

Embedding 3D models inside website will not only help in better understanding but also will give a broad overview about what can possibly happen when one ignores the foot conditions they might be facing. This can also be effective in demonstrating the long-term effects one might encounter if enough care is not taken into problems.

Apart from all these this website includes special part called athletes arena which is not included in current websites where information will be posted for athletes who face a lot of foot injuries while playing. Most of early foot injury symptoms are neglected by athletes during practices which eventually leads to injuries during games. Such an informative thing for athletes which can be vital piece of information for preventing injuries can be made use of for betterment of athlete's health.

This website design consists of overall functionality and content for medical review of foot conditions which can be a vital piece of information for someone in need. There will be also monthly events happening on website which will be helpful for patients as well as doctors to help contribute to foot health research and treatments.

Problem Definition

- Normal patients as well as athletes suffer a lot of foot injuries which gets worsen with time because of improper attention or treatment and ignoring behaviour towards the condition. Even the shoes you wear if are not comfortable to you can cause foot injuries or fractures which can sustain lifetime.
- For such conditions which are severe and should be brought into light for treatment is one of the purpose the company to develop the website which will post information related to foot conditions, symptoms, treatment and prevention which will be medically reviews by physiotherapists and then will be uploaded to this website to make people aware of possible injuries to be coming and how to avoid them.
- The website will include many different features such as demonstration through 3D modelling for better understanding by user regarding their conditions.
- To develop online assessment for foot information and foot pain region highlighting and passing the information over mail to subject matter experts.

Proposed System Architecture/Working

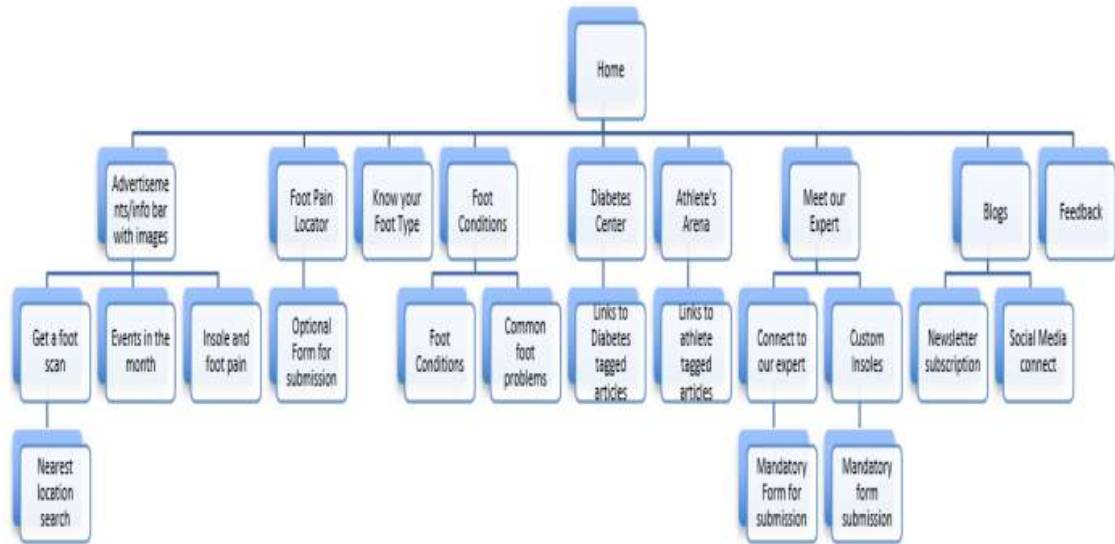


Figure 1: Proposed Architecture

- Linking to pages within the site will be at several places as per individual page layouts for.e.g. Get a foot scan would appear as a banner(link) on many pages
- External links to Amazon, Flip-kart, social media may also appear as banners/buttons and links to them
- External links to Stepp test or Ohm3000 (www.ohmsmat.com) can also be provided

Administrative panel

Access control

- Content manager (CM)
- Site administrator (SA)
- Access to customer forms, feed back databases (Gen)

Content addition (CM)

- Advertising panel(top of home page)
- Organization of ads (3/5)
- Store all old ads
- First to view on opening home page
- Add new articles (many tags need to be created so that they can be cross referenced)
- In foot conditions and common foot problems
- In diabetes center
- In athletes corner
- Add new blog articles
- Organization of blog articles (which one first etc)
- Edit external links – e-com, social media etc (SA)
- Cross linking social media (SA)
- Edit forms, articles and blogs, newsletters (SA)
- Edit Images in articles (change) (CM)
- Add new branch on home page (SA)
- Add new branch on sub pages (SA)
- Newsletter service management (Gen)
- Security and Privacy policies (SA)

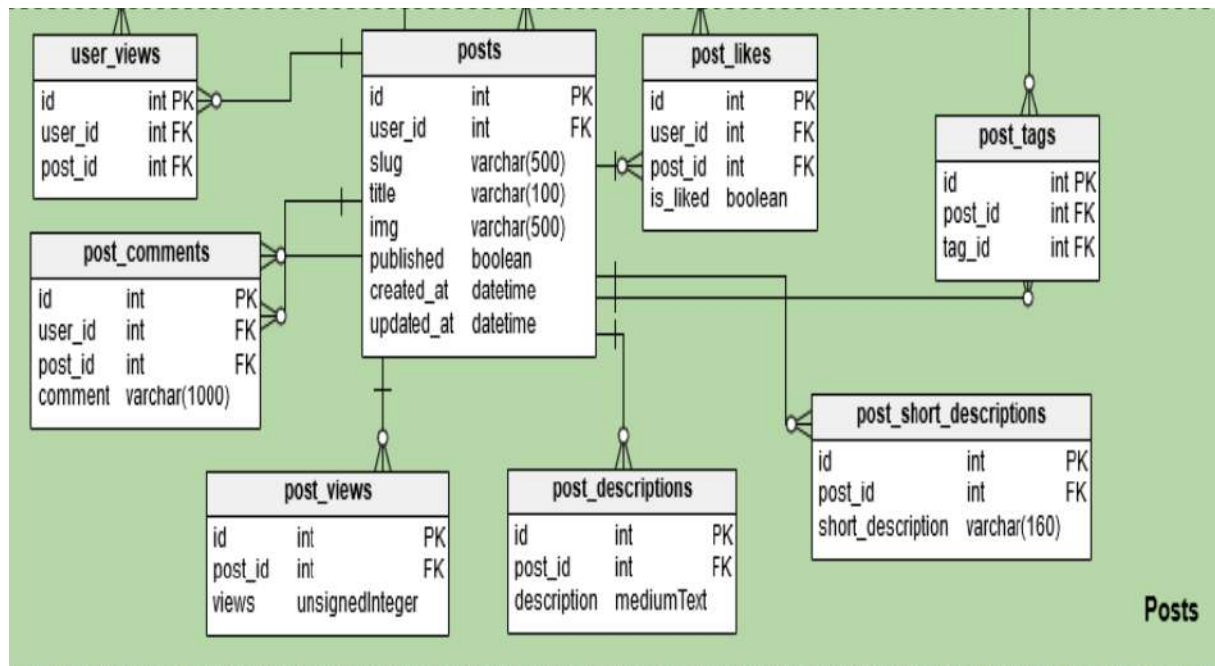


Figure 2: Database Architecture

This fig is a reference database for blogs or articles to be posted on website which includes different constrains for storing post information as well as its retrieval and view to be reflected on site. The whole website database will also be designed subsequently as the website development progresses further.

Design and Implementation

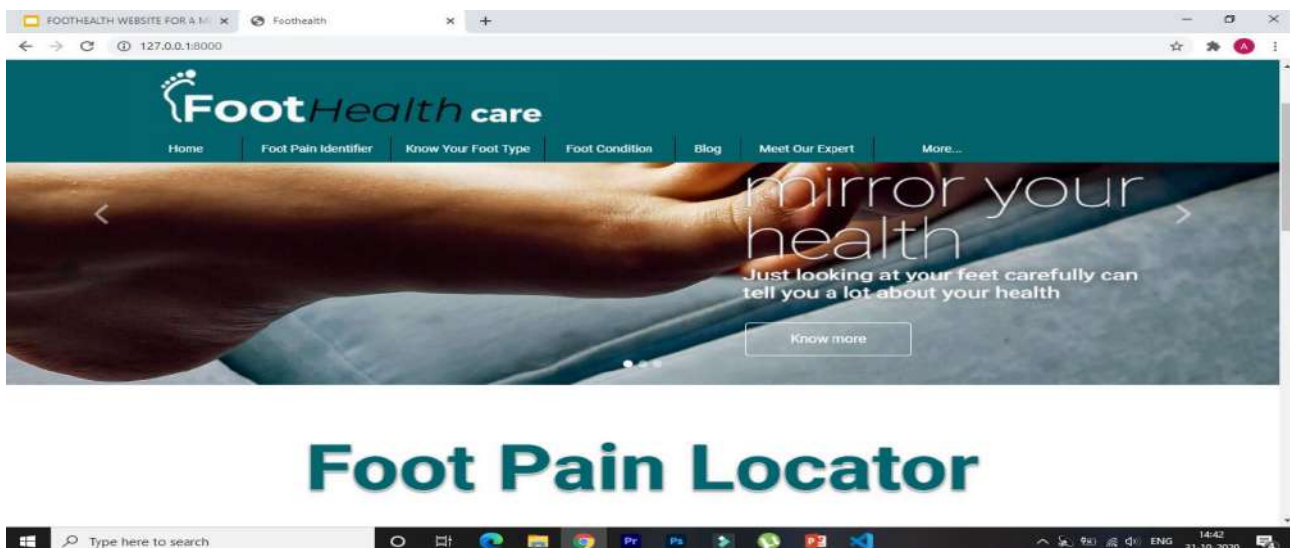


Figure 3: Home Page

It is the home page of our website where we can see different links that navigate through our website. And it also gives some idea what our website is all about.

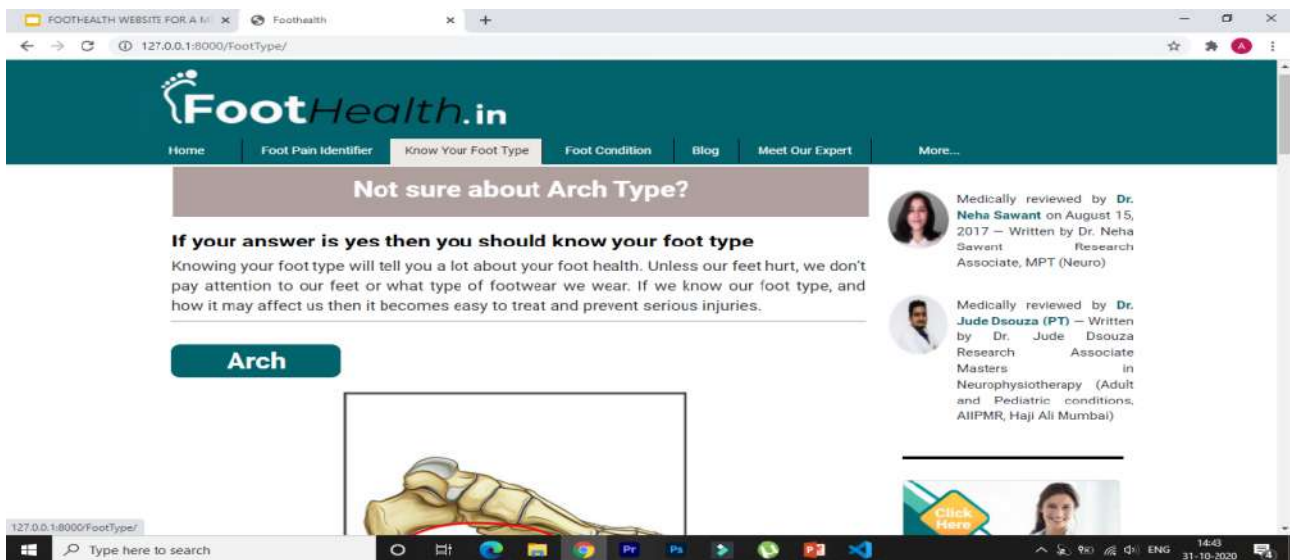


Figure 4: Know Your Foot Type page

Know your foot type tells the user about the different common pain he/she experiences and with that a user can identify under which foot type he/she comes.

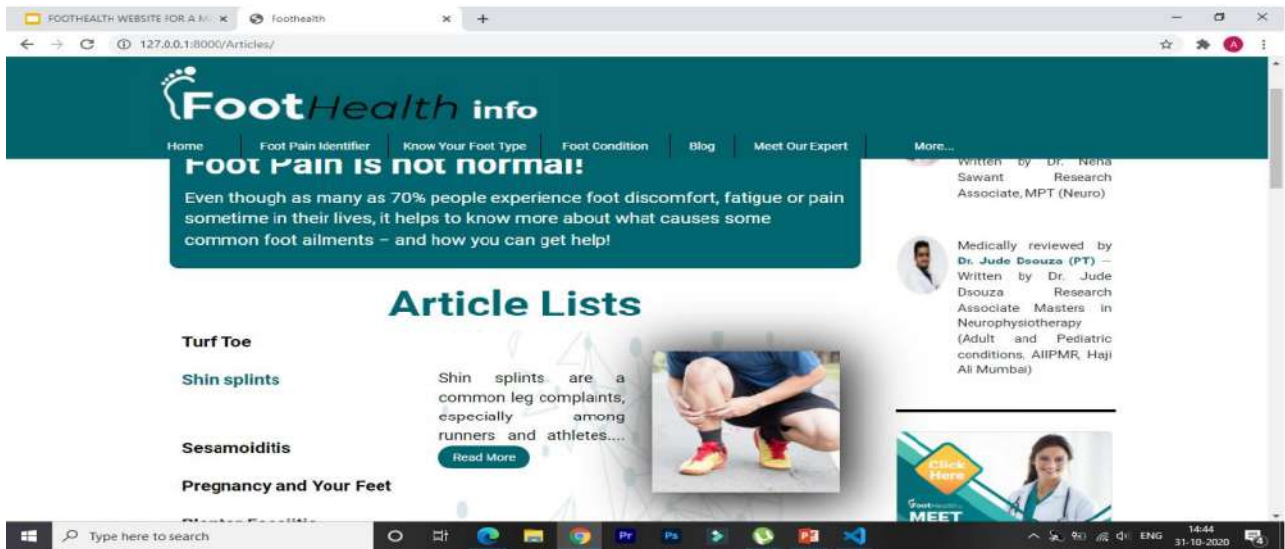


Figure 5: Foot Conditions page containing different articles topic in list in which we can see the brief of what information article contains.

Foot conditions page is one of the important page of our website, where this page consists of a list of articles on various different foot pain, written and verified by the professional Physiotherapist. If a user wants to know about any foot pain he/she is suffering from and he knows the name of that pain or for any knowledge purpose, then this page provides the list of pain for which the user is looking.

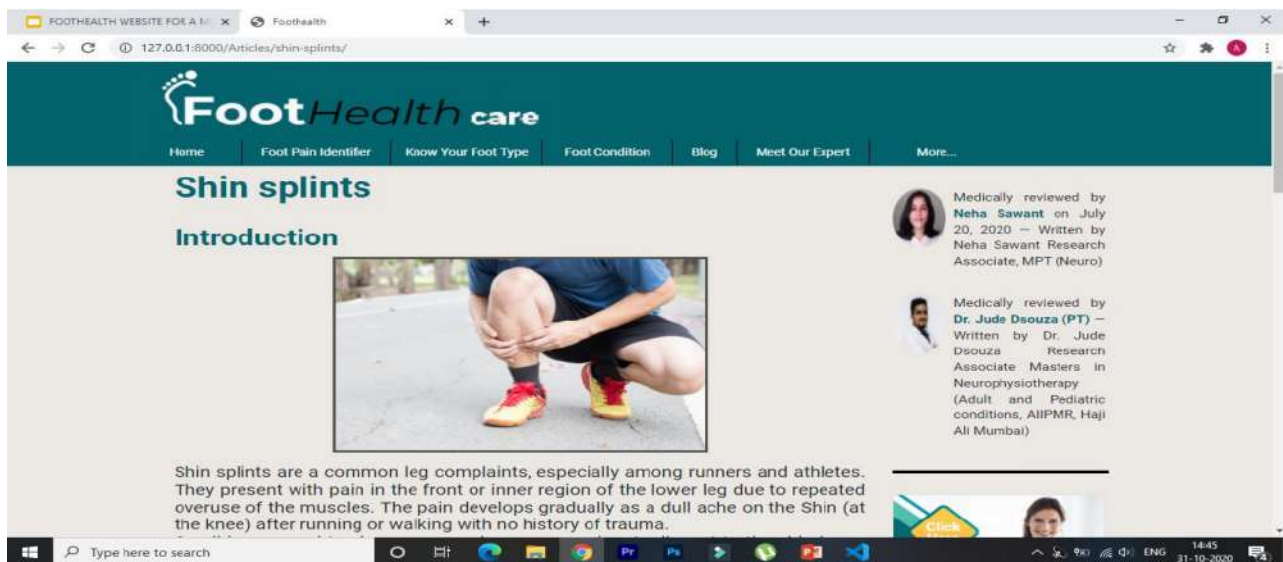


Figure 6: Detailed Article page of one of the topic present in Foot Conditions page

This page provides a detailed article based on the topics in the article list which is given by a physiotherapist so that users can trust the info and know about the pain without worrying about the fake information.



Figure 7: Blog page containing list blog different topics related to health issue

This page contains different blogs written by physiotherapists for improving their medical conditions and foot pain condition. It provides the list of blog topics about basic remedies for small medical problems.

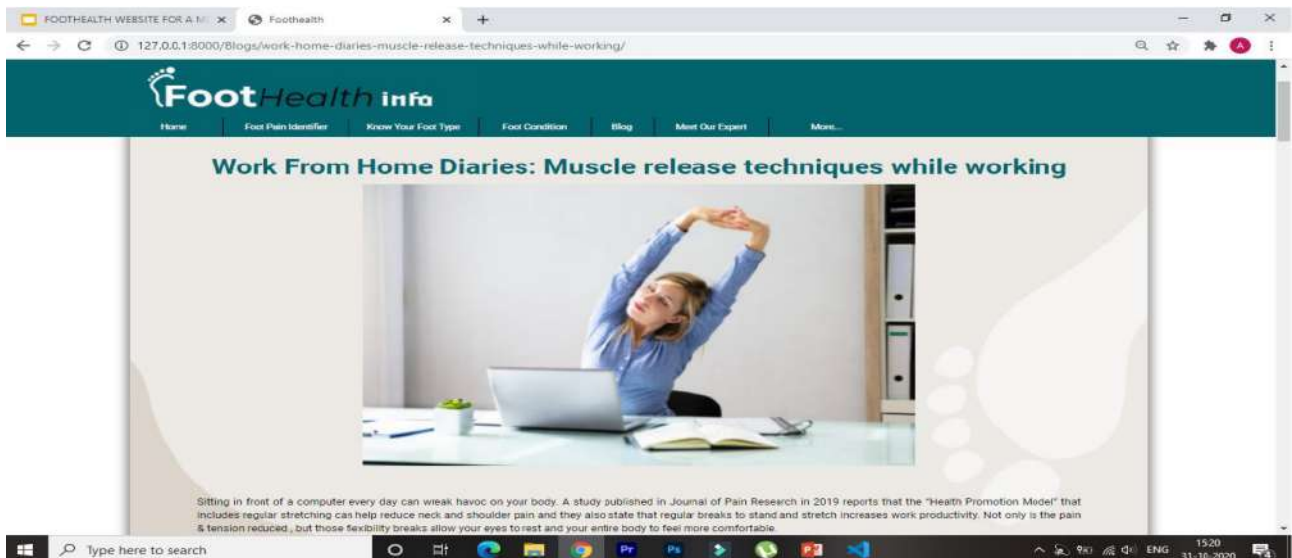


Figure 8: Detailed Blog page of one of the topic present in Blog page

This page provides a detailed blog based on the topics in the list which is given by physiotherapists so that users can trust the info and know about the pain remedies or basic remedies without worrying about the fake information.

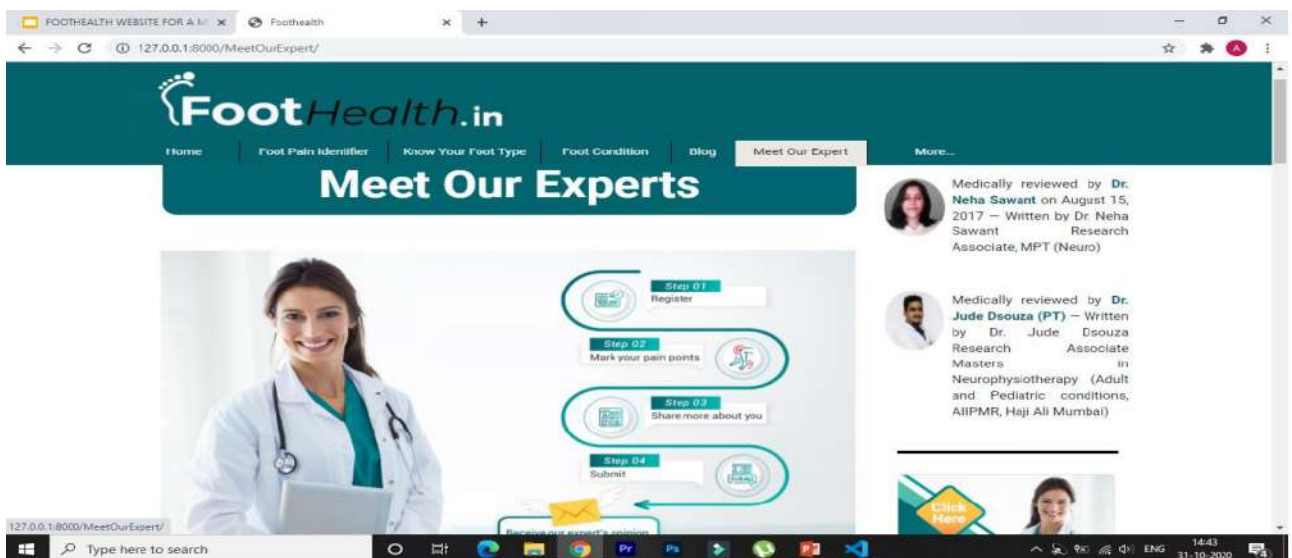


Figure 9: Meet our Experts Page

Meet our experts page is one of the crucial pages of our website where the user has to fill the form about some info of his/her and the foot pain and after the submission of our form the physiotherapist will contact the user and further problem solving can be done. Foot Pain



Figure 10: Foot Pain Locator

Locator is also one of the important page of our website which contains the 3d model of foot where if user don't know what type of pain he/she has or what is the name of the pain, then user can mark the region where he/she has the pain on the 3d model then all the foot pain articles related to that region will come up which is also their in foot pain identifier page and then user will be redirected to the detailed article page.

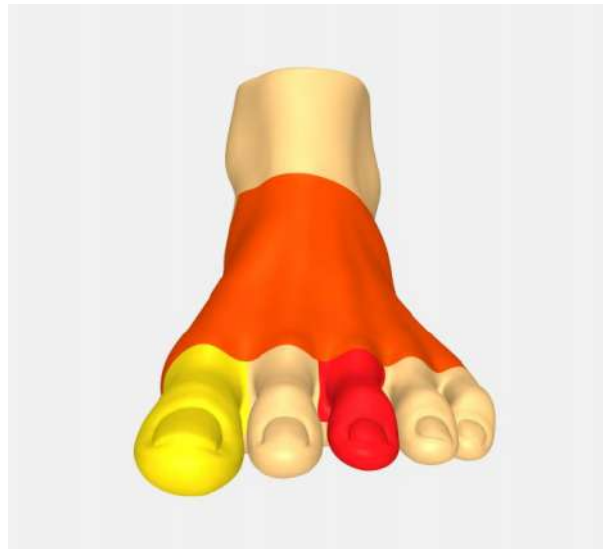


Figure 11: Foot Pain regions for form

This 3d model is located with the form of meet our expert where user will not only fill the form but will also mark the regions where he/she has the pain where the red colour represents the severe pain, orange means major pain i.e. less than severe more than minor and yellow means minor pain. Bu this info provided by the user in th form our physiotherapist can get the proper information about the user's pain and can provide the proper solution to the user.

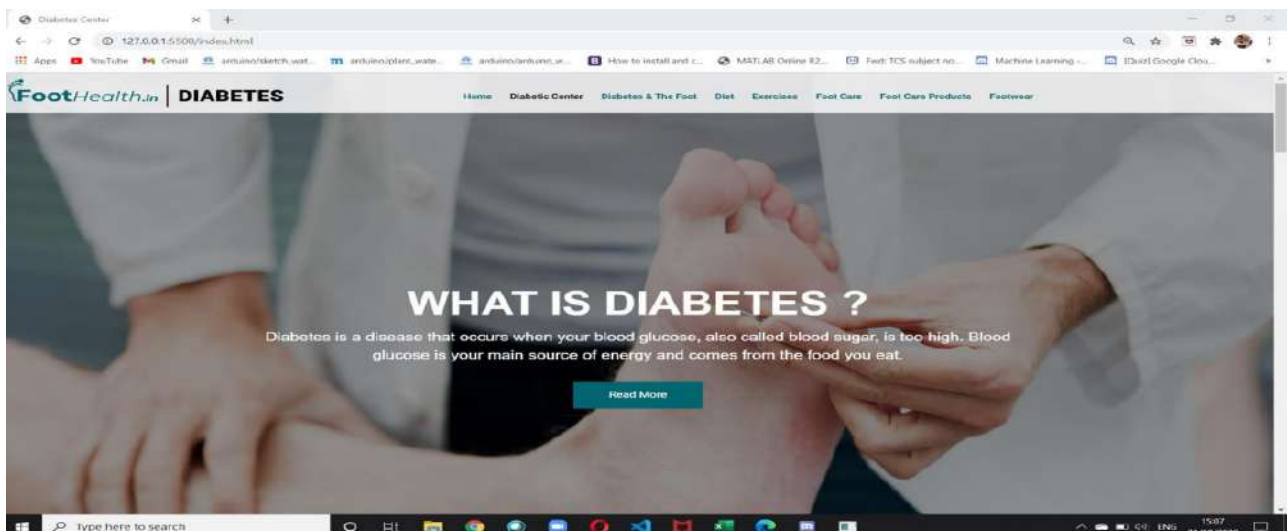


Figure 12: Diabetes Center Page

Diabetes Center Section is like mini-website within our main company Website. This Section consist of Diabetes center, Diabetes and the foot, Diet for diabetes, Exercise for diabetes, Tips on foot care for diabetes, Foot care products, Footwear selection tips. The explanation of every page is as follows:

1. Diabetes center:- This page gives details regarding diabetes such as What is Diabetes, its types, symptoms, How can one keep track of their diabetes, How to take care of your diabetes at home, What sort of complications can arise from diabetes, Diabetes Stats.
2. Diabetes and the foot:- This page gives details regarding impact of diabetes on feet such as Types of foot condition caused due to diabetes, What prevention we should take.
3. Diet for diabetes:- This page gives details regarding diet one should follow who is having diabetes and what type of food he/she should avoid.
4. Exercise for diabetes:- This page gives details regarding Exercises which the diabetic person should do everyday as exercises help to regulate blood sugar level in the body as well as to reduce the risk of developing grave complications like heart disease or diabetic foot.
5. Tips on foot care for diabetes:- This page will give home Tips regarding what care diabetic person should take about his/her foot.
6. Foot care products:- This page will provide information regarding the foot care products and will also take you to the respective page if customer needs to buy a particular product.
7. Footwear selection tips:- This page will provide information regarding the footwear selection and will also take you to the respective page if customer needs to buy a particular product.

Summary

With the above proposed technology stack and proposed architecture we can implement this website on the public domain of the company where different users or clients of the company can visit the website for the queries related to their foot health and the company can post the blogs and different articles related to the foot health as a site administrator. Users can get to know about the products of the company through the site. Users can also use self assessment form to get guidance from medical about foot problems.

References

- [1] <https://www.healthline.com/health/meniscus-tears>
- [2] <https://www.drscholls.com/cc/symptoms-and-conditions/foot-pain-and-conditions/>
- [3] <https://developer.biodigital.com/>
- [4] <https://ckeditor.com/ckeditor-4/>
- [5] <https://threejs.org/>