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CS22310 – User Centred Design and Human Computer Interaction

CPC – Ceredigion Plumbers Collective Website

Prototype Development

Introduction:

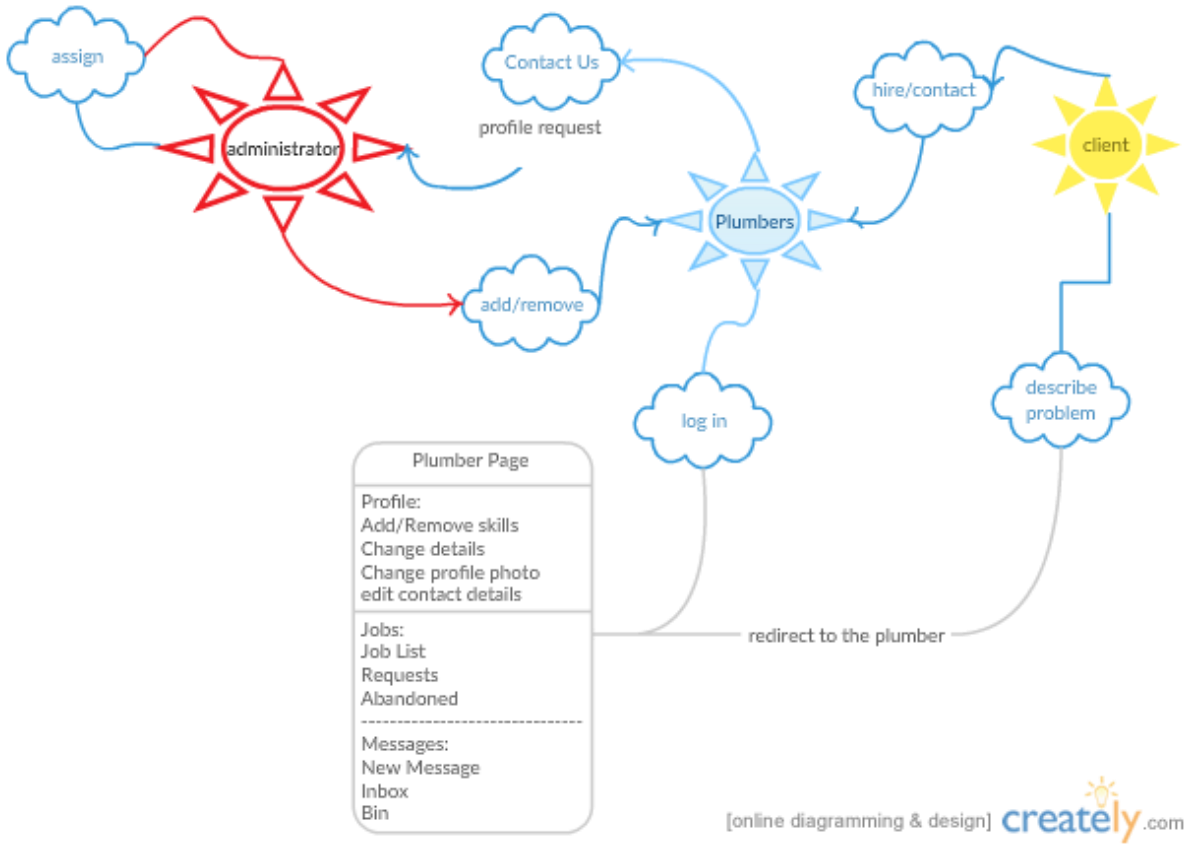
This Assignment requires the application of usability engineering techniques to the develop of a website for publicising and finding plumbers in Ceredigion. In Wales it is really hard to find accurate plumber with skills required to current job. CPC – Ceredigion Plumbers Website provides a plumbers with skill on top of that branch. Each plumber is been checked before adding to the page and having an account. CPC Website team provides an easy access to the plumbers for various house problems and giving an opportunity to save your precious time!

Task Analysis:

The Task Analysis I developed by using the slides from the lectures given by Annie. I am going to provide four diagrams to illustrate the dependency and interaction on my website. This diagrams are: Rich Picture, Use Case, Data Flow Diagram and State Transition Diagram.

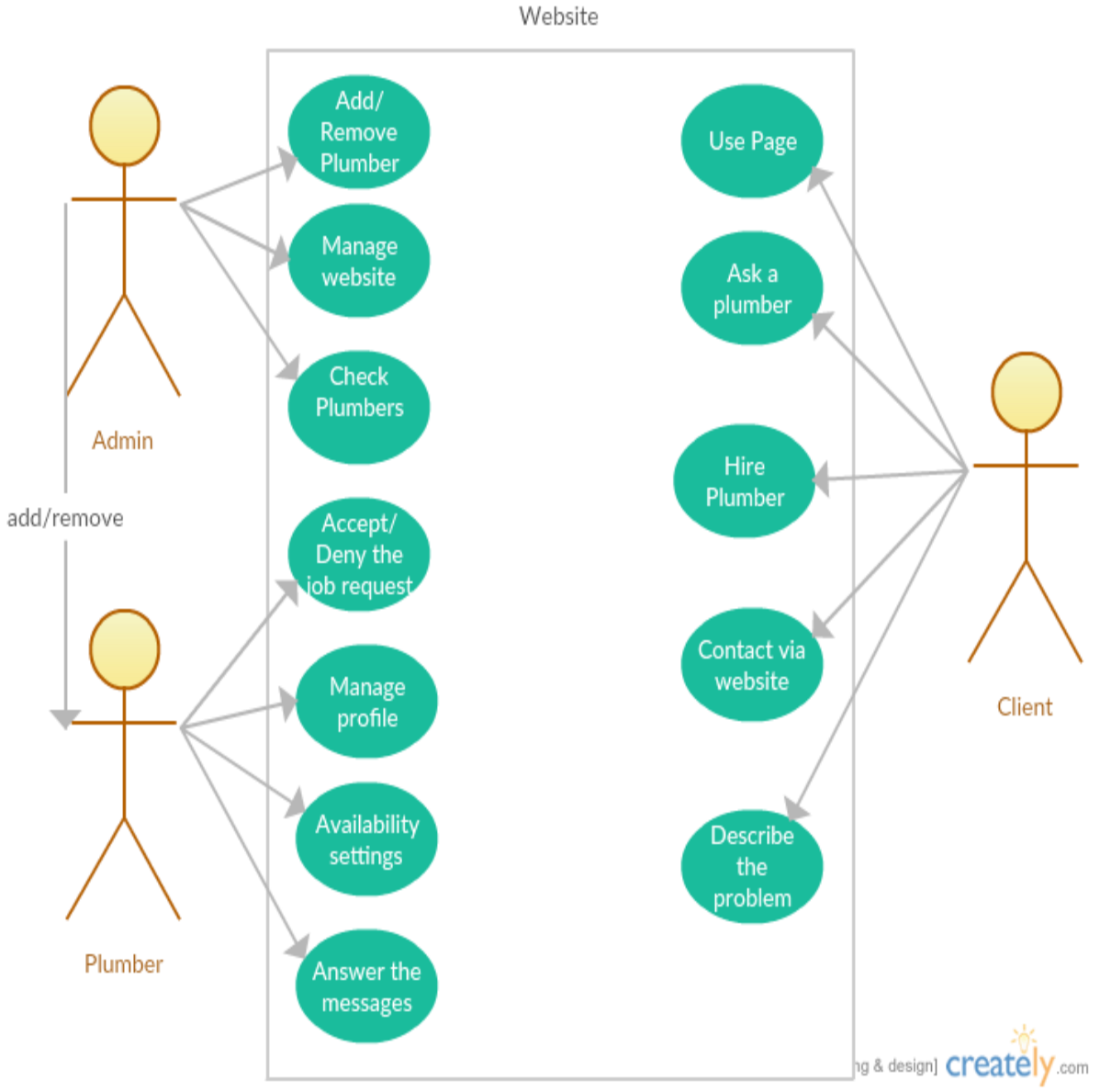
Rich Picture:

The image below displays what and who is involved in this prototype. We have three main group of users: Administrator, Plumbers and clients – people visiting the site. Administrators are reassigned manually, plumbers to cannot create the account and profiles by themselves. They need to contact with the administrators and give details of their skills and job, after the received request administrators checking each plumber before creating their profiles to provide the highest quality of plumber for the client. Plumbers are able to accept the job offer, change their profile details and answer the messages from the clients. The last group clients – they don't have to register or create account to have full access to the page. They can hire and ask the plumbers via website or by their private mails.



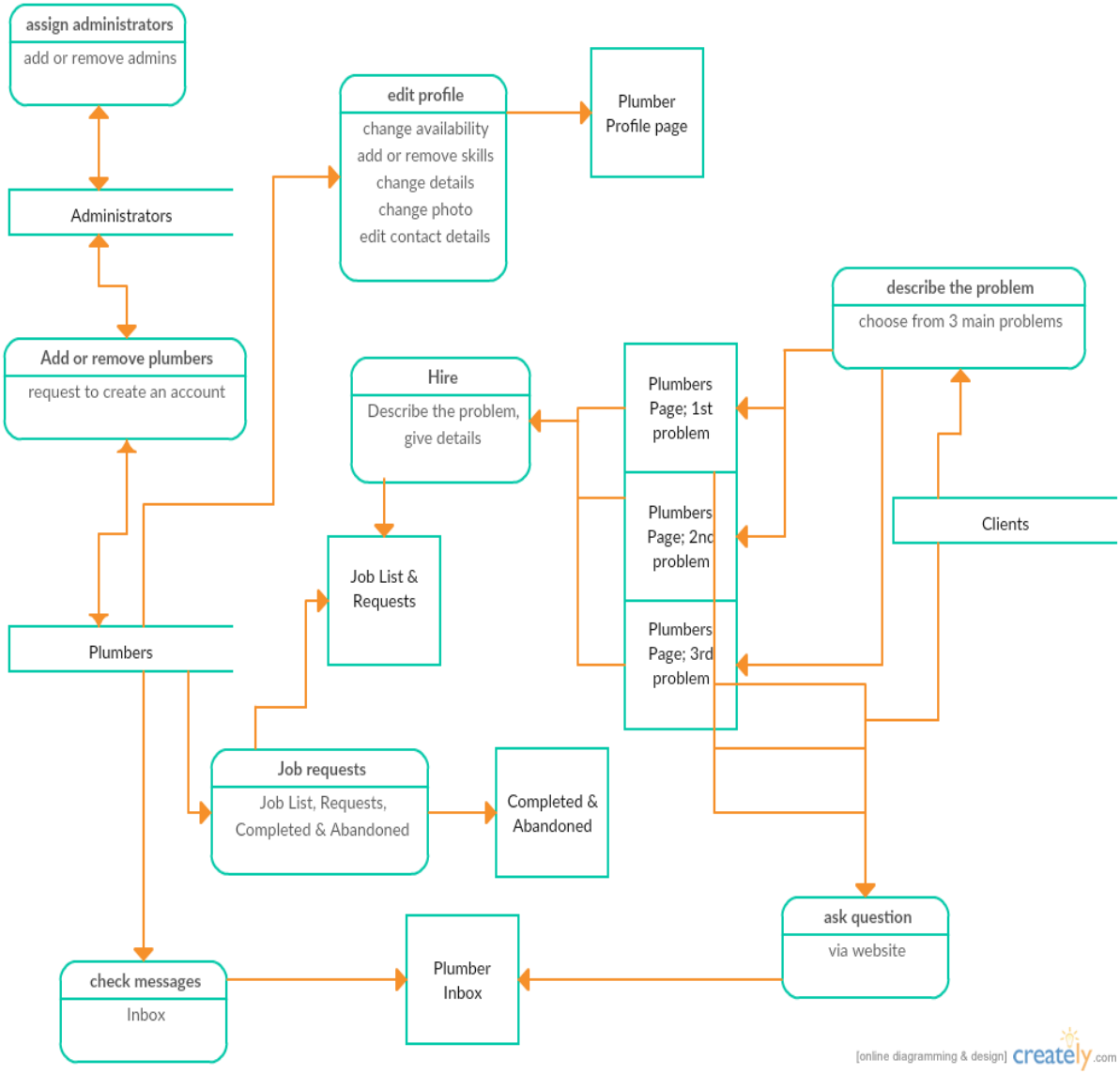
Use Case Diagram:

The diagram below shows how the particular types of members can use the CPC Plumbers Collective page. We can also add that Administrator inherits a Plumber so he can do everything what plumber can do as well. I didn't do an actor for no registered plumber because is pointless; he can do everything like clients do.



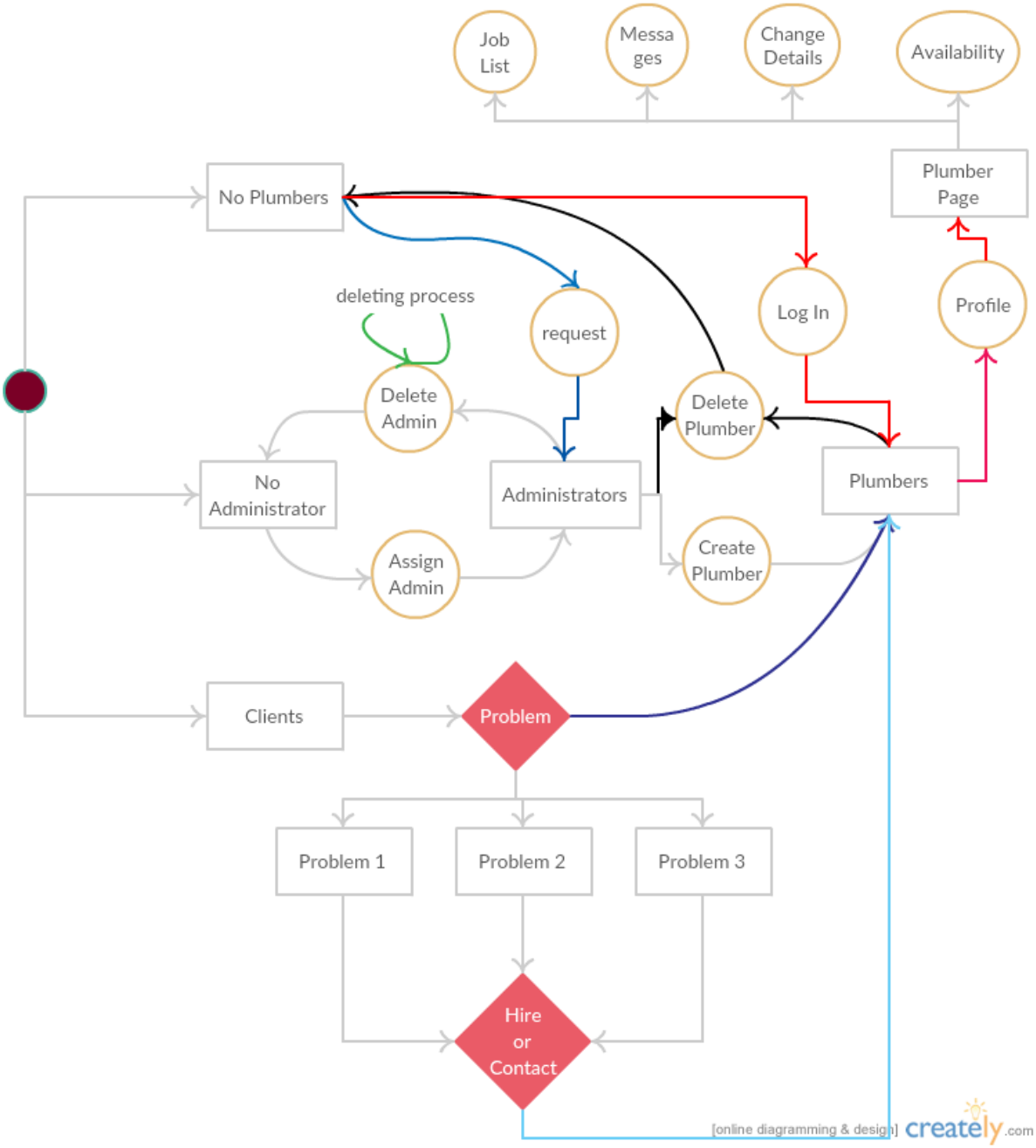
Data Flow Diagram:

One of the problematic diagrams to follow the data flow. The diagram below show how the data flow through the webpage system during the actions taken by users.



State Transition Diagram:

This diagram present different stages of website lifecycle. Starting from no accounts, plumbers and administrators to fully working CPC webpage. The diagram displays how the states change during actions taken by users.

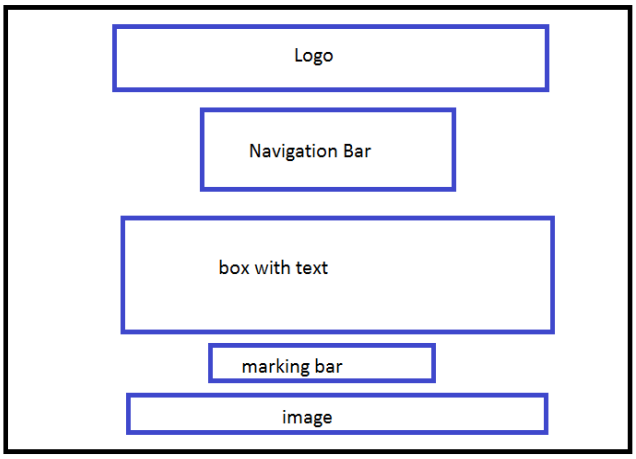


Website Plans

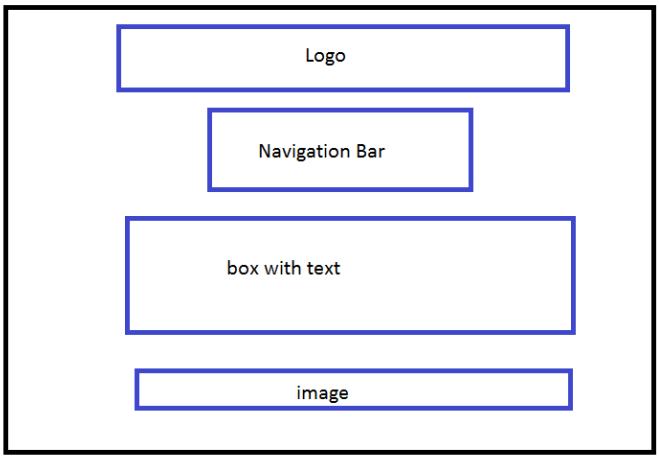
The easiest way to build easy understanding webpage is to create a css file – cascade sty sheet; and use described style to create consistent and similar looking parts of the page. It is the way to keep the website clear and easy to read.

Home Page

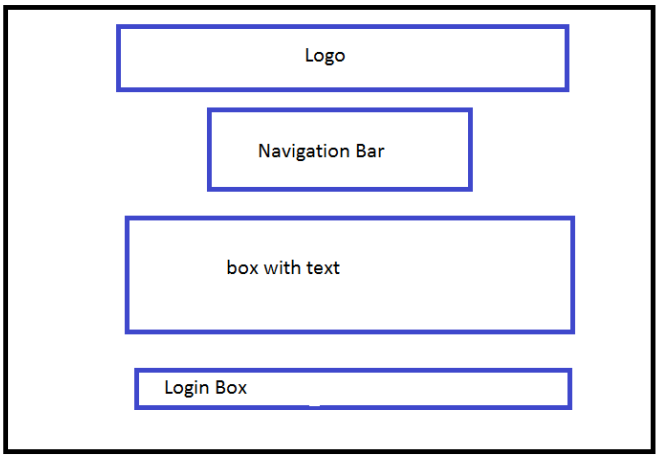
The square below presents home web page which is index.html file.



About Page

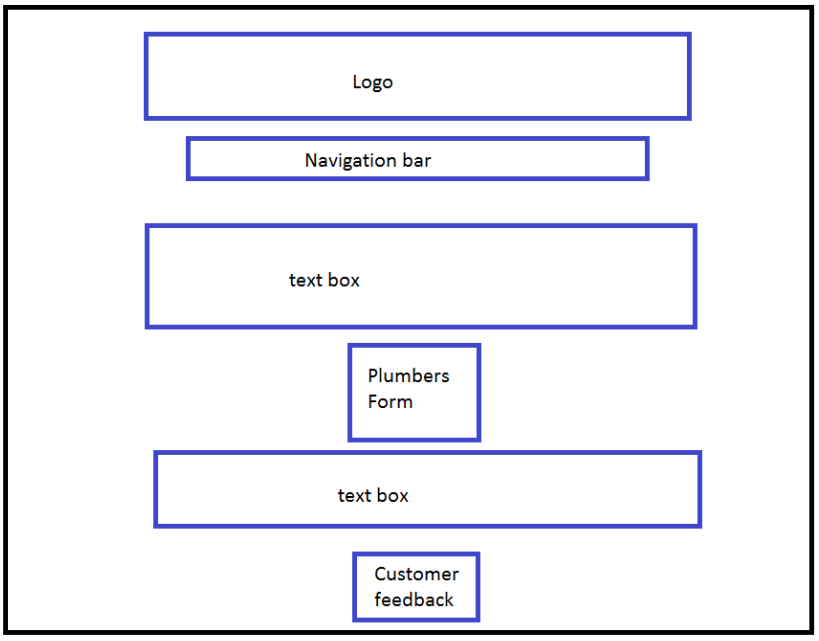


Login Page



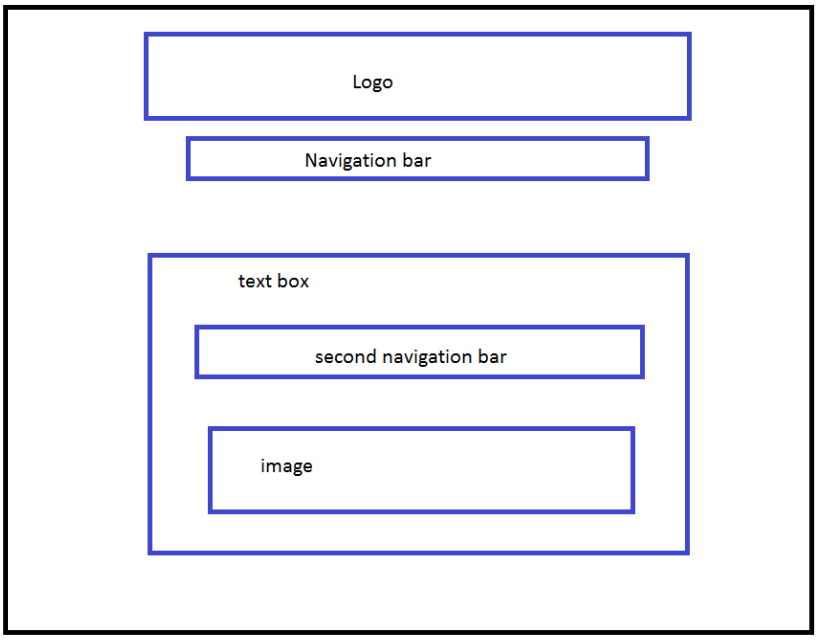
Contact Us Page

This page is a little bit different because it offers a feedback for customers, so I had to create two boxes with description and two forms for input.



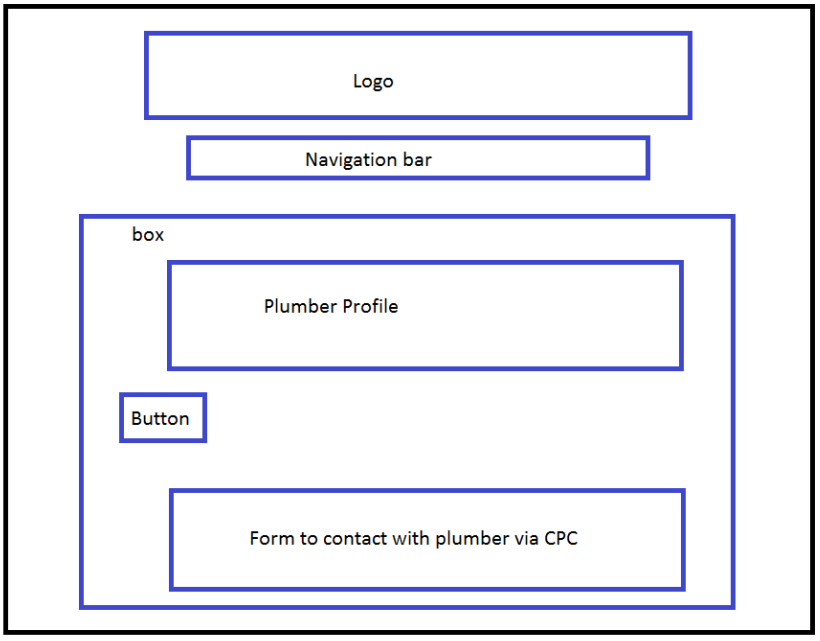
Plumber Page

This page is created for people who exactly don't know their problem, or they don't know how to use dropping menu.

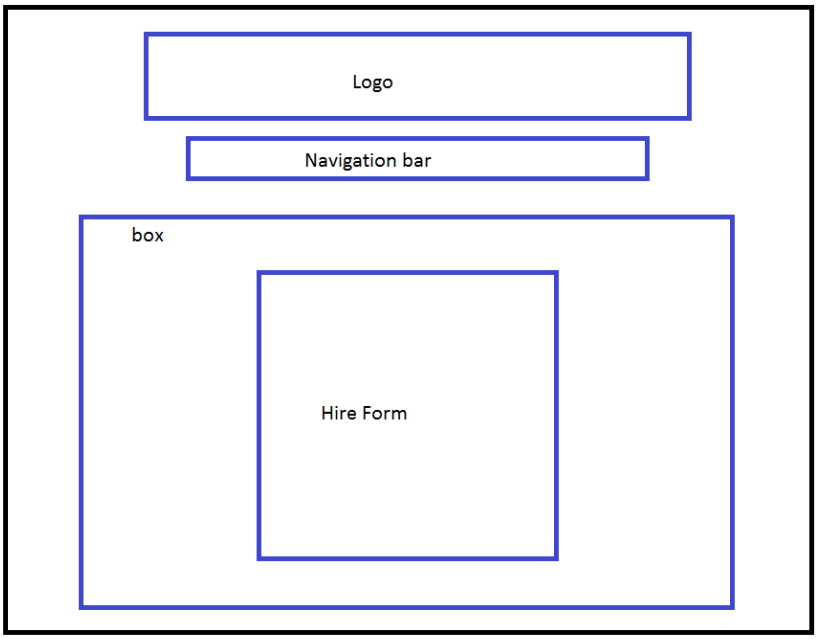


Problems Pages

This pages contains three different problems: General Household, Central heating, Drainage Systems *(one page for each problem)*. Each page is exactly the same, but the information held are different. So we have different plumbers for each problem with different working hours and skills. Each page contains a button to hire the plumber.

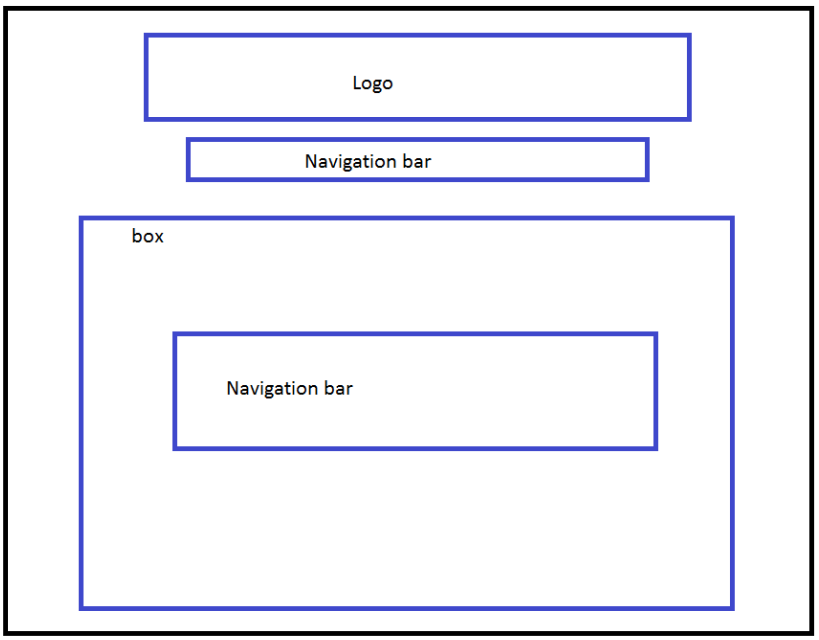


Hire Page



Admin Page & Plumber Page

This pages are for marking purposes only so this pages are the plumber menu and admin menu.



Sources:

http://www.w3schools.com/

http://faculty.washington.edu/jtenenbg/courses/360/f04/sessions/schneidermanGoldenRules.html

Prototype:

http://users.aber.ac.uk/luw19/cs22310/html/index.html

Evaluation of Prototype against Shneiderman's 8 Golden Rules

These rules were obtained from the text *Designing the User Interface* by Ben Shneiderman. Shneiderman proposed this collection of principles that are derived heuristically from experience and applicable in most interactive systems after being properly refined, extended, and interpreted.

To improve the usability of an application it is important to have a well designed interface. Shneiderman's "Eight Golden Rules of Interface Design" are a guide to good interaction design.

Strive for Consistency

This rule is about the consistency in sequences of actions. My page using identical terminology in menus, help screens and commands. Even the same font is used by login form which is the same for Contact us and hiring plumber.

Enable frequent users to use shortcuts

Plumbers have links to redirect them to the direct part of the page without long way of clicking. For example if they want to manage their profile they can go directly to the part which needs to be changed without exploring whole profile and direct button to go to Inbox without opening the profile.

Offer Informative Feedback

One of the pages (Contact Us) offers a special form to give a feedback directly to the administrators. It is anonymous form and Name field is only optional.

Design dialog to yield closure

This rule has been met and each page has been completed one by one. The simplest example is client who want to hire a plumber for household problem is leading to the page contains only qualified plumbers in household. The client don't have to select special plumbers from hundreds.

Offer simple Error handing

In this assignment I developed the page when the client or the plumber cannot make any serious mistake. To be honest even plumbers cannot make a big errors because everything is perfectly described. The one mistake that client can do is hire an inappropriate plumber.

Permit easy reversal of actions

Judging that rule is harder that the others because we have to consider two types of users, namely plumbers and clients. Each of that group has different usage of the webpage. Plumbers can accept or refuse to do the job given by the client. They can reverse the action taken, which is not saving the changes on the profile. Clients have also a good situation, because when they click on the button to hire the plumber they have to pick a date from calendar and briefly specify the problem occurred.

Support internal locus of control

This website is a coded website so the users are controlling their actions and nothing is automated. If user want to do something or take an action they have to click on something.

Reduce short-term memory load

When client looking for a plumber he has to know why he need him, in other words they don't have to remember anything only their problem. Everything else can be found on the website; specification of the problems, skills of the plumbers, dates and availability.

Conclusion

To write that assignment I had to spend a lot of time to learn how to programme a good looking webpage and to do that I was reading tutorials on W3S. Although I had a lot of fun with this assignment and I learnt how to use CSS finally. I developed a good looking interface and friendly to use webpage. To develop it I was using IDE WebStorm from JetBrains.

I think that I completed and covered every part of the assignment. I used slides provided on the lectures to create a diagrams and report that is provided simply and good looking information.