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PC INTEGRATOR CLIENT

Scope of work in Distributed Systems project

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Author's declaration of originality

I hereby certify that I am the sole author of this thesis. All the used materials, references to the literature and the work of others have been referred to. This thesis has not been presented for examination anywhere else.

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Abstract

This thesis is written in English and is 18 pages long, including 4 chapters, 9 figures and 0 tables.

List of abbreviations and terms

PC	Personal Computer
FPS	Frames per Second

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1 Introduction

The purpose of this project is to create a systems integrator client for customizing and ordering PCs. Users can configure a PC by selecting a template which brings them to the configurator. From there, they can select each main component in the PC. Once they are done, the PC can be added to the shopping cart.

Prebuilt configurations are also available. These systems have a preselected set of components, and the users can simply select the one they want and add it to the shopping cart. From the cart, an order can be placed.

PC gaming is an increasingly popular hobby. When getting a new pc, people are often advised to assemble it themselves, as that allows it to be fully customized to their needs while also saving some money. There are however many people to whom the idea of building a computer on their own seems too daunting to try.

While there exist companies to tackle this problem, most of them are located outside of Europe. The cost of shipping from these countries is often very high. In Estonia, these services are lacking and the user interfaces for them are less intuitive and often require the user to manually describe the system they want and then email the company. From the author's experience, this process can be rather tedious.

The purpose of this project is to create a client for configuring PCs that has a more intuitive and friendly user interface. The choice of application was mainly influenced by the authors interest in pc gaming as well as their own negative experiences when shopping for a prebuilt pc in Estonia in the past.

2 Overview

The features of the project are divided into 3 categories - MVP features, desired features, and future developments. The author hopes to implement all MVP and desired features by the end of the course.

2.1 MVP features

The MVP features implement the base functionality of the application.

- Users can browse preconfigured PCs and view their details.
- Users can configure their own custom PC by choosing from a list of templates and then selecting the parts they want using a configurator.
- Users can add products to the shopping cart.
- Users can place orders.
- Admins can see all placed orders.
- Admins can see all payments.
- Admins can change the status of orders.
- Admins have access to CRUD functionality for all components, prebuilt systems, and templates.

2.2 Desired features

The desired features add more functionality on top of the MVP features and are what the author hopes to have achieved by the end of the course.

- Users can view the status of their current orders and their order history.
- Users can view their payment history.
- Users can cancel their orders (changes the order status).
- Discounts can be applied to components, PCs, and orders.
- Each component has detailed specs that the user can look at.

- Simple compatibility checking for PC components (power supply requirements, part compatibility). Not including cooling due to the complexity of checking cooling requirements.
- Users can review prebuilt systems and templates.

2.3 Future developments

Future developments involve features that extend beyond the current planned scope of the project. They either add too much database complexity, or they could prove difficult to implement due to the author's lack of skill and experience.

- An email is sent to users when they place an order or when the order status is updated.
- Users can save their information so that it can be reused in future orders.
- Prebuilt computers and templates show fps in a list of games to give a better idea of performance. This can be used to help the user choose between PCs.
- Pulling pricing for PC components from Amazon using an API.
- Performing address validation using an API.
- Shipping cost calculation using an API (requires address validation to be implemented).
- More complete compatibility checking for PC components.

2.4 Limitations

Due to the limited length of the course, the application has some limitations to reduce complexity. The method of getting the cost of shipping PCs in the app will be simplified at first. The cost does not depend on the address, as this would require address validation and obtaining real shipping rates from third parties. Furthermore, when a client places an order, the payment information is not validated, and the payment is always treated as successful.

3 ERD

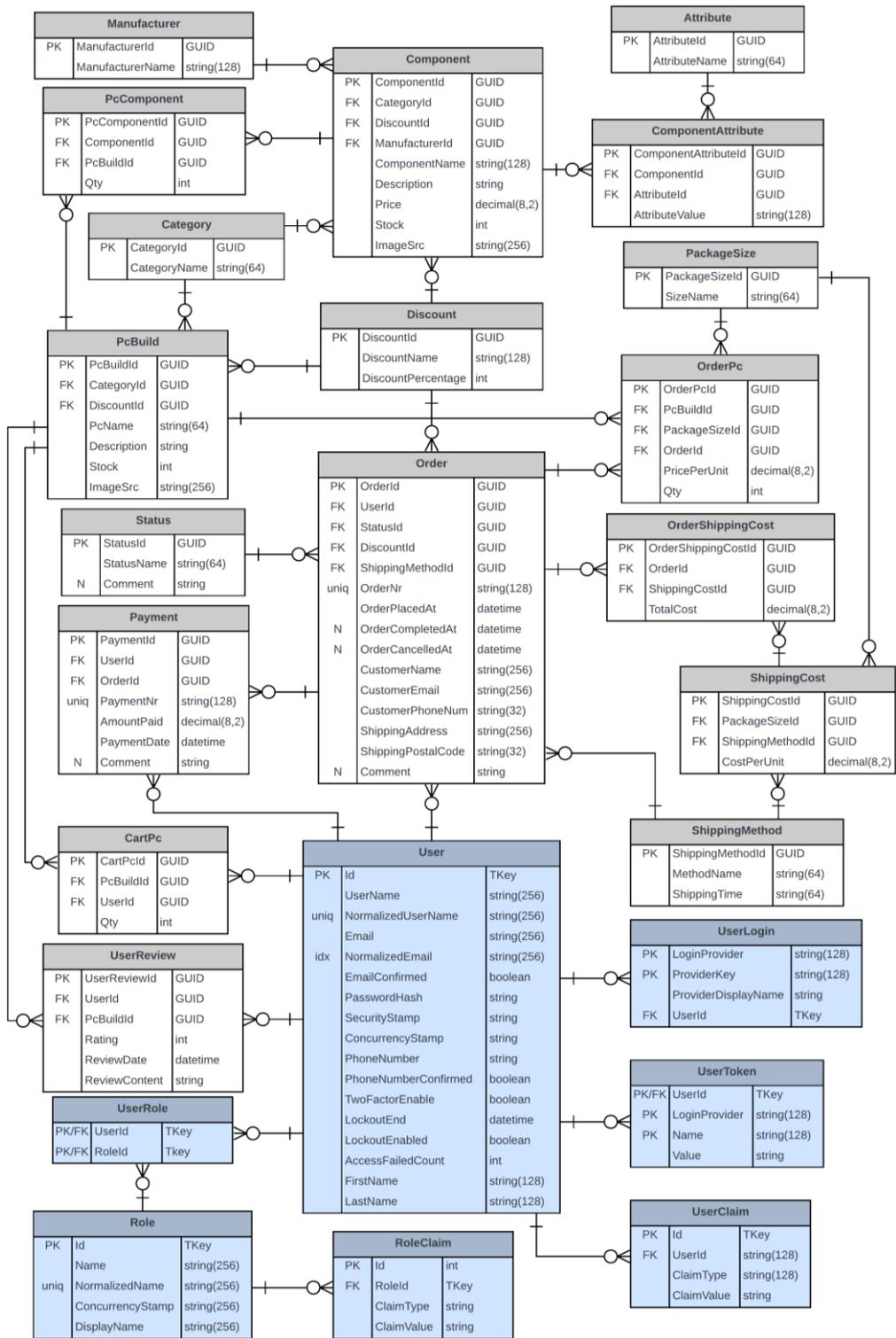


Figure 1. Entity relationship diagram

4 Screen sketches

All sketches are rough estimations of what the author imagines the final client might look like and are subject to change.

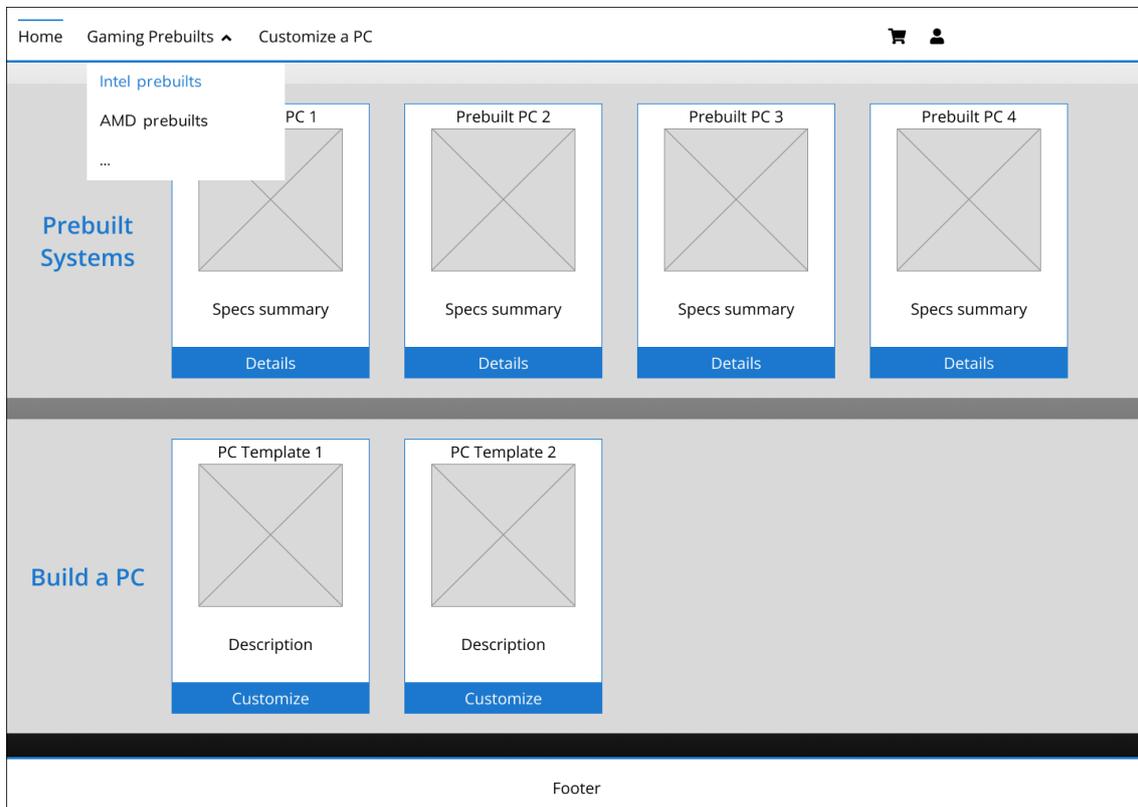


Figure 2. Home page with some prebuilt PCs and templates shown

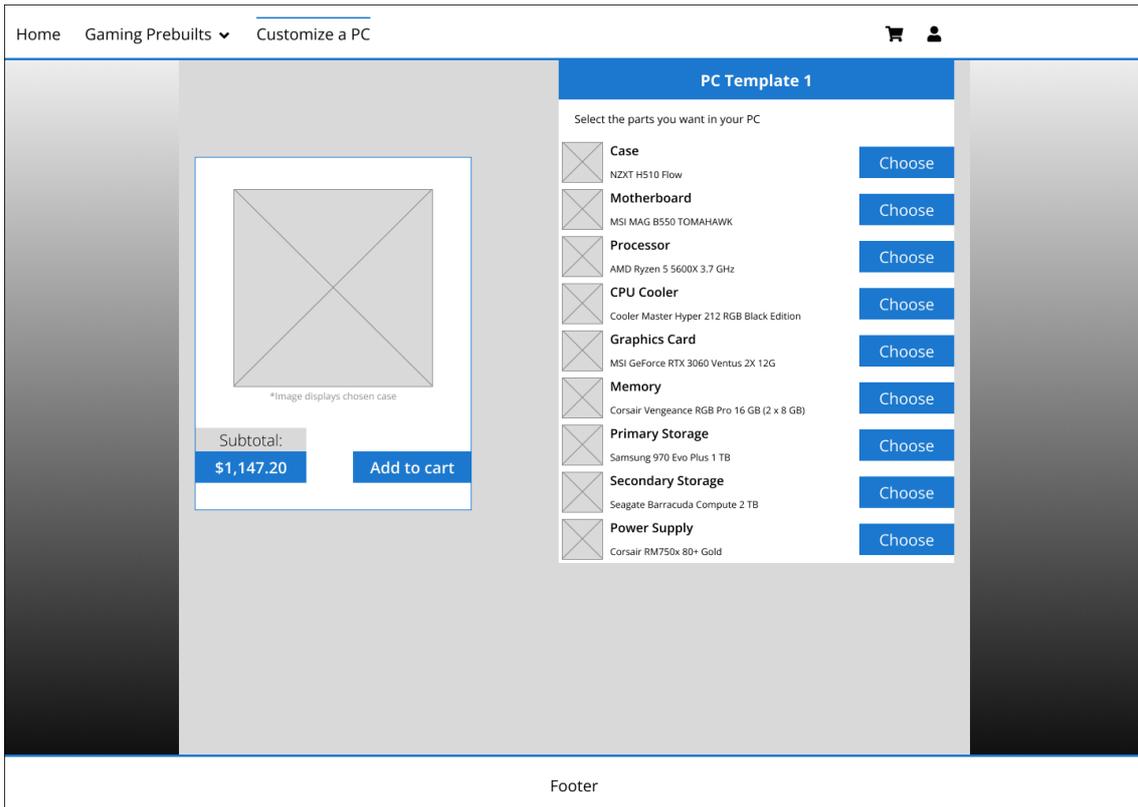


Figure 3. PC customization page

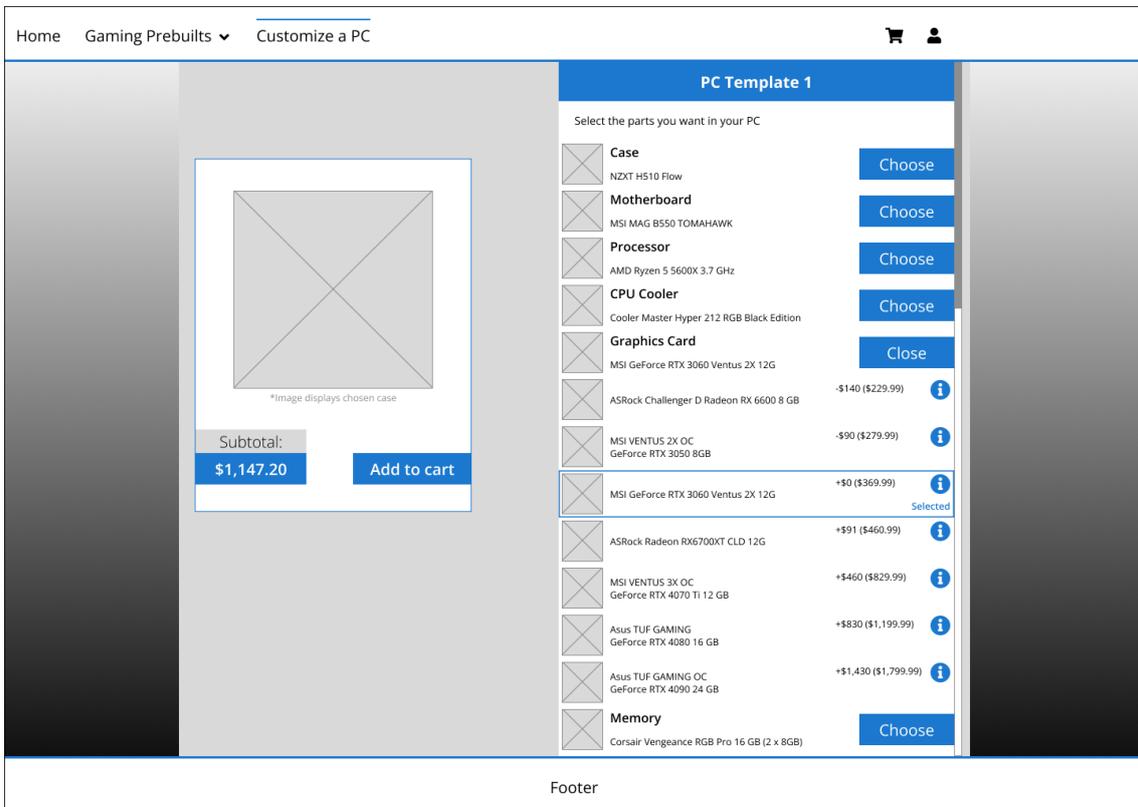


Figure 4. Choosing a part in PC customization page

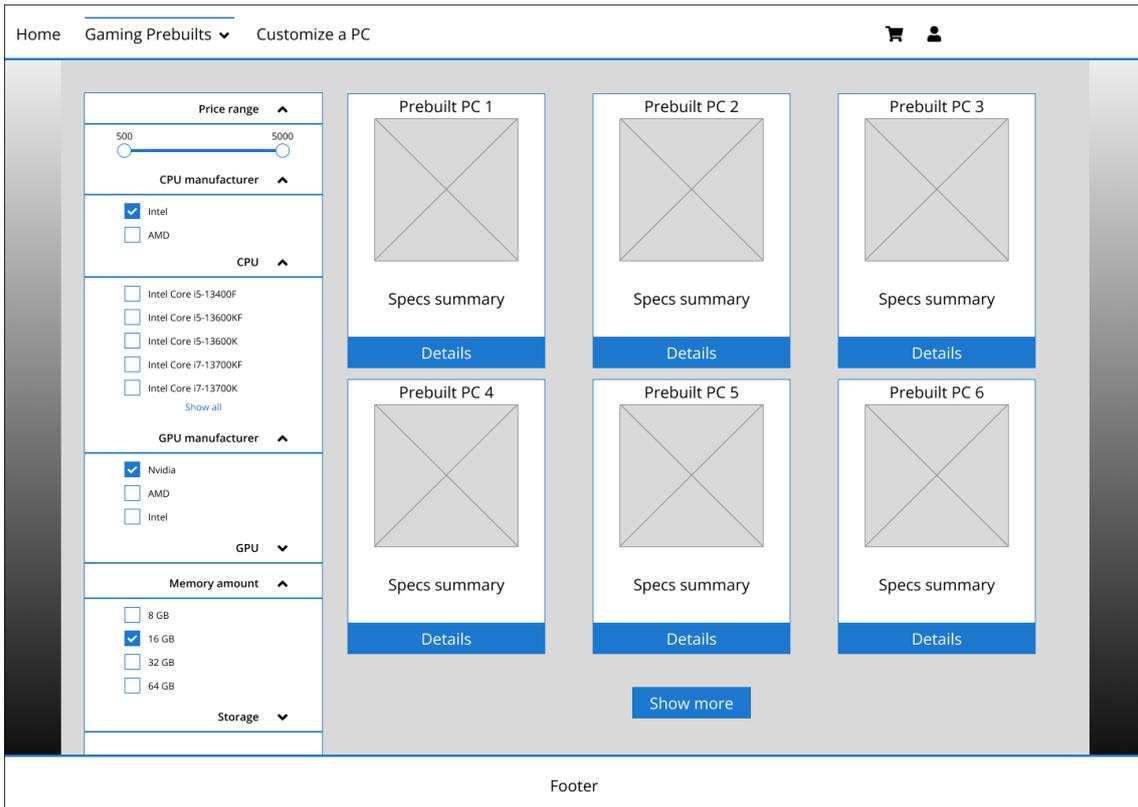


Figure 5. Prebuilt PC store page with filters

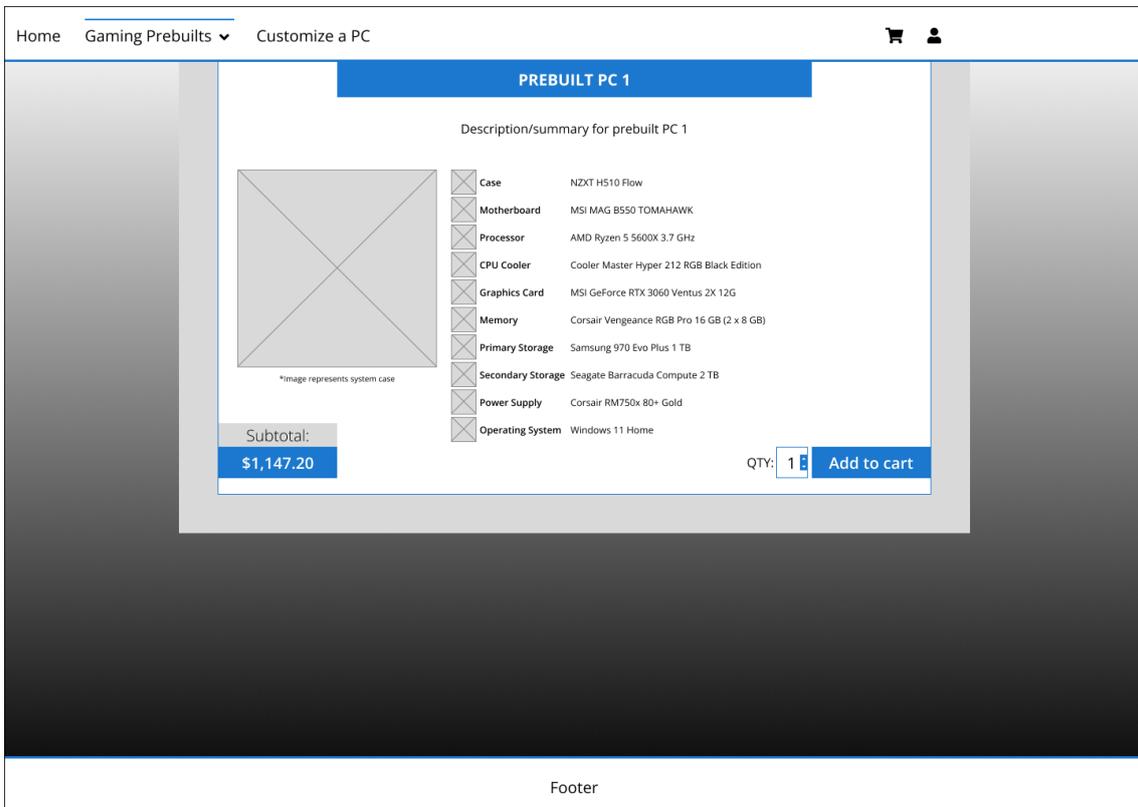


Figure 6. Prebuilt PC details in store by clicking details on a prebuilt PC

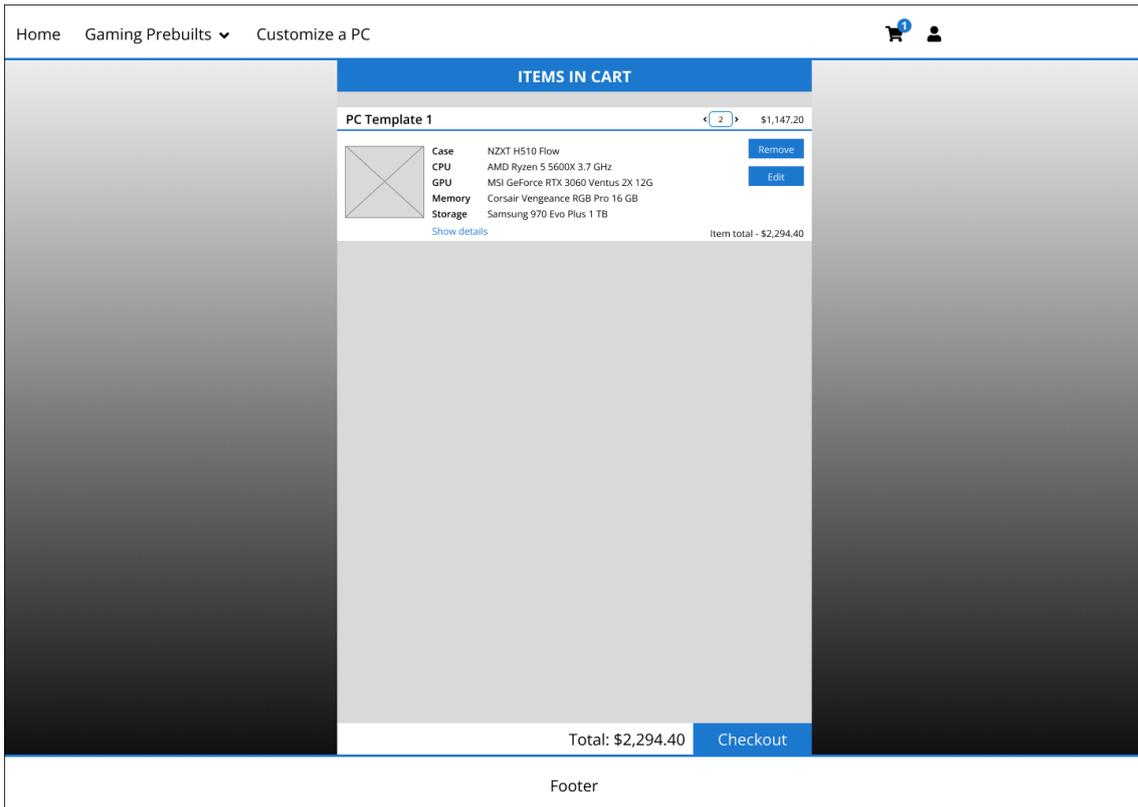


Figure 7. Shopping cart page

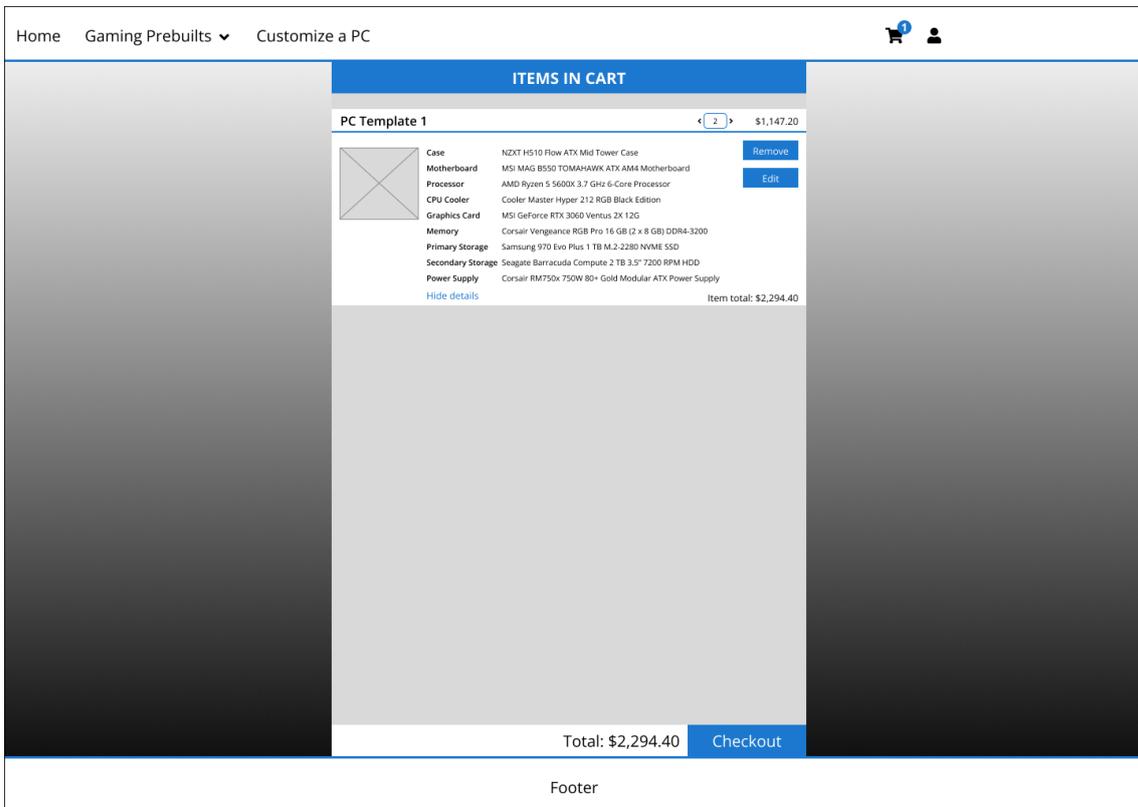


Figure 8. Item details in shopping cart page

Home Gaming Prebuilts ▾ Customize a PC  

CHECKOUT

Information

Customer

First Name * Last Name *

Email address * Phone number *

Shipping

Address * City *

Zip Code * Shipping Method *

Payment

Card number * Security code *

Expiration date *

Save my information for later

Order summary

subtotal	\$2,294.40
shipping	\$100.00
Total: \$2,394.40	

Footer

Figure 9. Checkout page

References

There are no sources in the current document.