

Portfolio of Evidence

Andre van Rensburg

Introduction:

I have over 20 years of experience in the IT field, with a passion for software development, specifically web and mobile. My journey began at the age of 10, assisting my uncle with building and repairing computers. This sparked my interest in software, and by age 11, I had written my first program using QBASIC on a 386 MS-DOS machine.

In 2006, I became certified as an I.T Service Engineer through an apprenticeship with PartServe, one of the largest I.T companies in South Africa. I worked as a Service Engineer for a few years before focusing on web development, recognizing the increasing importance of the internet in everyday life. By 2009, I had completed my first website and began my professional career in web development.

Currently, I am a permanent employee of the South African Government's Department of Higher Education and Training, where I serve as both an I.T Engineer and a Web Developer. (Government employment can be confirmed here: www.dpsa.gov.za/resource_centre/psverification).

In my free time, I enjoy spending quality time with my family, playing guitar, watching professional skateboarding, and indulging my passion for chess. I am always looking for new ways to challenge myself and expand my skill set.

Projects:

Name: WordPress Plugin Development

Designation: Developer

Languages: PHP, CSS, HTML, JS

Client Requirements:

This project is self-motivated due to requirements that I had on my own business website, webacumen.co.za. The first requirement was that I needed to find an easy way to use multiple LottieFiles on my website, and noted early on that iframes and embeds would become a problem once you used multiple LottieFiles as each embed came with its own script tags, and it's even worse to use iframes, so I set out to make a plugin for this reason.

I also needed to allow my clients to be able to do a domain availability search directly on my website and in real time, so that it would enable them to choose a domain immediately, and then proceed to place the order without having to contact me and check on the availability of domains.

Solution 1: Lottiefiles Shortcode Plugin

I developed a simple WordPress plugin that takes care of this by means of a shortcode. Upon installing and activating the plugin, you can add any LottieFiles animation to your pages (more specifically multiple times on the same page it adds the required script to the head of the page) by simply using the shortcode and passing in the attributes that you would require i.e. size, alignment, etc. The source (src) attribute is required as this is the actual LottieFile e.g. [lottie src="/lotties/home.json" width="80%" height="auto" align="center" autoplay="autoplay"]. The plugin generates a lottie-player HTML tag and passes the attributes to the tag along with the json file (hosted locally or via 3rd party like lottiefiles.com) and then renders the LottieFiles in the DOM.

Solution 2: Domain Availability Plugin

I developed a WordPress plugin that displays a form on my homepage (also via a shortcode) with a search bar where a potential client can type in a domain name to do a search on it. The plugin does the domain lookup via AJAX by passing the domain entered by the client on form submit to a PHP script that searches and returns the availability response of that domain to the front end. The code is also integrated with a form builder plugin called forminator, which I use for sign-ups, so the domain is then passed via a URL parameter to the form and allows for consistency and ease of use for the client not having to retype the domain name.

Comments:

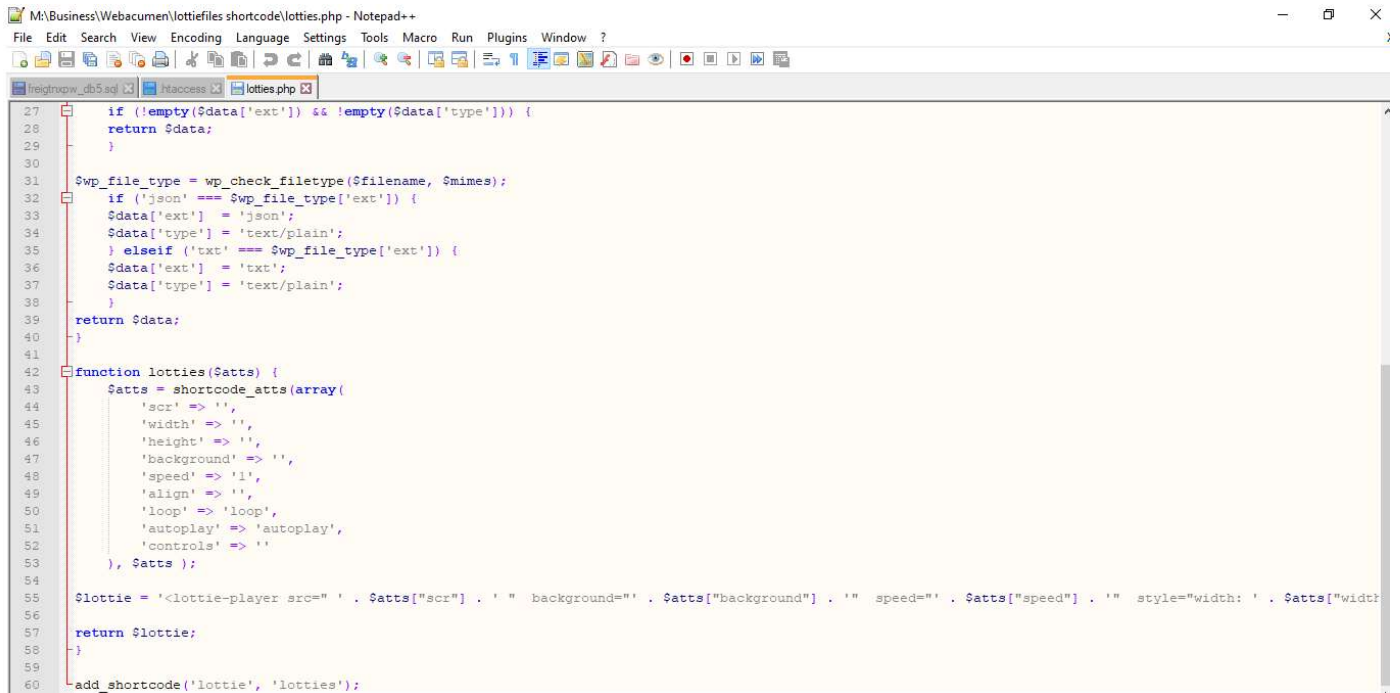
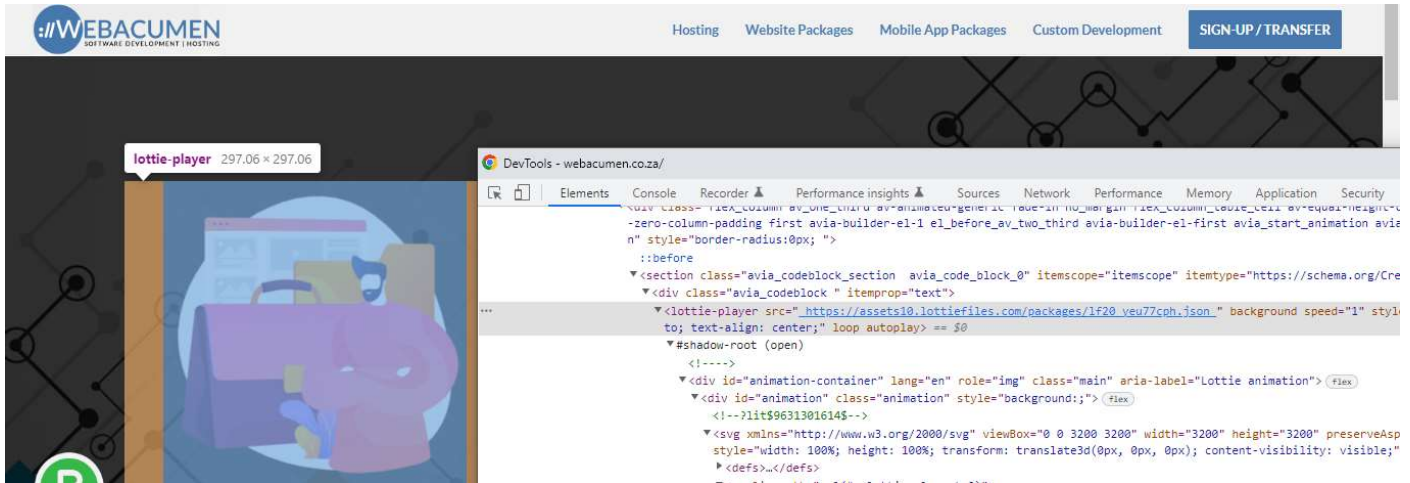
I am considering making these plugins open source and publishing them on the WordPress Plugin Repository as even though there are alternatives, mine are quite light in terms of size, and focus on their purpose without putting too much strain on the front end with page size etc.

Portfolio of Evidence

Andre van Rensburg

Screenshots:

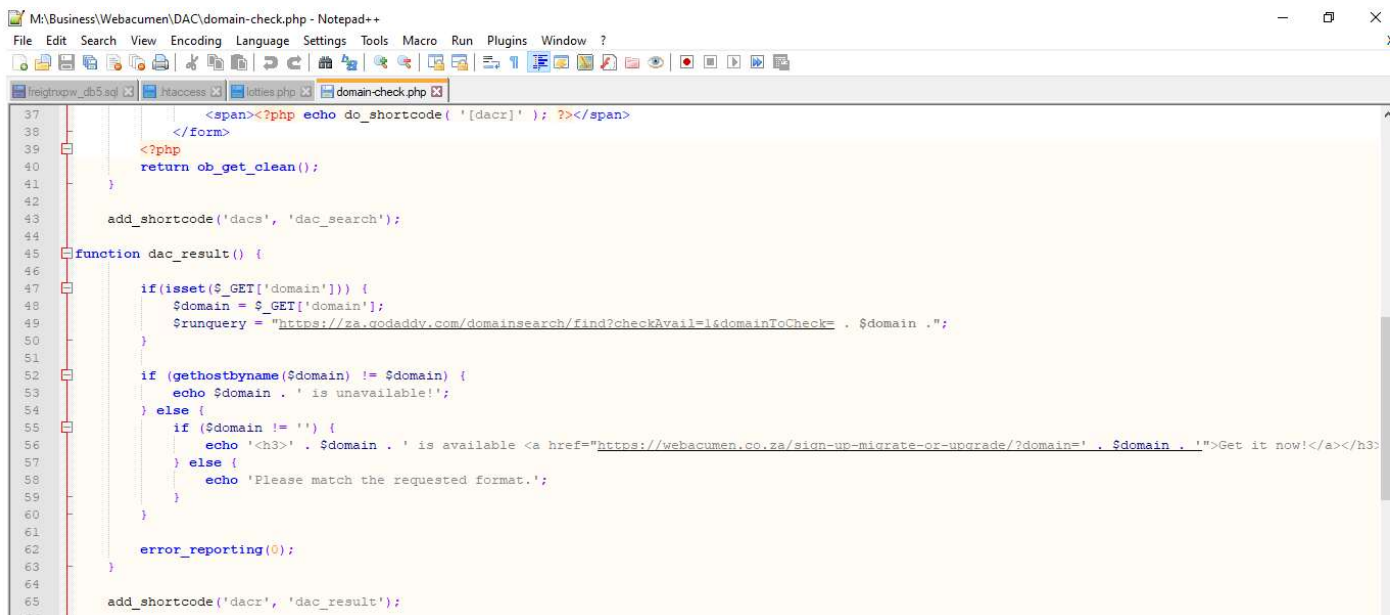
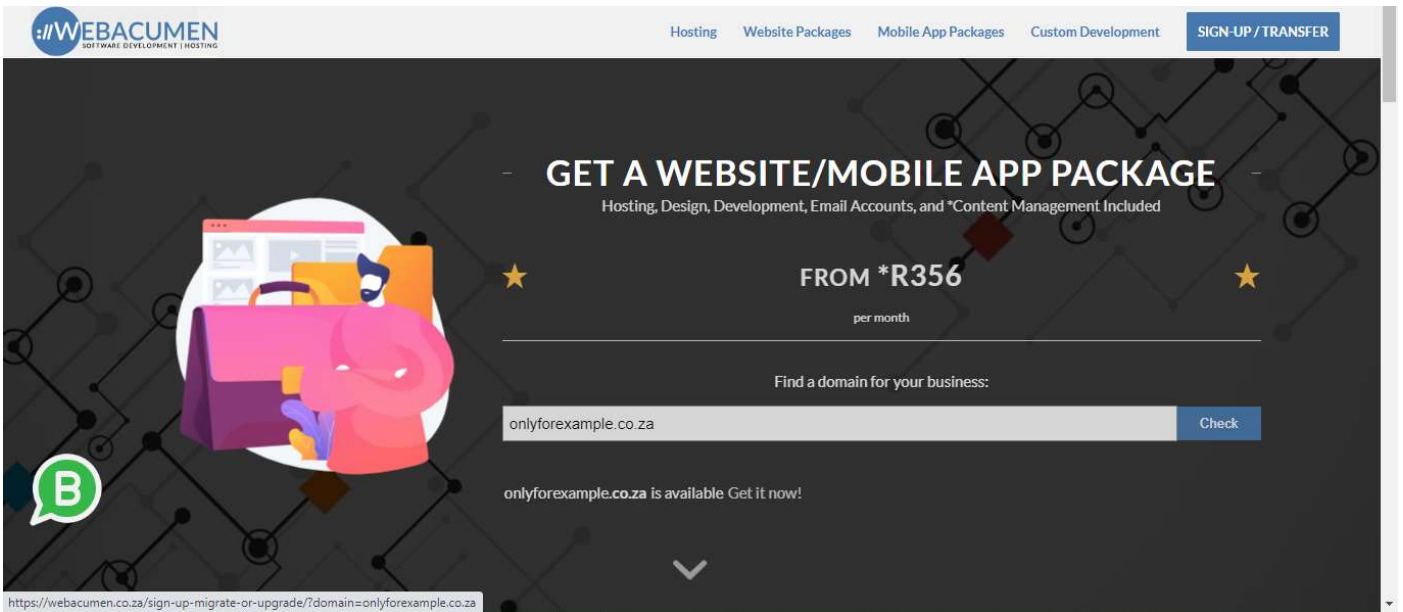
Lottiefiles Shortcode Plugin



Portfolio of Evidence

Andre van Rensburg

Domain Availability Plugin



Name: Madibas NFT

Designation: Lead Developer

Languages: PHP, JS, HTML, CSS

Client Requirements:

A business partner came to me with the idea to create NFT's for charity in South Africa and had already partnered with an artist who does the illustrations, and thus needed a developer to handle the technical side of the production of such NFT's, smart contracts, dApp, website, etc

Portfolio of Evidence

Andre van Rensburg

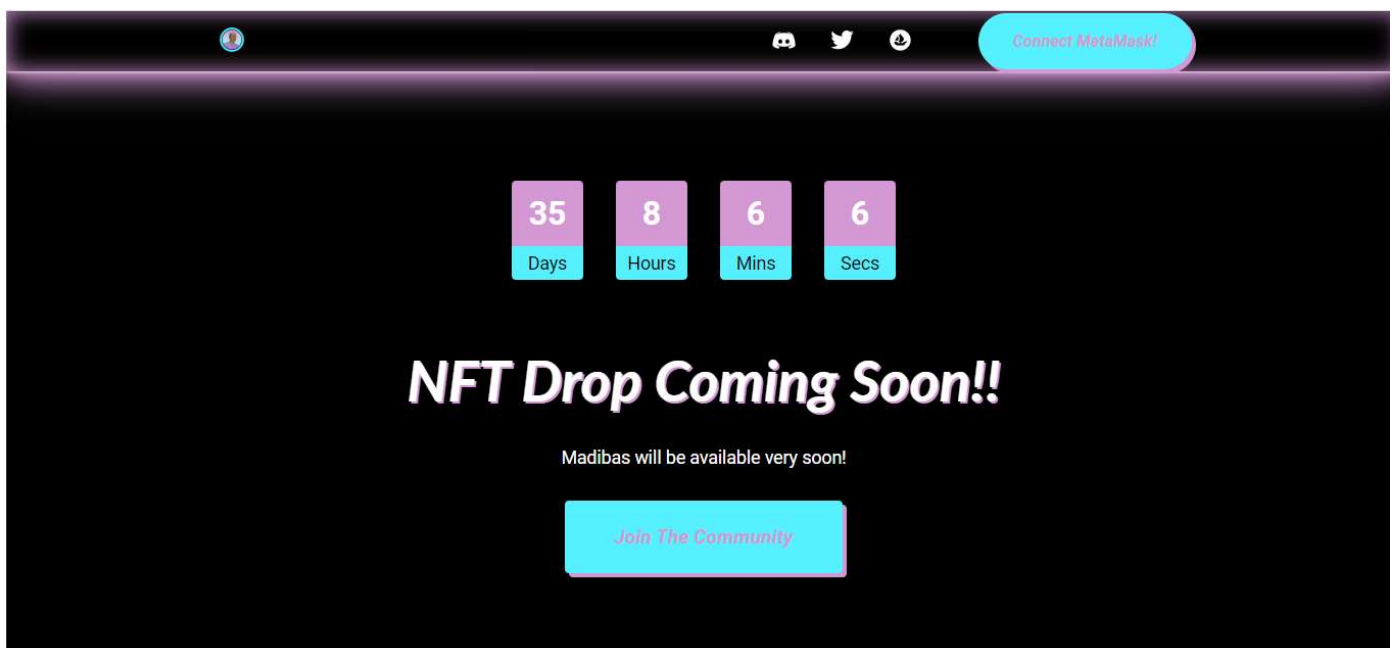
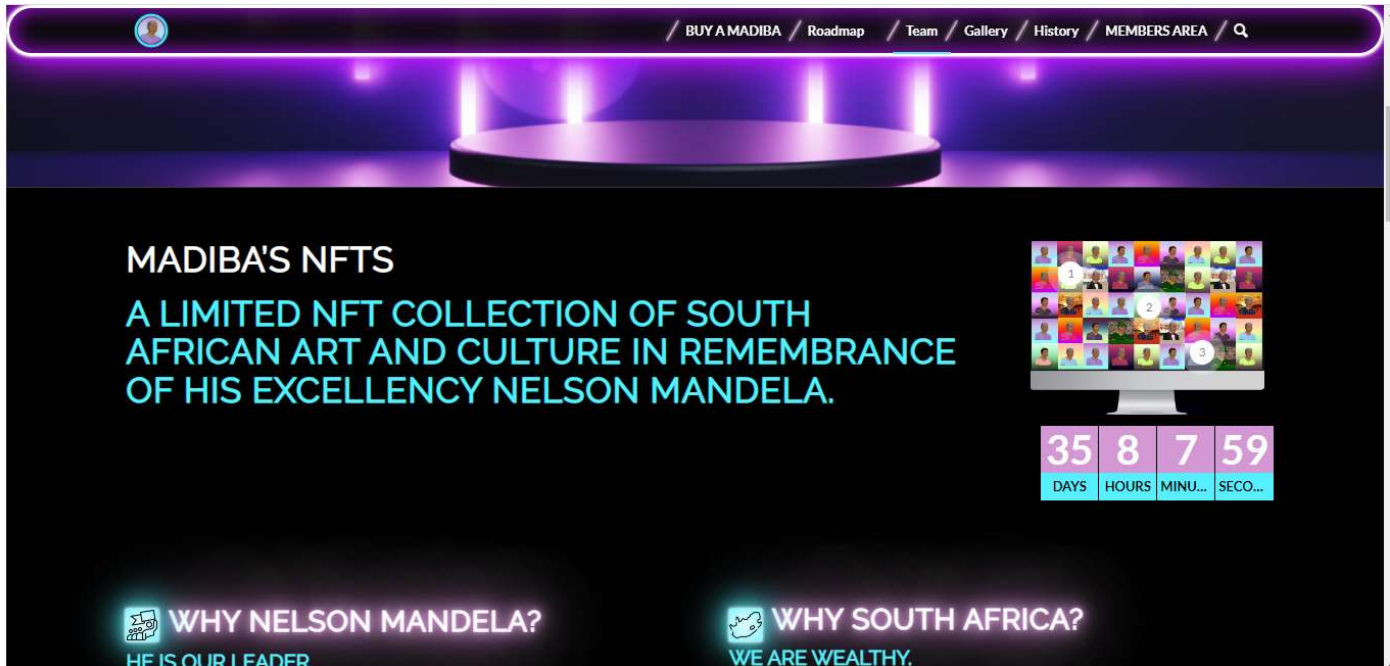
Solution:

I developed the website for the project as well as the dApp (Decentralized APP) that handles minting of NFT's via transactions on the blockchain using our smart contract, by connecting to a buyers MetaMask account to secure transactions. The NFT's are stored on an IPFS and are minted using the HashLips art engine.

Comments:

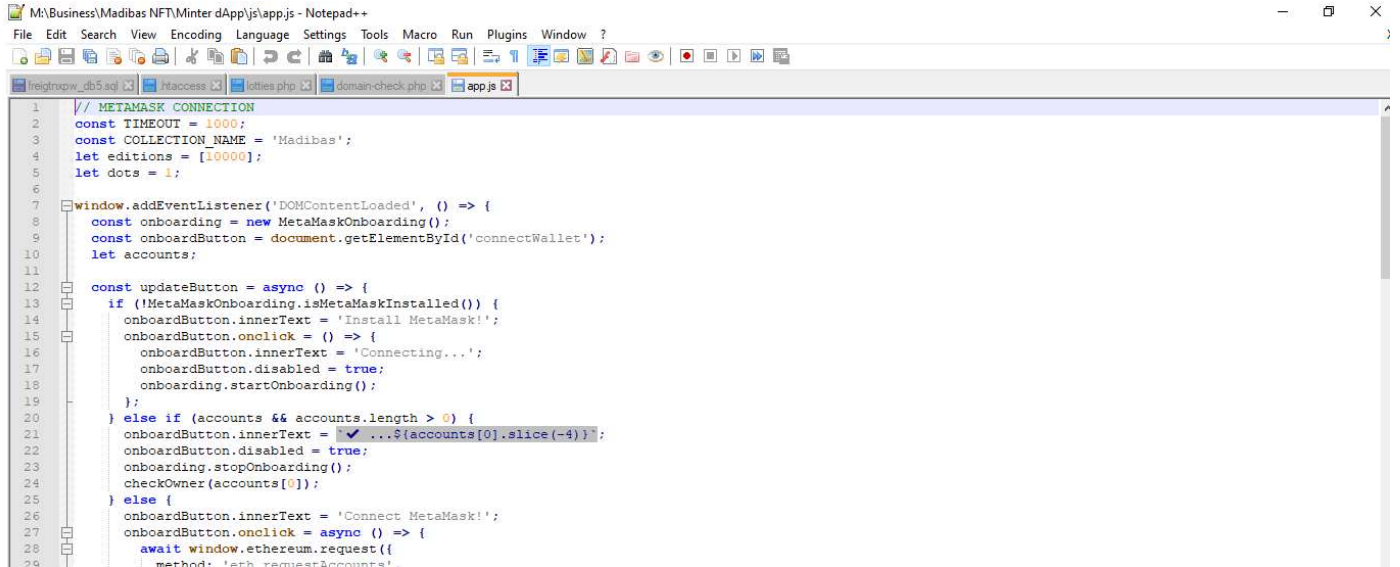
I am extremely excited about this project as it serves as my transition into the web 3 space, and also is for a good purpose as proceeds are donated to charity. We are in discussions with some of the biggest names in charity in South Africa like TekkieTax, who's website I also developed as an official sponsor...

Screenshots:



Portfolio of Evidence

Andre van Rensburg



```
1 // METAMASK CONNECTION
2 const TIMEOUT = 1000;
3 const COLLECTION_NAME = 'Madibas';
4 let editions = [10000];
5 let dots = 1;
6
7 window.addEventListener('DOMContentLoaded', () => {
8   const onboarding = new MetaMaskOnboarding();
9   const onboardButton = document.getElementById('connectWallet');
10   let accounts;
11
12   const updateButton = async () => {
13     if (!MetaMaskOnboarding.isMetaMaskInstalled()) {
14       onboardButton.innerText = 'Install MetaMask!';
15       onboardButton.onclick = () => {
16         onboardButton.innerText = 'Connecting...';
17         onboardButton.disabled = true;
18         onboarding.startOnboarding();
19       };
20     } else if (accounts && accounts.length > 0) {
21       onboardButton.innerText = '✓ ...${accounts[0].slice(-4)}';
22       onboardButton.disabled = true;
23       onboarding.stopOnboarding();
24       checkOwner(accounts[0]);
25     } else {
26       onboardButton.innerText = 'Connect MetaMask!';
27       onboardButton.onclick = async () => {
28         await window.ethereum.request({
29           method: 'eth_requestAccounts';
30         });
31       };
32     }
33   };
34   updateButton();
35 }
```

Name: Tekkie Tax E-Commerce Website
Designation: Sponsor and Developer
Languages: PHP, JS, HTML, CSS

Client Requirements:

The client approached me to have their existing website redesigned, and developed into an e-commerce solution to sell merchandise online to both the public as well as to NGO's via a portal designed specifically for them as they buy as wholesalers.

Solution:

I opted with WordPress for this project as the client needed to manage their own content, and also because I see no need to reinvent the wheel, I actually enjoy working with WordPress as a foundation for simple website design projects. As WordPress is open source, it allows for great customization and extension via plugins etc. and this project did end up requiring significant custom functionality and design changes to the theme.

Comments:

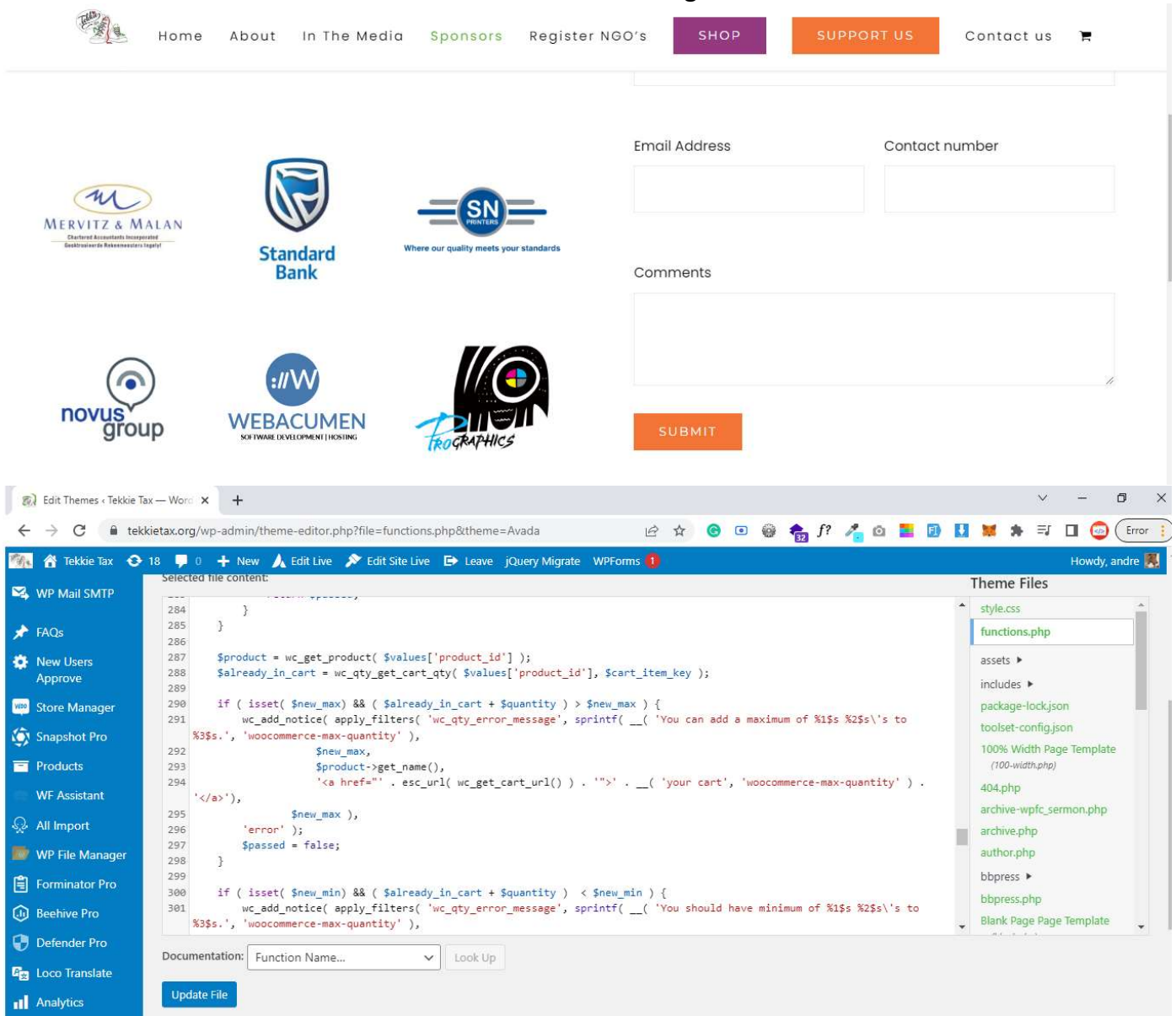
I decided to sponsor this project to the client as I really enjoy doing work that can better the lives of others and have done previous charity work e.g. Wings of Hope NPO.

Screenshots:



Portfolio of Evidence

Andre van Rensburg



Name: Emergency Response Web Application

Designation: Full Stack Developer

Languages: HTML, CSS, JS, PHP, XML & SQL

Client requirements:

The client approached me to have an emergency response web application developed as an added value service to their clients. The core function of the application was to provide assistance to members when in an emergency, an emergency is defined as an event that left the sender unable to resolve without assistance, e.g. a flood, fire, or farm attack. Members formed part of groups in communities in their immediate surroundings from regional down to town/city level e.g. Western Cape and George, with George being a group within a larger group.

Solution:

I developed a web application that integrated with a 3rd party SMS gateway service provider, called Stouf Communications, via API calls. It works by use of a generic number provided by the gateway provider which receives ("catches") emergency SMS's from members, and then passes it via an API call to the database to query all members in the sender's area, generating an emergency SMS to them with all their information stored on the system e.g. contact number, address, alternative contacts, medical information, etc. The database queries also get cached using Redis for quicker response and reduced load on the server and the database is normalized down to city level to prevent iteration of members outside the sender's immediate area.

Portfolio of Evidence

Andre van Rensburg

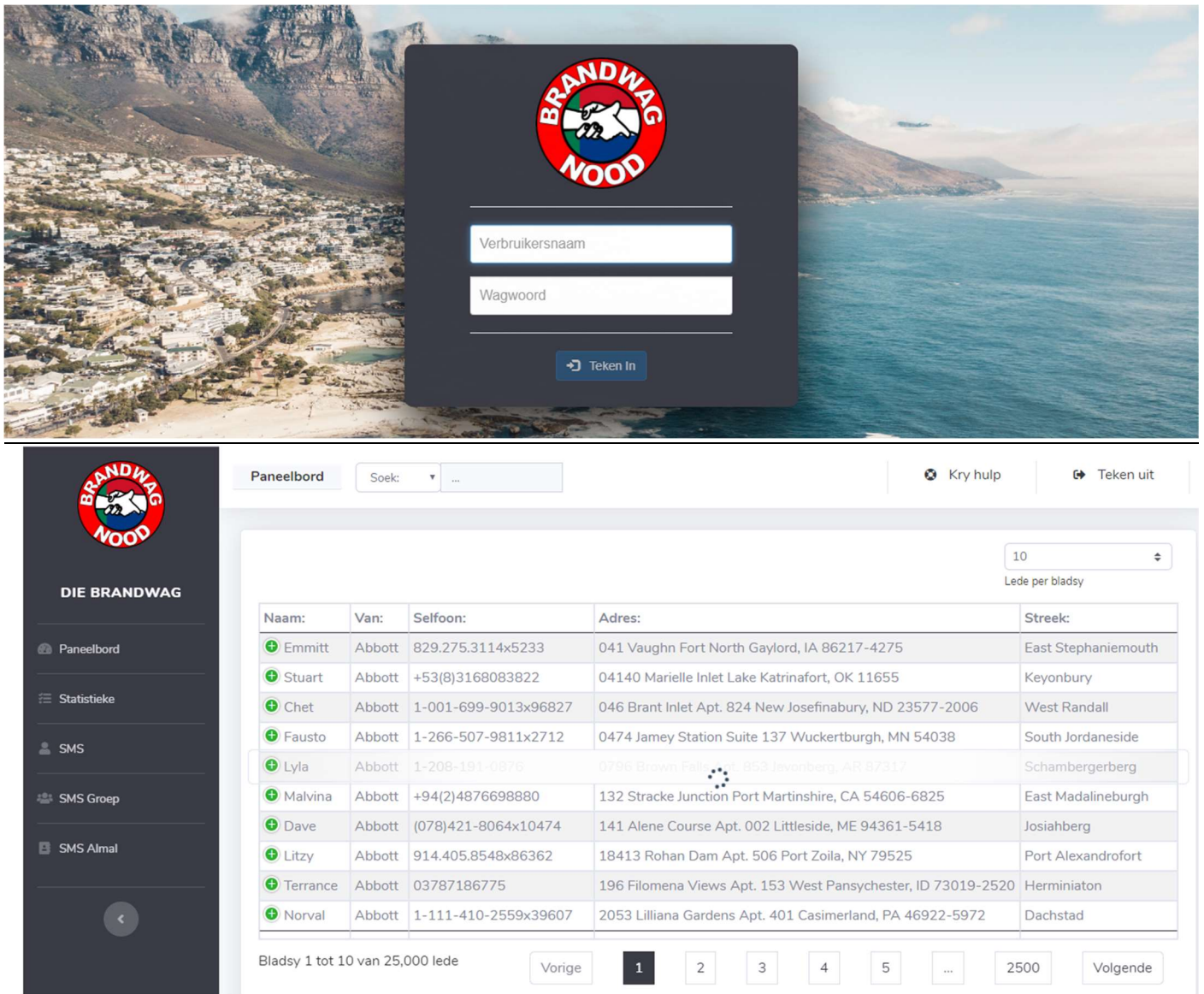
The system has both an administrative panel and a member's panel. The administrators have access to manage membership via CRUD functionality, and also to communicate with members via SMS on any level be that individually, regionally, or via their respective town/city groups and also with area leaders e.g. commandos, lieutenants, etc. The member's panel allows a member to maintain their information e.g. address, contact, medical information, etc. The system uses Datatables JS with the ability to print, sort, filter, search, export, and do live edits on records with AJAX calls.

Comments:

I enjoyed this project a lot, and it probably ranks in the top 3 for me due to the level of technicality, but most importantly that it serves a very good cause as it saves lives, and it has. I would have enjoyed working further on this project to also develop a mobile application version and migrate to push notifications instead of SMS, but at the time of development I was still busy studying mobile app development and couldn't use the project as a learning curve, due to its nature, of course, a mistake could cost a life. There was of course the hybrid app route or a web view, but the client needed to tap into the native software features of Android and iOS, so I turned the project down and offered to instead serve as the project lead to manage the mobile app development.

NB: Records used are for demonstration purposes only and were generated using queries with variables. The client's identity is not shared due to contractual binding via NDA, but other methods of verification are possible.

Screenshots:



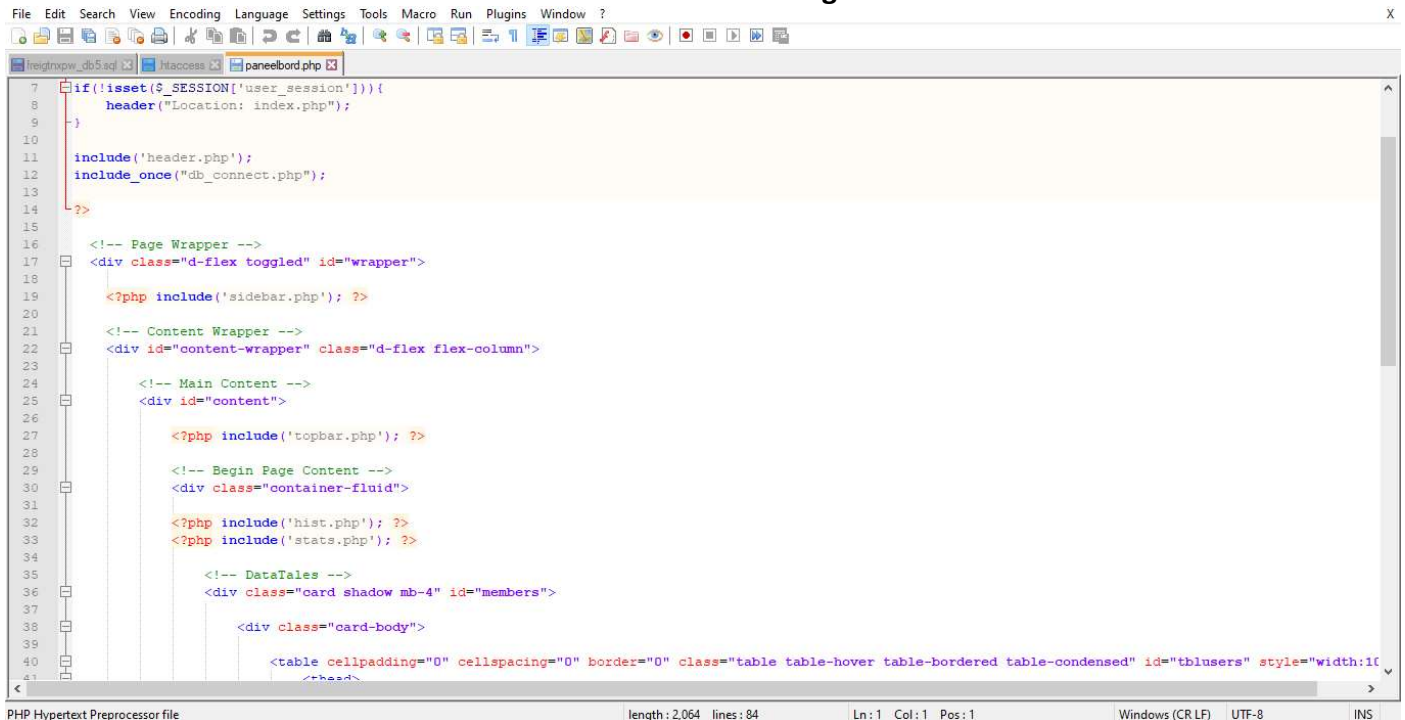
The screenshot displays the Brandwag Nood web application. The top section features a login form with the Brandwag Nood logo, a 'Verbruikersnaam' (Username) field, a 'Wagwoord' (Password) field, and a 'Teken in' (Login) button. The background of the login screen shows a scenic view of a coastal town and mountains.

The bottom section shows the main dashboard. On the left is a sidebar menu with the Brandwag Nood logo and the text 'DIE BRANDWAG'. The menu items are: Paneelbord, Statistieke, SMS, SMS Groep, and SMS Almal. The main content area displays a table of members with columns: Naam, Van, Selfoon, Adres, and Streek. The table contains 10 rows of data. Below the table, there is a pagination bar showing 'Bladsy 1 tot 10 van 25,000 lede' and buttons for 'Vorige', '1', '2', '3', '4', '5', '...', '2500', and 'Volgende'.

Naam:	Van:	Selfoon:	Adres:	Streek:
Emmitt	Abbott	829.275.3114x5233	041 Vaughn Fort North Gaylord, IA 86217-4275	East Stephaniemouth
Stuart	Abbott	+53(8)3168083822	04140 Marielle Inlet Lake Katrinafort, OK 11655	Keyonbury
Chet	Abbott	1-001-699-9013x96827	046 Brant Inlet Apt. 824 New Josefinabury, ND 23577-2006	West Randall
Fausto	Abbott	1-266-507-9811x2712	0474 Jamey Station Suite 137 Wuckertburgh, MN 54038	South Jordaneside
Lyla	Abbott	1-208-191-0876	0786 Brown Falls, 853 Jevonberg, AR 87317	Schambergerberg
Malvina	Abbott	+94(2)4876698880	132 Stracke Junction Port Martinshire, CA 54606-6825	East Madalineburgh
Dave	Abbott	(078)421-8064x10474	141 Alene Course Apt. 002 Littleside, ME 94361-5418	Josiahberg
Litzzy	Abbott	914.405.8548x86362	18413 Rohan Dam Apt. 506 Port Zoila, NY 79525	Port Alexandrofort
Terrance	Abbott	03787186775	196 Filomena Views Apt. 153 West Pansychester, ID 73019-2520	Herminiaton
Norval	Abbott	1-111-410-2559x39607	2053 Lilliana Gardens Apt. 401 Casimerland, PA 46922-5972	Dachstad

Portfolio of Evidence

Andre van Rensburg



```
7 if(!isset($_SESSION['user_session'])){
8     header("Location: index.php");
9 }
10
11 include('header.php');
12 include_once("db_connect.php");
13
14 <?>
15
16 <!-- Page Wrapper -->
17 <div class="d-flex toggled" id="wrapper">
18
19     <?php include('sidebar.php'); ?>
20
21 <!-- Content Wrapper -->
22 <div id="content-wrapper" class="d-flex flex-column">
23
24     <!-- Main Content -->
25     <div id="content">
26
27         <?php include('topbar.php'); ?>
28
29         <!-- Begin Page Content -->
30         <div class="container-fluid">
31
32             <?php include('hist.php'); ?>
33             <?php include('stats.php'); ?>
34
35             <!-- DataTales -->
36             <div class="card shadow mb-4" id="members">
37
38                 <div class="card-body">
39
40                     <table cellpadding="0" cellspacing="0" border="0" class="table table-hover table-bordered table-condensed" id="tblusers" style="width:100%; border-collapse: collapse;">
41                         <thead>
```

Name: AWorkshop
Designation: Developer
Languages: VBA & SQL

Client Requirements:

The client in this project was my employer at the time. As I was working both in the workshop as a technician while also designing and developing websites for clients. The business requirement was an alternative to Pastel Pervasive which provided workshop management, stock control, accounts, etc., as it was too expensive for the size of the business, of which we had only 8 staff members at the time. The goal was to develop a solution that can manage the entire business from counter sales to workshop repairs, stock, staff, etc., without incurring the heavy costs that come with Pastel Pervasive. The client did not want the system to be online at the time and suggested that we develop it on MS Access instead.

Solution:

I developed a standalone windows application that acts as a desktop widget. It was developed on Microsoft Access with VBA (Visual Basic for Applications) and originally used the Microsoft Jet Engine, but was later upgraded to an external SQL Express database with a separate front-end application connecting to the server hosting the database. This application takes care of stock, jobs, staff, etc., and is still in use by the client today, more than 10 years later. It has the ability to manage the entire business, print, email, export, and provide reports on most anything. I had to add the PtrSafe keyword after a few years as declare statements that include PtrSafe work correctly in the VBA7 development environment on both 32-bit and 64-bit platforms.

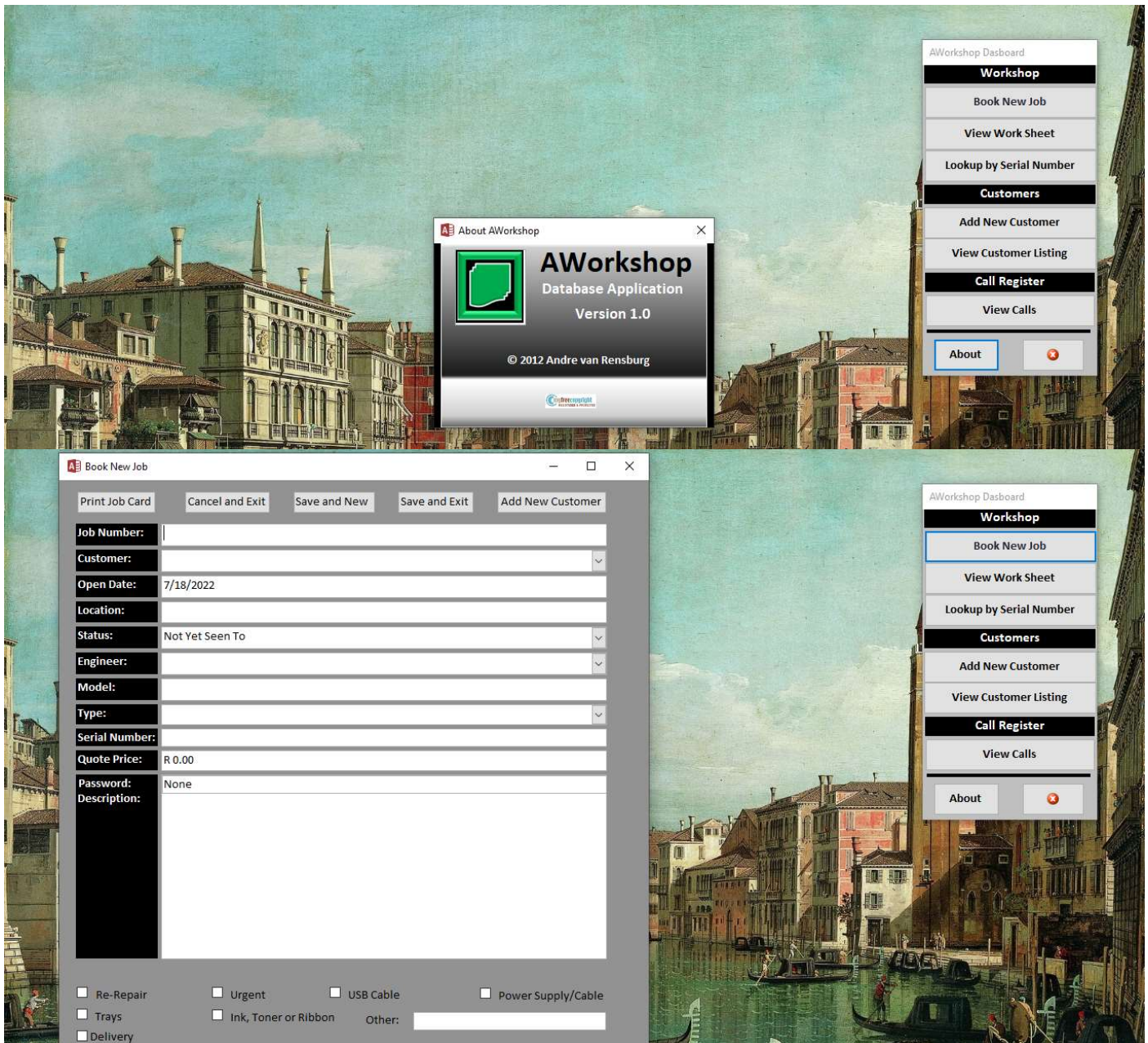
Comments:

Looking back on this project and learning only after completion that Microsoft Access is limited to 25 users, it would have made sense to avoid it, when taking growth into account, but I enjoyed having to split the application and set up a SQL server, etc., and explained to the client that for future use, it's possible to port Access apps into complete web apps, a project which I look forward to when the client is ready for the next step. I also value this project as it was my first step into security and to prevent someone from accessing the code, for whatsoever malicious reasons, I added code to disable the default "shift enter" backdoor and also completely hid any access windows. The only way to access the developer tab was to start the program, go to the about the screen, and click on a specific item a few times, which would then prompt for a password, which would then trigger code that would enable the "shift enter" backdoor, thus allowing you to restart the program, access the code, make changes and upon saving it, reactivate the safety mechanisms.

Portfolio of Evidence

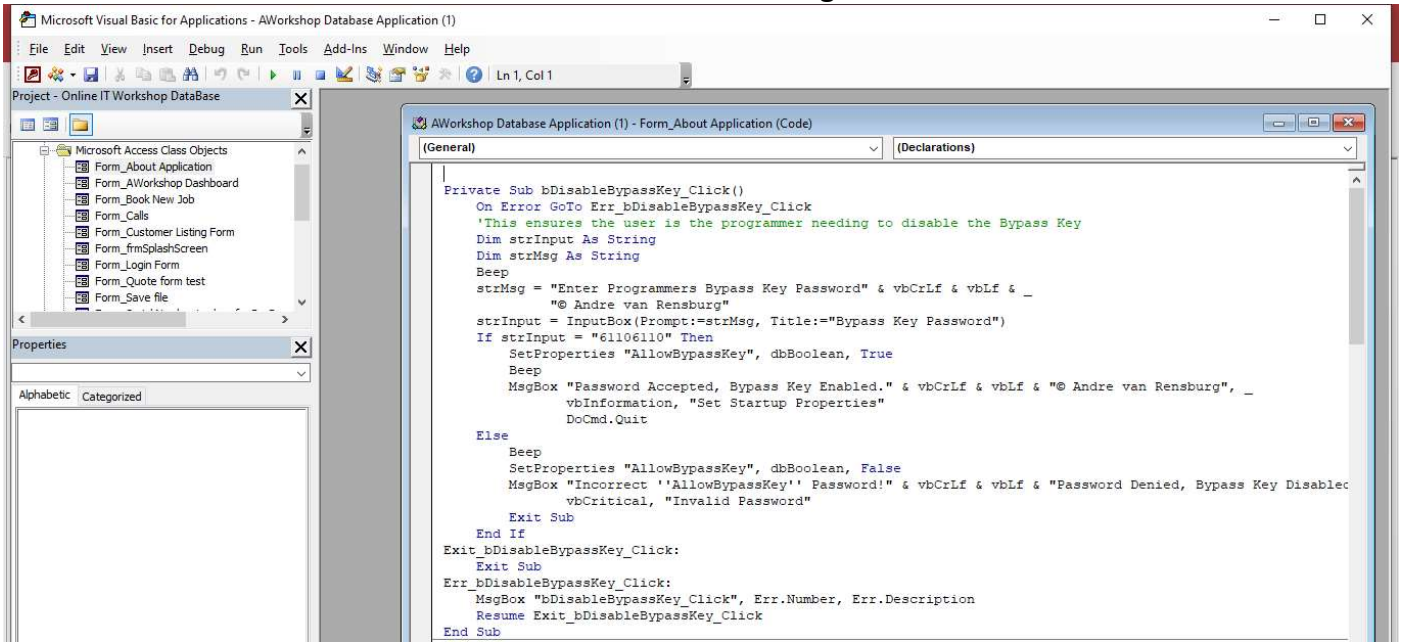
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Screenshots:



Portfolio of Evidence

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Name: Attendance Register

Designation: Developer

Languages: VBA & SQL

Client Requirements:

My employer in this project needed to have an attendance register developed that would serve to aid lecturers in the classroom to take electronic attendance of students, as physical sheets created many administrative problems and were later considered a problem instead of a solution due to non-submission, paperwork going missing, etc.

Solution:

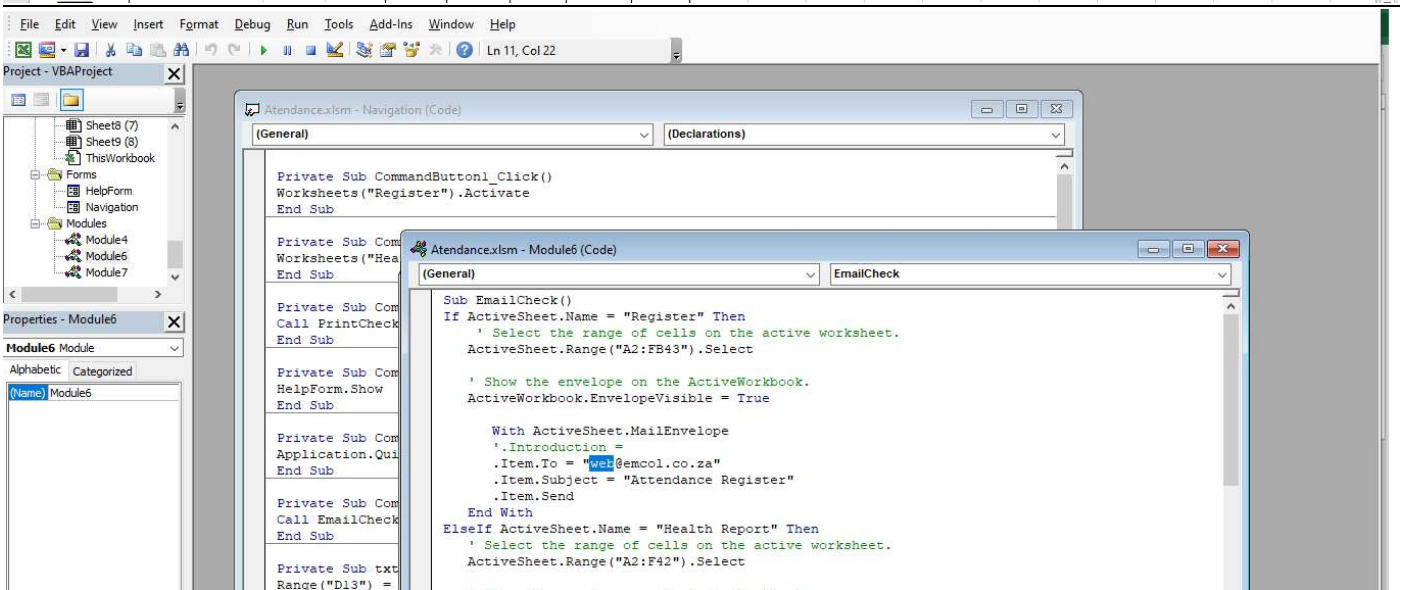
I developed an excel spreadsheet with VBA (Visual Basic for Applications) and programmed it to serve this purpose. A Lecturer would complete the sheet and upon saving, it would send an email with a report of the data captured to the H.O.D. This automation assisted in ensuring that lecturers took attendance, handed in the required daily reports, and could also provide reports of attendance to the SLOs to follow up on student wellbeing, etc. It also has the ability to determine gender by means of the ID number, print, export, etc.

Comments:

This project served as a great learning environment for me in the world of Excel, and I learned just how powerful the software really is with formulas, macros, etc. I also learned about issuing certificates due to the safety concerns that come with macro-enabled sheets.

Screenshots:

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[illegible]

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REFERENCES: *Should any reference be unavailable, please visit the corresponding company website for contact details.

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Any further required information will gladly be emailed upon request.
I herewith confirm that the above information is sufficient and true.

