



Full Stack Web Development in Vue.js

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Introduction

For the month of January I worked on many different aspects of this project. Due to prior experience I worked mostly on the front-end of the site, but that also included ample amounts of integration with the back-end. I went into this project with a desire to learn and to use the knowledge that I already have to create a working product.

Key Accomplishments

- Created the home landing page
- Created routes on the secured layer (the layer of the application that can only be reached by employees with authorization)
- Created the navigation drawer on the secured layer
- Updated the controllers in the API for contacts
- Created the models for contact edit, new contact, and delete contact
- Wrote the form validation for the secured layer
- Created the working contact edit, new contact, and delete contact functionality
- Created the working organizations, contacts, and contacts ID pages

Learning Objectives

- Work as a team on a project where I learn something new
- Learn new skills that I will be able to transfer over into the real world
- Work in web development
- Gain more back-end web development experience

Front-End

Having worked with React.js before, I had some understanding of what Vue was like. I knew that Vue was a JavaScript framework where you could break pieces of code down into smaller components. I had never worked with Vue before though so there were some things that I did not know. It took a couple of days, and working with some code for me to actually understand how Vue worked, but after awhile I began to grasp how Vue worked and its advantages and start programming to the best of my ability. An example of something that I worked on for the non-secure layer is the landing page (figure 1). I made everything on this page except for the footer. This helped me learn a lot about CSS, HTML, and JavaScript. The biggest difficulty here was that we had to make sure that our website looked exactly like what the UI mockups looked like because that is exactly what the customer wanted.



Figure 1

My favorite part of the project, and the time where I think that I learned the most was when I was working on the secured layer. During this time we spent more time worrying about functionality and less time worrying about styling. We pulled information from the database to populate tables, and used different API calls to change things in the database. I have never had experience working in the back-end before this, but this project helped me learn a lot. In figure 2 you can see the create contacts page where you can create a contact and the information will then be stored in our contacts table in the database. You then can tell that is working by looking at figure 3 and seeing the contact table being populated with the new contact.

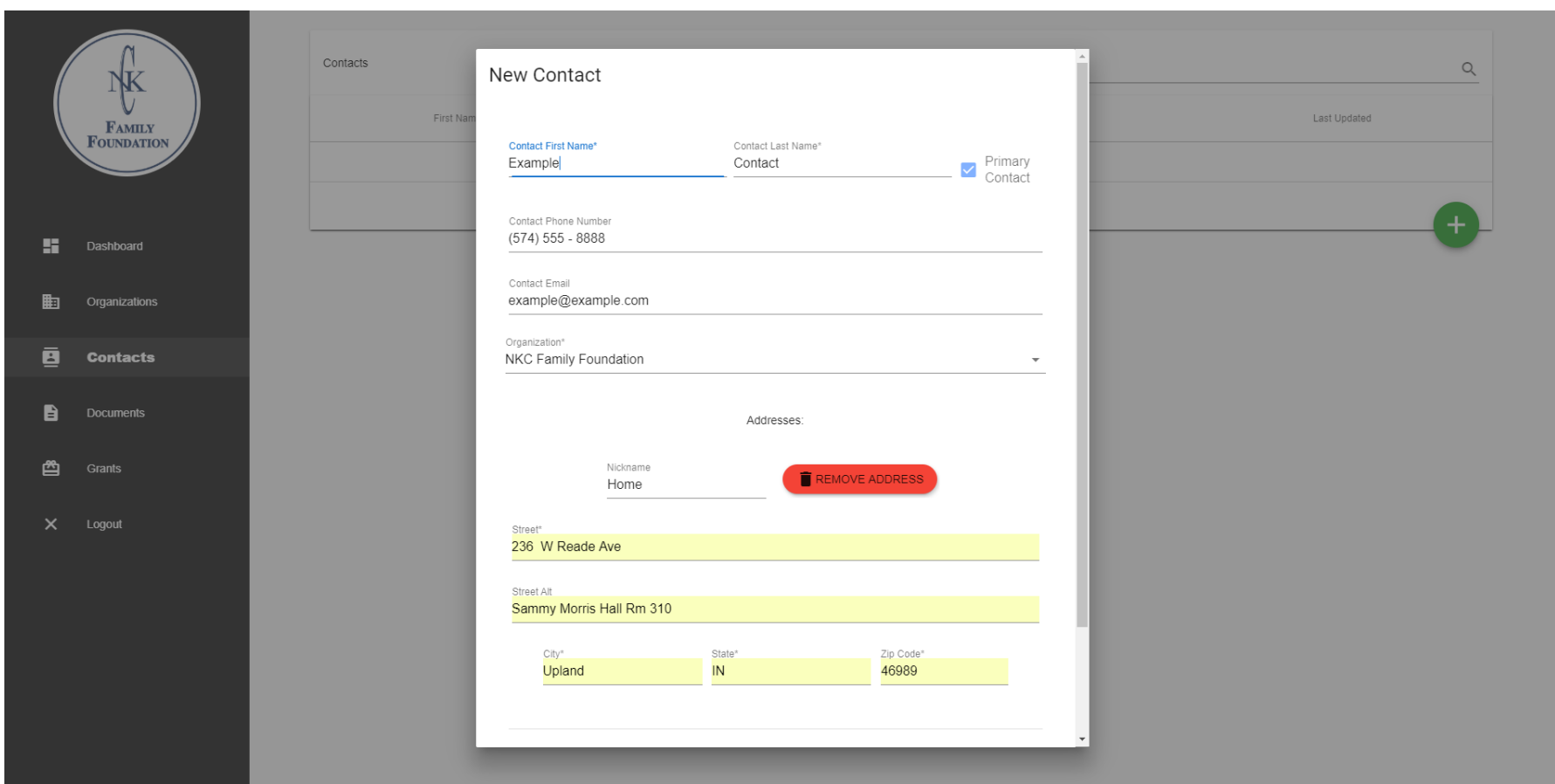


Figure 2

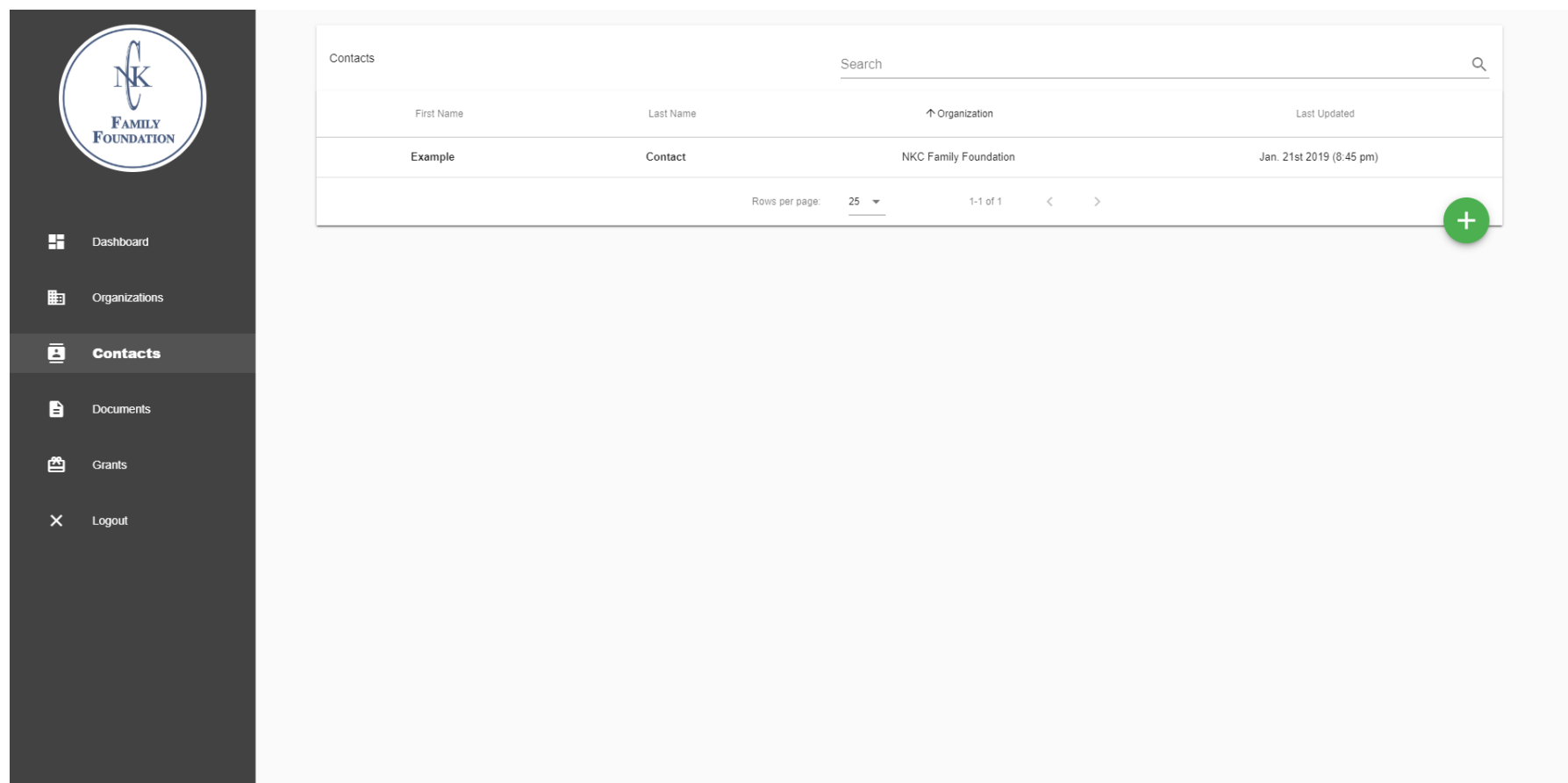


Figure 3

In figure 4 we can see a case in which I am pulling specific information from the database for a certain contact from different fields. This page had to pull information from the contact table, the address table and the organization table. It was difficult trying to get all of these things to fit together to start, but once I got one done then it became easier to do this in other areas of the application. Overall I learned a huge amount about front-end web development and how I can better integrate that with a API server and a database. It was a fun challenge to have a real customer who had real demands when it came to design, but also frustrating at times.

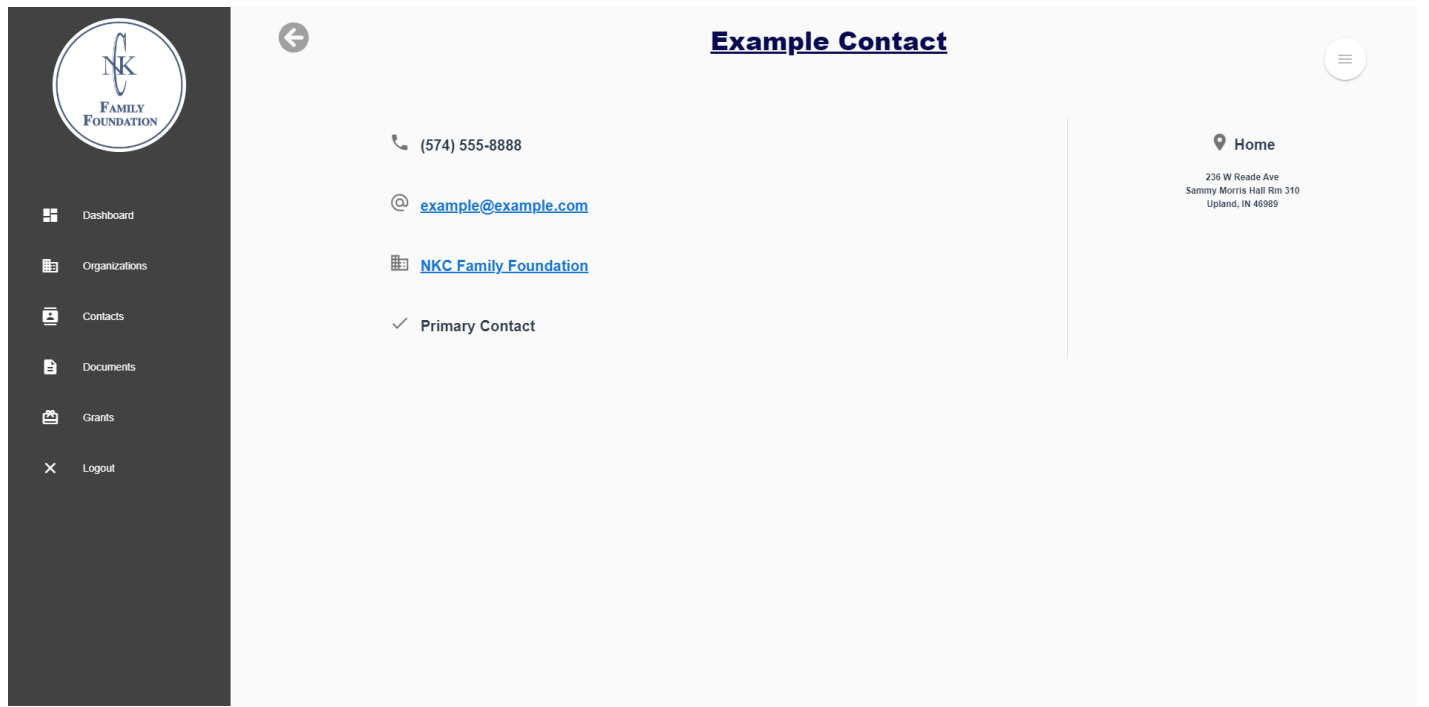


Figure 4

Back-End

On the back-end I worked on updating the controllers for sending and receiving contacts. The problem was that we needed to receive more information than what was in the contacts table so I had to update the SQL statements in the controller to return that information. Figure 5 is the controller that I updated to send back more information to the client server. Working more with the back-end was very helpful for me because it helped me view the project from a more broad prospective and make decisions based on the bigger picture instead of just the front-end.

```
25 async getOne(req, res) {
26   const query = `
27     SELECT contacts.*, organizations.name AS organization_name FROM contacts
28     INNER JOIN organizations ON organizations.id = contacts.organization_id
29     WHERE contacts.id = $1;
30   `;
31   const addressQuery = `
32     SELECT addresses.*, contacts.id as contact_id FROM contacts
33     INNER JOIN contact_addresses ON contacts.id = contact_addresses.contact_id
34     INNER JOIN addresses ON addresses.id = contact_addresses.address_id
35     WHERE contacts.id = $1;
36   `;
37   const sql = `
38     SELECT id, name FROM organizations ORDER BY name;
39   `;
40   try {
41     const row = await db.query(query, [req.params.id]);
42     const addresses = await db.query(addressQuery, [req.params.id]);
43     const q1Res = await db.query(sql);
44   }
45   return res.status(200).send({
46     contact: row.rows[0],
47     addresses: addresses.rows,
48     orgs: q1Res.rows
49   });
50 }
51 } catch (error) {
52   res.status(500).send(error);
53 }
54 },
```

Figure 5



Conclusion

In conclusion I learned a lot about web development. I learned what it looks like to create a website from scratch, working with the back-end and the front end. I learned that I would enjoy doing web development as a profession. There is still much more that I would like to learn. I think that I will be taking on more projects where I will be working on the back-end of an application in the future. I am glad that I got a chance to work on this project and with this team.

Difficulties

- Delegating work
- Learning Vue
- Working directly with a customer
- Deployment
- Back-end work

Acknowledgements

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