**INTI International College Penang School of Computing**

**3+0 Bachelor of Science (Hons) in Computer Science, in collaboration with Coventry University, UK 3+0 Bachelor of Science (Hons) in Computing, in collaboration with Coventry University, UK**

**Coursework cover sheet**

**Section A - To be completed by the student.**

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| --- | --- |
| Full Name: TAN KHOON KHYE | |
| CU Student ID Number: 14008809 | |
| Semester: 2 | |
| Session:  **April 2023** | |
| Lecturer:  **Puteri Nursyawati Azzuri (puteri.azzuri@newinti.edu.my)** | |
| Module Code and Title:  **4067CEM Software Design** | |
| Assignment No. / Title:  **Continuous Assessment** | % of Module Mark:  **50** |
| Hand out Date:  **12 May 2023** | Due Date:  **Task 1: 02 June 2023, by 11.59pm.**  **Task 2: 07 July 2023, by 11.59pm**  **Task 3: 07 July 2023, by 11.59pm.**  **Task 4: 07 July 2023, by 11.59pm.**  **Task 5: 07 July 2023, by 11.59pm.** |
| Penalties: No late work will be accepted. If you are unable to submit coursework on time due  to extenuating circumstances, you may be eligible for an extension. Please consult the lecturer. | |
| Declaration: I/we the undersigned confirm that I/we have read and agree to abide by the University regulations on plagiarism and cheating and Faculty coursework policies and procedures. I/we confirm that this piece of work is my/our own. I/we consent to the appropriate storage of our work for plagiarism checking.  A picture containing black, darkness  Description automatically generated  Signature(s): | |

**Section B - To be completed by the module leader**

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| Intended learning outcomes assessed by this work:  Understand and apply appropriate concepts, tools, and techniques to each stage of the software development.  Understand and apply design patterns to software components in developing new software.  Demonstrate an understanding of project planning and working to agreed deadlines, along with professional, interpersonal skills and effective communication required for software production.  5. Demonstrate an awareness of, and ability to apply, social, professional, legal, and ethical standards as documented in relevant laws and professional codes of conduct such as that of  the Malaysian National Computer Confederation. | | |
| Marking scheme | Max | Mark |
| 1. User Story Mapping | 20 |  |
| 2. Setting up a GitHub |  |
| Repository | 10 |
| 3. Creating a Class diagram and |  |
| design pattern selection | 30 |
| 4. Creating a Prototype User |  |
| Interface and Usability Testing | 20 |
| 5. Discuss the ethical issue |  |
| related to the software | 20 |
| Total | 100 |  |

**Title: College Student Business System**

**Task 4: Creating a Prototype User Interface and Usability Testing**

**4.1 Introduction**

The design and development process of all software systems require an interactive user interface prototype and tested from the usability aspect. Clients or developers can envision while interacting with the product before it is shipped out thanks to the prototype. The user interface may be further improved and made more effective by gathering and analyzing data obtained through the usability testing.

**4.2 Prototype User Interface**

When a system or application is being designed and developed, a prototype user interface is made as a visual graphical representation of the user interface of the end product of the system or application. It is an alpha or beta version of the UI that allows users to interact and provide feedback with the system. The prototype created for this project includes two main functions, the payment strategy conducted by the student customers and the user interface of a student seller. The following is made through proto.io.

A screenshot of a computer

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**Figure 4.2.1 shows an example of a product catalogue in the system**

In this screen, student customers can search up an item directly, change the currency and view their cart list in the uppermost section. Coming down, they can view the product that is being sold and its details, view the ratings of that product, message the seller about said product and share this product listing on other social media platforms. Once the student customer selects “Add Cart”, the following product will be added into the cart located on the upper right corner.

A screenshot of a web page

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Figure 4.2.2 shows items placed into the cart

Once selecting “Add Cart”, student customers can click the cart icon on the upper right corner of the screen to view added item(s). In this case, the product added is a laptop as shown in Figure 4.2.1. Student customers may choose to select “Proceed to Checkout” or visit other items sold on the platform at the bottom part of the screen.

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**Figure 4.2.3 shows the checkout screen**

Assuming the student customer selected “Proceed to Checkout” in Figure 4.2.2, they will be redirected to the payment screen as shown in Figure 4.2.3. Due to the nature of this project, all businesses are conducted on university or college grounds. This means that there is a necessity for an address as most higher institution campus grounds are big involving multiple roads and areas. Another option is for the customer to self-pickup said item at a certain location decided by the seller.

Moving on, the customer can choose to leave a message to the seller for any additional requests. They can view the total price that they must pay and choose the method that they wish to pay in. Once everything is confirmed, customers may select “Place Order” to confirm order placement.

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**Figure 4.2.4 shows the UI of a student seller**

This screen shows the overview of the student seller’s store. They can access multiple tools on the left bar. They can view their To Dos. Furthermore, a simplified chart shows their business performance as well. On the right side, they can see any new announcements made by the developers of the business system. On the right corner of the screen, that is the notification bubble for sellers to inspect.

**4.3 Usability Testing**

Usability Testing is an approach to evaluate a product’s interface or design’s efficiency, performance, and general satisfaction. It usually includes taking actual user feedback on the mockup prototype. The following are questions to be used in the usability testing.

1. **How do you sort and filter your search?**

* To test for narrowing down the search via categories, prices or alphabetically.

1. **How do you look at the product descriptions with information on features and availability?**

* To test to see if the product sold on the listing has a detailed description for customers to see before buying.

1. **How do you purchase an item?**

* To test to see how one adds an item to the checkout cart.

1. **How to see if there is a promotional code to be used in the checkout process?**

* To test whether the user can view the availability of a coupon code when checking out with an item.

1. **How do you review different delivery options for items purchased?**

* To test and see if there are different delivery methods for items purchased.

1. **Can you use other payment methods to pay for items at checkout?**

* To test if users have the option to select other payment method when checking out.

1. **How do you keep track of order shipping after payment?**

* To test if users can track the status of order.

1. **Can I refund or return items bought?**

* To see if there is a return or refund policy for received items.

1. **How do you cancel or modify an order before being shipped or processed?**

* To test whether users can make last minute cancellations or modifications to the order placed before it being processed by seller.

1. **How do I see product availability?**

* To check whether the system can properly update stock count.

1. **Where can I leave my reviews and ratings for items bought?**

* To test for users if they can provide feedbacks or rate purchased items.

1. **How can I favourite an item that I like?**

* To test whether users can add an item to their wish list.

1. **How do I manage the system notifications and alerts for customer enquiries?**

* To see if sellers can receive notifications from customers’ enquiries on items sold on seller’s store page.

1. **How do I add a new product listing?**

* To check whether seller can create a new listing with appropriate details and pricing.

1. **How do I upload an image when putting up a new listing?**

* To see if sellers can upload an image onto the new listing.

1. **How do I edit the listed product?**

* To test if sellers can make some changes to the listed product page.

**4.4 Conclusion**

In conclusion, creating a student business system requires developing a user interface prototype and conducting usability testing. In the early stages of design phase, the prototype allows developers to engage with the interface, providing valuable insights and feedbacks. Actual users can then provide comments on the effectiveness, performance, and overall user experience of the system via usability testing.