**Iteration One: Report**

**Wesley Meade:**

For this project I was nominated as the “team lead” for the project. For the first iteration it was decided that we would attempt to get as much done as we possibly could and at as high a quality as we could manage within the given time period. My reasoning behind suggesting this method is so that the future iterations can add less important features and be spent perfecting and polishing the site, so it is as high quality as possible. So far, this methodology has gone exactly as plan and we now have a site that is about 70% complete feature wise before entering iteration two.

As for the division of labour we decided to split the work out based on our capabilities, which resulted in myself doing some of the more “bespoke” features. This method of devising labour has been reimagined for the next iteration and tasks have been set evenly and as fair as possible for each member. If my assistance with anything my teammates are stuck with is required, I am happy to assist.

**Cart:**

One of the features I worked on was the cart, it is a session-based cart the same as the previous cart the main difference is with the products being added to the cart. Unlike the cart in our previous project instead of having a product and a quantity of that product each server added to the cart is a unique instance of that server. Which caters nicely for creating the rental for that server when payment is made, and this also made integrating customized servers much easier.

**Payment System:**

The second feature that I worked on was the payment system which had a custom front end and a stripe backend. The front end gives the user the ability to input their debit/credit card information, then they may pay with that information, pay and save that information or pay with an existing saved card. Their card details are saved to the database; however, the card number and card CVC is encrypted using symmetric encryption with a 32-byte key for security this feature works very well. When using the pay with existing card feature their payment details are decrypted however the client never receives the payment details except for the last four digits of the card number so it is secure. When the payment is made a new rental with a unique ID is created using a unique ID generator and the server is moved from unrented servers to rented servers and removed from the user’s cart.

**Homepage:**

I finished off the design and implementation of the main page of the site writing the custom CSS for the page, and the basic view that returns a list of the four prebuilt options we have available.

**Customize Servers:**

I aided Gracjan throughout the implementation of customize servers and solved an issue involving motherboards and CPU’s

**Models:**

I designed and implemented all database models for the site.

All in all, iteration one was a very productive iteration and I am thoroughly looking forward to the next one.

**Mark Leonard:**

In iteration 1 I worked on numerous parts, but my main task was the testing of the project.

I implemented basic unit testing to the main features of the project. For the testing I manually wrote out each test and created a class which contained functions for each value that I was testing. The functions then returned a pre-set value and compared it to the assigned values I had entered. I also manually tested the test cases as to confirm they were working correctly, and I documented the result of the tests.

I prioritized testing the core features as to ensure the functionality of said features were working in the correct manner they were designed to carry out. In iteration 2 I have planned to add more tests such as excepted failure testing as a way to increase the sites performance.

I also helped towards the design of the basic homepage and html. For the design I made use of bootstrap 4. I used bootstrap to create divs and rows to allow for sections on the homepage where the rental servers and future planned features could be easily added. However, it was my colleague Wesley who finished off the homepage.

I redesigned the login and signup pages to match with the customized login and signup pages Gracjan had setup. I used bootstrap 4 again as it was an easy way to edit the entire form in a quick manner. I also added custom CSS to design the forms as it allowed for me to alter the forms by just using the CSS instead of manually changing each input individually. I decided to redesign them as they were just the simple Django forms initially. I helped Gracjan with the customized products section as it was quite a difficult section as we ran into a few issues.

As for iteration 1 I felt I could have done more as such we have assigned a greater amount of work to my workload for iteration 2.

**Gracjan Kucaj:**

For my part of the project I undertook the implementation of a signup/login system as well as the customise product system.

In relation to the signup/login, the work was quite straightforward as I’ve done it numerous times before. I implanted a custom user sign up page allowing for our needs to be met. This signup allows users to add an address as well as their first and last name. This was done through a custom user form that extends Django’s built in user form. I also amended the Django admin views to incorporate these custom fields. This also required me to edit the Django admin file in the users app.

The customise product section was significantly harder. The aim was to allow a user to build their own server from a list of components in our database. The first issue I faced was the fact that not all CPU’s are compatible with all the motherboards. To get around this, the user is asked to select a CPU they wish to use before proceeding with the rest of the customisation process. They are then redirected to the page and asked to fill in the remaining components such as RAM, HDDs, SSDs and GPUs. All the components are fed into the list from the database which allows them to be updated as needs be. Once saved, the current configuration of the server is saved to an unrented server table in the database. This distinguishes it from our pre-built servers and also allows the configuration to be added to our cart to be checked out. I encountered a small problem when it came to the motherboards as they were mixing in with the CPU’s and weren’t filtering properly. Wesley however, had a quick fix for this and thus implemented that himself. This section in general would have been significantly more difficult if not for Wesley’s help.

Altogether, I found this iteration interesting as aside from the signup/login system, I was challenged with the customise products, but I feel I learned a great deal from that and should have a much easier time in the future.