Requirements Document

1   Introduction

1.1   Aim

To develop an e-commerce system where clients have the ability to browse and purchase cricket books via a website that provides them individualised access.

1.2   Key personnel

Responsible owner	Design authority	Development team
Matt Robinson	Matt Robinson	Matt Robinson

1.3   Future-proofing

Although this coursework is only for demonstration purposes, it may occur that someone wishes to build upon the code in the future. In this case, it would be a good idea to make

sure that the code is future-proofed in the sense that a person/people still have the ability to expand upon it with ease.

1.4   Rationale for development

The existing implementation is no longer running nor in development thus an alternative is needed with modern industry standards. Additionally, the existing implementation doesn't offer users to navigate through existing books based on factors such as similarity

1.5   Interactions and Dependencies

1. Book data must be predefined in the code. This wouldn't be the case in production and is purely for testing purposes.
2. Code should strictly adhere to a style guide.

1.6   Timetable

27/02/2023 - Submission of first requirements draft.
13/03/2023 - Submission of interaction design draft.
27/03/2023 - Alpha version demonstration
08/05/2023 - Complete demonstration of all documentation and the artefact.

2   Data requirements

2.1   Externally sourced data

As I will discuss later, in a real-world scenario - the external data would include book data however as per the specification. It is required that we generate the book data programmatically.

2.2   Internally sourced data

1. Create a list or lists of questionnaire questions on signup. This needs to hold
   - Client first name
   - Client last name
   - Client email address
   - Client payment information
   - Client delivery address
2. Upon logging in the date and time will be saved in the database as a timestamp marking their last login.
3. In a real-world scenario, the application would also query an external api/database in order to get the book data, but in this scenario, the book data will be generated programmatically. The generated book data is as follows;
   - Title
   - List of authors

- Edition
- Year of publication
- Sales price

4. Upon an order status update, a timestamp will be appended to indicate the time in which the event happened.

2.3 General

1. The modification of user data MUST only be authorised by a system administrator or the aforementioned user.

3. Functional Requirements

3.1 Browsing Book Information

Index	Requirement	Justification	Priority
1	Enable the user to be able to search for a book by its title	If not present, the user will be unable to explore the website and search for the book they are looking for.	High priority, without such. The site would be unusable.
2	Upon clicking on a book icon, a new page opens up displaying the rest of the book information.	The customer may require additional information on the book before adding it to their cart.	Medium priority. It is in most cases likely that the user will want more information on the book. If the user had the option to add the book to the cart based on the title and image. This wouldn't significantly hinder the functionality of the software.
3	Display a list of books of a similar category when searching for particular books. They will be displayed at the bottom of the page with clickable links	Having an alternative way of browsing books, instead of relying solely on knowing the book's name and searching for it, would be beneficial.	This feature has a low priority since its absence is unlikely to significantly affect the user experience or the software's functionality.
4	Add an input box	It would cause a	It's a high priority as

	which allows the user to specify the quantity of a book the wish to add to their cart.	significant inconvenience if the user was required to click the add to cart button numerous times.	without such a feature it would significantly reduce the user experience, however, it wouldn't affect the functionality of the entire software.
5	Enable users to click on a button which adds a book and its quantity to their basket.	The user must be able to add the book to their basket in order to purchase it.	This is a critical requirement, as the software cannot operate correctly without it. Without this requirement, users would be unable to purchase books through the software.

3.2 Add to shopping basket

Index	Requirement	Justification	Priority
6	Add the ability to request delivery addresses or offer previously specified delivery addresses.	Without these details, it would be impossible to post the book to the user.	A high priority, without such the functionality of the system would be limited.
7	Add a form in which the user can add payment information or reuse previously specified payments.	Without a method of adding payment information, the user would be unable to purchase the books.	As per requirement 6, this too is a top priority, as in its absence the software usability would be greatly impeded.

3.3 Viewing Orders

Index	Requirement	Justification	Priority
8	All users should be able to view a list of all their previously placed orders in the order of newest first.	To enable users to view their orders, it is necessary to provide a means for them to do so. Displaying a table of	It is of a medium priority due to the fact such functionality won't make a difference to the functionality of the system

		orders on an order page seems like the most intuitive approach.	however it is a simple requirement that is common amongst e-commerce sites.
9	Non-administrators should have the ability to cancel previously placed orders as long as they aren't already delivered.	A user can mistakenly order something, functionality needs to exist for the user to be able to cancel an order that hasn't yet been delivered.	This is of high priority due to the fact that it would be a significant inconvenience to require an administrator to cancel orders on the user's behalf.

10	Display the status of the order;
	  - Ordered
	  - Dispatched
	  - Delivered
	  - Cancelled
		The user might want information on the progress of their order to get a better understanding of when it will arrive.	This is a medium priority as it is a requirement that won't significantly impact the site useability however it slightly impacts the user experience as most other e-commerce sites offer such functionality.

11	Upon changing the status of an order, save a timestamp stating the time and date the order status was changed.	The user will need to know the time in which the status was updated at each point in order to track the package.	Timestamps per the status is a low-priority task as it doesn't hinder the functionality of the task and simply adds extra detail which might not be used by customers.
12	A page showing the audit trail of the status changes for an order.	As per requirement 11, the user would use this in order to track the progress of their order.	As per requirement 11, this would be a low-priority task.
13	System administrations should have the ability to see all user orders including the most recent first with the ability to sort and filter by user.	In case of an issue, system administrators would be required to solve said issue. That is why they must have the ability to view all user orders to debug.	A high requirement, without such the administrators would have to rely on the information supplied by the customer which could have limited credibility.

14	The system administrators should have the ability to change the status of an order to any of the following;
	  • Ordered
	  • Dispatched
	  • Delivered
	  • Cancelled
		In case of an internal problem, the system administrators should have the ability to update the order status.	This is a high priority, no matter the probability of a problem occurring. The need for administrators to be able to correct is necessary for a fully functional e-commerce system.

15	System administrators	As per requirement 14,	The administrators should

	should have the ability to see the audit summary for all user orders.	this would be necessary in order for the admins to debug problems that the user may be experiencing.	have the ability to aid the customer upon request, having the audit would be valuable information in fulfilling their request.
16	System administrators should have the ability to search financial transactions that have occurred between two input dates.	This would help the administrators when tracking down certain orders.	It is a low priority due to the fact there would be other ways of tracking the status of an order. However, it would be of help.

4. Non-Functional Requirements

Index	Requirement	Justification	Priority
1	Data Protection Act (2018)	The application must comply with DPA requirements regarding the storage of user data. In addition to legal compliance, maintaining user trust is also crucial.	It is crucial to prioritise compliance with DPA laws since failure to do so may lead to significant penalties. According to Part 6 of the Act, there are two levels of fines, with the higher amount being either "£17.5 million or 4% of the total annual worldwide turnover in the preceding financial year, whichever is greater" (ICO, 2021).
2	Simplicity	The web application should be user-friendly enough to be used without a guide. Research has shown that web interfaces with steep learning curves result in poor user retention and fewer repeat customers.	While simplicity is important, it is not as crucial as other requirements since the program's usability may not be significantly affected by its absence. However, user retention and satisfaction are reliant on a simple interface.
3	Performant Backend	If the framework's performance is not guaranteed, users would be less motivated to use it, which would undermine one of the objectives of the framework: to provide a viable alternative for developers who need high computing power.	Although optimising backend performance is important, it is only a moderately prioritised task because some degree of slowness may not necessarily cause significant harm to the user experience.

4	Performant Frontend	The web application must be responsive, as a page response time between 1000ms-3000ms results in an increase in user bouncing. According to Pingdom, a system monitoring site, bounce rates soar to 38% as soon as the page load time surpasses three seconds (Pingdom, 2018).	Similar to requirement 3, although it's crucial to aim for optimal frontend performance, having less-than-ideal performance would not prevent users from using the system and is therefore considered a medium-priority task.
5	Responsive to devices	In accordance with the objectives, the application should be compatible with devices that have limited processing power, including smartphones and tablets. Therefore, the web app should also be designed to accommodate their resolutions.	Being responsive to different devices is a top priority, as the lack of this functionality would render certain devices unable to use the framework properly.
6	Accessibility	Once again, one of the objectives is to make the web app accessible to all devices, including those with limited processing capabilities. This is intended to facilitate file analysis for users without requiring a powerful workstation.	Ensuring accessibility is a high priority as it was a core principle in the development of the framework and is also a legal requirement under the Equality Act (2010).
7	Simultaneous clients	If the application only supports non-simultaneous users, it would be quite limited, and users may not be able to access it when needed, resulting in a lack of availability.	Supporting simultaneous users is an essential priority, as the absence of such support could leave users dissatisfied and unable to access the application when needed.

5. Document control

5.1   Maintenance procedure

All proposed changes to the document MUST be noted down in the tracking table below.

Version	Date	Changer	Change
v1.0	20th February 2023	Matthew Robinson	First Draft
v1.1	2nd March 2023	Matthew Robinson	Revisit
v1.2	30th April 2023	Matthew Robinson	Revamp
v1.3	7th May 2023	Matthew Robinson	Cleanup

6. References

ICO. (2021, April 23). Penalties. Ico.org.uk. https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-le-processing/penalties/

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UK Government. (2010). Equality Act 2010. Legislation.gov.uk; Gov.uk. https://www.legislation.gov.uk/ukpga/2010/15/contents