**Abstract**

The following document compiles the issues we found with the requirements specification that will or could cause downstream damage to the system or else is a minor grammar/spelling or formatting concern that requires remedy by the original author. To ensure this requirements document was reviewed correctly, we followed the guidelines set out by Zielczynski, (2008) in Requirements Management Using INM Rational ResquisitePro. This criteria was as follows; atomic, understandable, unambiguous, testable, consistent, complete, clear (concise, terse, simple, precise), correct, feasible, independent, necessary, implementation free.

Key areas of concern we have identified here are untestable standards of validation, ambiguous design or function specifications, erroneous page references. Critical errors included: discrepancies between the numbering for ‘Table of Contents’ versus the document proper; assumptions to which finite metrics could not be applied, chiefly reference to “many” other fast food ordering websites; potential contradictions between requirements—for example 4.1.14 and 4.1.11--and a functional requirement inhabiting the non-functional requirements section, principally 3.2.2 Security. Further observations that include those of lesser severity can be found the “Observation” section of this document.

CSC7056

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FeedBack report

Formal Review of Requirements Specification

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**Introduction**

With the request for a fully functioning website, dedicated to allowing users to order pizza from the Pizza IT Company, the following feedback report has been prepared. The purpose of this report is to present the findings of defects and errors contained within the requirements document back to the Development Manager.

The report has been prepared within the static testing period of the project. Specifically, this report has focused on events between the Requirements and Analysis stages, with the feedback report carried out during the Planning, Kick-Off and Preparation steps of the formal review.

In accordance with the steps performed so far, a defects table has been provided to highlight the errors found by the inspectors reviewing the document thus far; while critical errors are highlighted to further engage the necessity for more information or corrective measures on the points in question.

**Planning**

During this first stage of the formal review, the moderator performed an entry check on the requirements document. The purpose of this was to ensure the testing team did not spend time reviewing a document that was not fit for purpose. The entry criteria the moderator applied followed the guidelines set out by the International Software Testing Qualifications Board (ISTQB) and are set out below:

* The document should not reveal a large number of major defects
* The document should include line numbering
* The document should be cleaned up by running automated checks that apply
* The author should feel confident about the quality of the document so as to be given the choice to join the review team

In reality, based on the above ISTQB guidelines, we would not have continued into the kick-off meeting and the rest of the formal review stages. This is because the document failed the entry criteria by revealing a large number of major defects on a number of pages throughout the document. Moreover, given the logging phase revealed that the document contained, on average, 3 or more critical and/or major defects per page, in a real-world scenario we would request a second review of the document after it has been reworked by the author.

However, in the interest of completing the activity schedule set out at the beginning of the project, we carried on with the rest of the formal review process.

**Kick-off**

Although an optional stage of the review process, we decided to organise a kick-off meeting. Our decision was partly influenced by the argument put forward by van Veenendaal and van der Zwan (2000) that suggested 70% more major defects were found per page, as a result of performing a kick-off. However, in addition to this, the kick-off provided us as a team to gain a better understanding of document under review and what is expected of each team member.

**Preparation**

Team members acting as inspectors for the formal review were required to individually identify the defects, question the requirements’ feasibility and comment accordingly based on their understanding of the document and role.

With a recommended individual checking rate of between 5 to 10 pages per hour, given our document size, the moderator encouraged the inspectors to spend no more than one hour individually reviewing the system requirements for defects. In doing so, this ensured the review quality remained high and the chance of error remained low.

**Review meeting**

The requirement document defects are to be measured via a criteria based on points that although highly unlikely to cause any downstream damage are an error/omission/conflict or ambiguity that requires correction (minor), deemed to be at least a risk of causing issues of confusion and error later in the project (major), to points that cause the project to be faulted or break in the future (critical).

* Minor: Defects those are highly unlikely to cause damage later in the project (e.g. spelling mistakes).
* Major: Defects that could cause a potential for damage in the project at later stage (e.g. unclear details).
* Critical: The defects that will cause downstream damage (e.g. missing information).

**Defects Table**

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirement** | **Defect** | **Effect** | **Severity** |
| Cover Page | 2/12/2015 – In the future; doesn’t exist yet. That’s the American date. | Adds confusion to the start of the document. | Major |
| Revision History / Document Approval | Despite the document being listed as V1.1, there is no record of a V1.0—or even V1.1—in the “Revision History” table, nor do there accompany these any entries for “Description”, “Author”, “Comments”. | How is it possible for a developer to confirm that the present document is the most up to date if there is no evidence of version history? | Critical |
| Contents Page | Not clearly numbered. The Table of Contents references “2.2 Product Functions”; “2.3 User Characteristics”; and “2.4 General Constraints” as being on page 3. These sections do not feature on page 3 or anywhere in the document, and it may be the case that they do not fit in the given space at all, which could have the effect of changing the pagination for the rest of the document by shifting the other sections down. | Document is not consistent. The referencing for the document is incorrect. This is critical as it will cause defects when creating the system. | Critical |
| Contents Page | The contents page numbering does not prove similar for all members of the committee. | This led to confusion as different documents within the group had very different layouts, providing page references for talking points to become challenging to find. | Critical |
| Contents Page | The Table of Contents specifies “1.3 Definitions, Acronyms, and Abbreviations” for page 3. Page 3 specifies “Definitions, Acronyms, and Abbreviations” after 1.4 instead of 1.3, inconsistently. | This makes the document inconsistent and makes it unclear for a developer if something has been left out. | Critical |
| Contents Page | Numbering off. | This makes the document inconsistent and makes it unclear for a developer if something has been left out. | Critical |
| Contents Page | Add “page” to after Navigation, Home, and Registration. | This makes it clearer for the developer as it provides a good reference to the page of description. | Major |
| Contents Page | The “Non-Functional Requirements” has subsections in the document proper—3.2.1 to 3.25—that are not listed on the contents. | This makes the document inconsistent and makes it unclear for a developer if something has been left out. | Critical |
| Contents Page | “In order to”. The sentence wording here does not clarify whether the requirements are listed in order—i.e. in logical sequence—so that design can be enabled; or if they are listed simply to enable. | This is not clear and needs to be looked at again and corrected. | Minor |
| Contents Page | Ambiguity; intended; doesn’t exclude others. Who are “representatives” of Pizza IT and the Firebrand Company? Perhaps this should be clarified. | This is not clear and needs to be looked at again and corrected with greater clarification. | Minor |
| Contents Page | “The company targets Computing students at QUB.” This contravenes the “necessary” requirement if it is a wish list; or, alternatively, it is not feasible if it is a testing requirement—we cannot assess concretely the success of how the website targets those students. | This can’t be tested. Needs to be made clearer as to what is desired. | Minor |
| 1.2 | “The company targets Computing students at QUB.” Myriad issues here: QUB is an acronym that has not been expanded hitherto, contravening the review checklist. Secondly, it is not feasible to test the line. | Can’t test this. Acronym is not listed and therefore equates to lacking of specific description of knowledge. | Major |
| 1.4 | Acronyms in the doc are missing. | Could be talking in acronyms and the readers not have any idea what they mean. | Major |
| 1.4 | 1.3 incorrectly numbered as 1.4. | This makes the document inconsistent and makes it unclear for a developer if something has been left out. | Major |
| 2.1 | What other fast food websites? What do we assume? Pizza fast food websites are very different from general sites because of customization options. Ambiguous. Needs more detail and clarification; there’s too many. There’s no paradigm. | Ambiguous here and needs more description in terms of examples of websites to refer to. Different people have different examples which could ultimately lead to very different developments for the system. | Critical |
| 2.1 | Contravenes the implementation-free rule: we cannot test that payment is made when the customer calls to collect. | This is untestable code. Therefore could lead to problems. | Major |
| 2.2-2.4 | The contents describe 2.2-2.4 being present. They are missing. | This could be taken as missing information that could be very important. Will lead to wrong design. | Critical |
| 4.1.1 | Logo detail is unclear. What is the logo? Where does it go? | This will could lead to the logo being placed in the wrong place or the wrong logo altogether. | Major |
| Section 3.1 | Incorrectly numbered section | This will lead to the information being read in the wrong way, or assumption that information is missing. | Critical |
| Functional Requirements | Sections are not numbered like others e.g. 3.1, 3.2, 3.3 | Could possibly lead to information being read incorrectly. | Minor |
| 4.1.3 | What is appropriate Validation? | Untestable code – Ambiguous. Needs to be more specific. | Major |
| 4.1.3 | ‘may’ have Validation | Ambiguous – needs to be definite. Untestable. | Major |
| 4.1.3 | What is ‘user’ input? | Ambiguous – needs to be described. Untestable. | Major |
| 4.1.4 | Page ‘may’ have a title | Ambiguous – needs to be definite. Untestable. | Major |
| 4.1.4 | What ‘title’ is to be used? | Could lead to the wrong page being used as there is no title. | Major |
| 4.1.5 | Inconsistency with page titles. Chiefly Order and Receipt and Login. | Pages could be mixed up and cause problems down the line. | Major |
| 4.1.5 | Ambiguous: “My Account - rest password” | Is this name correct? Could lead to problems. | Major |
| 4.1.6 | Order Pizza page wrongly named | Could cause confusion if this is another page that was not mentioned. | Major |
| 4.1.7 | ‘Common navigation area’? | Ambiguous: what is this? Where does it go? Untestable. | Critical |
| 4.1.8 | Not atomic – needs split up | Information is not clear and concise. Could lead to mistakes. | Minor |
| 4.1.8 | Security issue, conflict with another requirement | “Order” page should only be available if user logged in; direct conflict with what came previously. Will cause web pages to be accessed that are not designed to be accessed from a certain location. | Critical |
| 4.1.9 | What is the ‘log page’? | Could be taken as a new page that has not been mentioned. | Major |
| 4.1.9 | What is the ‘register’ page? | Could be taken as a new page that has not been mentioned. |  |
| 4.1.10 | “directly navigate to the Manage page.” The Manage page does not exist in the document proper nor in the contents. | There is no information regarding the ‘Manage page’. Is there missing information? | Critical |
| 4.1.10 | Not atomic; the requirement starting “In addition” should be a separate requirement | Information is not clear and concise to read. Could lead to mistakes. | Major |
| 4.1.10 | Where do you log out? | Could lead to the logout information being incorrectly positioned. | Major |
| 4.1.11 | Very likely a misspelling here, or at the very least lack of atomicity by virtue of contradiction. Forgot password is said only to be directly accessible from Logout page. No logout page is mentioned in the contents or spec itself. Moreover, it contradicts the requirement in Login page below which is supposed to include direct link to FP. | This could potentially cause the developers to create a redundant page. Down the line it could cause confusion between members of the development team and also the development team and the client. | Critical |
| 4.1.11 | “may” has been frowned on before and should be clarified with specifics or with the word “must”. Context gives an impression of the correct reading—but it’s not worth the risk. | The word “may” is ambiguous. Need a definite direction. | Minor |
| 4.1.12 | Please give what constitutes valid username and password here. Or reference to the valid username section and valid password section. | Reference point 4.1.13 | Minor |
| 4.1.7-11 | Navigation has a colon of a different font and size. This occurs throughout document. | Documentation inconsistency | Minor |
| 4.1.13 | More detail needed for characters: text; alphanumeric. Specify. | Will not cause any issue down the line. May not be needed. | Minor |
|  | Need maximum length on password. | Can cause serious inconsistency with the login. | Major |
| 4.1.14 | “Register” should be replaced with “Registration” to marry with the subsequent subheading and references in the rest of the doc, specifically 4.1.5 which also reads “Registration.” | Will lead to inconsistency and confusion during the development. | Critical |
| 4.1.14 | See contradiction in 4.1.11 | Will cause confusion and problems down the line. | Critical |
| 4.1.15 | Incorrect: “The system shall enable registered users to register” does not make sense. Perhaps it intends to say “unregistered” users. | Probably a typo but needs to be clarified. | Major |
| 4.1.15 | Appropriate error messages and validation should be shown to the user if required. | Untestable we don’t know what the error message should be or what the validation is. | Major |
| 4.1.15 | First name and last name needed—as separate sections. | Will make it easier to record and search a database | Major |
| 4.1.15 | Completely untestable. | Already stated previously | Major |
| 4.1.15 | What is the error message; validation is completely untestable: not quantifiable. | Untestable. | Major |
| 4.1.15 | Necessary requirement violated: clearance given for two separate email addresses, when only a valid unique should suffice. Possible contradiction afterwards if the mistake survives. | This is unclear why would you need two email addresses for the website? | Critical |
| 4.1.16 | Appropriate message”. WHAT IS APPROPRIATE? | Unclear is not testable. | Major |
| 4.1.17 | “including” doesn’t clarify parameters. Does it mean “limited to” or not? | Could cause confusion for the developer | Major |
| 4.1.18 | Contradicts number 4.1.17—links to Registration and Contact on 17 but nothing about Login. Which of the two pages do they want? | Does they want links to all three pages, if not which of the two? Will cause inconsistency between the client expectations and the developers output. | Critical |
| 4.1.19 | Is the textual information on the company something we should be investigating ourselves? There’s repetition there, you see, so we want to know if we can question that—it negates the whole purpose of the “About” page. But that’s conjectural. | Possible confusion in the development stage or in website navigation. | Major, possibly. |
| 4.1.20 | Should the address of the company be given here? Style, zoom, location. | Customer navigation confusion | Major |
| 4.1.20 | Critically, there’s only one way to collect pizza. | Customer confusion over store location. | Critical |
| 4.1.20 | Is the link going to appear on this page or a new one; interactive or static? | Customer confusion over store location. | Critical |
| 4.1.20 | Perhaps the map would be worthwhile having on the Contact page, too. You would expect it. Please clarify. | Possible website navigation confusion. | Major |
| 4.1.21 | New tab/window—which one is it? | Could cause confusion for the developer | Major |
| 4.1.22 | After Hours? The system is supposed to be 24/7. What does After Hours mean here? | Customer confusion | Critical |
| 4.1.22 | Do we want a map here? We indicated above that this might be ideal. People need to know where this place is, or else the system is uncertain. | Website navigation confusion. | Critical |
| 4.1.23 | Unclear: user e-mail clients. A lot of people use online e-mail. When you hit a link and get Outlook client or something, fewer people use that, these days. It’s outdated. It should probably just be e-mail address to copy to e-mail client. It might be worth keeping in place, but students do not seem wont to use it. | Unwanted feature and unprofessional design | Critical |
| 4.1.24 | Can we test this? There are many different email clients. Untestable. | Untestable | Critical |
| 4.1.24 | States: “as soon as possible” is untestable. | This statement is untestable and too vague. | Critical |
| 4.1.24 | Appropriate validation is defined, but “including” should be replaced with “the following validation.” | Should be adjusted to appear more professional. Will not be problematic. | Minor |
| 4.1.24 | Poor security, even with the included validation. | The same password should not be sent out; the system itself should send out a random code. Once user types that in, the user should be prompted to change password. | Critical |
|  |  |  |  |
| Ordering Pizza Page | The subsections here all refer to the “Ordering page.” Afford it the full “Ordering Pizza page” title to keep the document consistent. | Adjusting this will help keep a consistent tone throughout the document. | Major |
| 4.1.26 | How the selection of toppings will work with the image selection from 4.1.25? | Whatever pizza you order, there’ll be an image. But if you add and take away toppings, the image will be the same—it’s hard to have that many permutations. Other websites have that functionality and you asked to be consistent with other fast food. | Major |
| 4.1.26 | First time we hear about shopping cart. That should be identified beforehand. Is it a page in and of itself, or is it a pop-up? | Without earlier mention of this functionality under the ‘web site pages’ section or other section, this function has appeared out of no-where and hasn’t been supplied with any information relating to its availability on web pages. More information will be required with regards to what web pages the shopping cart function extends to and if it does have its own web page for use. | Critical |
| 4.1.26 | It doesn’t state how the toppings are selected. Do you use a button, combo box, drop down box, image, etc. | Information on what functionality is required here in order to navigate the toppings for ordering. This information is required in order to continue with the design of this point. | Major |
| 4.1.26 | States: “a” shopping cart? Does this imply we have a remote one up at the top of the page, like a widget, or is it a separate page? | This further adds to the confusion of the use of the shopping cart within the website, like will it only be available as a function on some web pages? | Major |
| 4.1.27 | Items and pricing list doesn't exist. They should be listed properly. | This information is critical to completing this point within the document, as to accompany with the points 4.1.25 and 4.1.26; and to comply with the implementation of the shopping cart. | Critical |
| 4.1.27 | There’s implied here that we should know a lot of detail about the company, but we can’t. What happens if prices change? | Considering changes in pricing to the products offered on the website, and even products offered here, a function should be added and made available to the Pizza IT Company. | Major |
| 4.1.27 | If this is a pizza company, it could be anticipated that there are more extras than just toppings. | If the implication is that extras are just toppings, then the sentence is perhaps too prolix; there is no need to comment of extras—just say toppings. If you intend to add more extras, note that this will need to be expanded on or changed to provide its own requirement for extras. | Minor |
| 4.1.28 | Order Pizza page wrongly named. | Could cause confusion if this is another page that was not mentioned. | Major |
| 4.1.29 | Order Pizza page wrongly named. | Could cause confusion if this is another page that was not mentioned. | Major |
| 4.1.29 | How does the site handle removing items? | Unclear. Need further explanation on in what way the page removes items. Is it like Amazon where removing doesn’t affect the page beyond removing the item. | Major |
| 4.1.30 | Order Pizza page wrongly named. | Could cause confusion if this is another page that was not mentioned. | Major |
| 4.1.30 | “this should then direct the user to a page to schedule collection” | Ambiguous; it is uncertain what the writer intends. Is there a desire to reach the Schedule Page? That should be made clear. | Critical |
| 4.1.31 | Numbering error in requirement reference of 3.1.29. Should it be 4.1.32? | Directing to incorrect requirement makes reference redundant. | Critical |
| 4.1.31 | “20 minute collection” is impossible to test. | Can’t be done. Moreover, it is not within the tester’s remit to ensure that. | Critical |
| 4.1.32 | Not a feasible requirement. | Is this realistic in real-world? | Major |
| 4.1.32 | Gives min and max value. Not clear when contrasted with previous requirement. | Conflicting. Inconsistent to previous requirement. | Critical |
| 4.1.32 | Time discrepancy. +45 minutes. Inconsistency? | Conflicting. Inconsistent to previous requirement. | Critical |
| 4.1.32 | Is it realistic that a user can place a pizza order a week in advance of collection? | Realism of a user remembering an order placed up to 7 days ago. Do we get a reminder for “later” order? | Major |
| 4.1.34 | What’s a unique order reference? Is it alphanumeric? | Ambiguous: what is this? How does it link to a database? Does it? What does it do and how does it behave? | Critical |
| 4.1.34 | “Confirmed date and time”. | How is it confirmed? Unclear. | Critical |
| 4.1.35 | “appropriate message” should probably give specifics. | Ambiguous. What is appropriate? Unclear. | Critical |
| 4.1.35 | Requirement is too long. | More beneficial to have shorter, clearer requirements. | Minor |
| 4.1.35 | Should be asking for old password as a security measure. | Security issue. Could present serious flaws. | Critical |
| 4.1.35 | “Appropriate validation on size and type of password…” | Unclear. No telling of the validation for the new password. If the same as old password, there’s no existing rule that precludes that. | Major |
| 4.1.35 | “Appropriate validation on size and type of password…” | This is untestable code. Could lead to further problems. | Major |
| 4.1.35 | My Account – rest password. | Unclear. Does this imply there is a My Account and then a Rest Password bit? We noted that earlier, too. | Major |
| 4.1.35 | “appropriate message” | This is untestable code. Could lead to further problems. | Critical |
| 4.1.35 | “appropriate validation” | This is untestable code. Could lead to further problems. | Critical |
| 3.2.1 | 24/7 for the whole year. | Not feasible. Validation needed; checks and balances needed. What does available mean in this context? It’s a universal convention but we want details. | Major |
| 3.2.1 | “Shall not crash. “ | This is untestable code. Could lead to further problems. | Major |
| 3.2.2 | “The system should prevent unregistered users or registered and not logged in users from accessing restricted parts of the site.” | Needs rewritten. Grammar is problematic. Sentence structure is difficult. | Major |
| 3.2.2 | Lack of referencing. | For ease, refer back to the restricted sections. | Minor |
| 3.2.2 | “The system should prevent unregistered users or registered and not logged in users from accessing restricted parts of the site.” | More security needed; this seems scant—does security not pervade more parts of the site? | Critical |
| 3.2.2 | Whenever system is referred to at the start, the jargon is in italics. Here, it isn’t. | Developer confusion | Major |
| 3.2.3 | “most common mobile devices” | Untestable | Major |
| 3.2.3 | “on desktop” | Too broad, ambiguous and untestable. | Major |
| 3.2.3 | Selection of browsers | Browsers are too specific; should be all Chrome and IE. | Major |
| 3.2.3 | IE 1 is too old. | Too expensive to target for. | Major |
| 3.2.3 | 7 inch Amazon Fire? | Strangely specific. Same for the rest. | Major |
| 3.2.3 | Despite listing Apple devices, Safari is not mentioned on the target browsers. | Safari is the primary browser for Apple products. It’s contradictory that it should work on Apple devices but not Safari. | Critical |
| 3.2.4 | “easy to use”; “fast transactions” | Ambiguous and untestable. | Major |
| 3.2.4 | 3.2.4 comes up twice. | Does not look professional. May cause confusion. | Minor |
| 3.2.5 | “without notable transaction delay” | Untestable. | Major |

Stats (with focus on standards defects such as grammar, spelling and formatting omitted)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Critical | Major | Minor | **Total** | Time per page, Minutes |
| Cover | 0 | 1 | 0 | **1** | 1 |
| Page 1 | 1 | 0 | 0 | **1** | 1 |
| Page 2 | 5 | 1 | 3 | **9** | 10 |
| Page 3 | 2 | 4 | 0 | **6** | 7 |
| Page 4 | 5 | 12 | 3 | **20** | 22 |
| Page 5 | 7 | 12 | 3 | **22** | 24 |
| Page 6 | 6 | 0 | 1 | **7** | 8 |
| Page 7 | 7 | 11 | 1 | **19** | 21 |
| Page 8 | 8 | 13 | 3 | **24** | 25 |
| Page 9 | 0 | 1 | 0 | **1** | 1 |
| **Total** | **41** | **55** | **14** | **110** | 120 |

**Note:** In total, 188 defects were identified. 110 of these were significant defects. 78 were classed as minor formatting, grammar or consistency errors. As a result we managed to achieve our target logging rate of between one and two defects per minute with an average score of 1.57 defects per minute.

**Observations**

During the feedback report review of the requirements document, certain observations were made by inspectors that would need further clarification by the author, so as to ensure any non-defect ambiguities are resolved. This included the following:

* It should be noted the company logo on the front page of the requirements document states “Pizza & Pasta” within its design; although within the document sections there is no mention of Pasta dishes or products to be made available for order by the user. Details on whether or not ‘Pasta’ products are to be offered by the website, and if pricing, product descriptions and images are required to be placed online for user selection.
* Inspectors from the group conducting the review found a difference in the requirements document from those who downloaded the day it was released, and those who downloaded it three days later. The difference was found in the contents page, as both contents appear to be formatted differently in comparison.

**Summary of Findings**

The following document compiles the issues we found with the requirements specification that will or could cause downstream damage to the system or else is a minor grammar/spelling or formatting concern that requires remedy by the original author. To ensure this requirements document was reviewed correctly, we followed the guidelines set out by Zielczynski, (2008) in Requirements Management Using INM Rational ResquisitePro. This criteria was as follows; atomic, understandable, unambiguous, testable, consistent, complete, clear (concise, terse, simple, precise), correct, feasible, independent, necessary, implementation free.

Key areas of concern we have identified here are untestable standards of validation, ambiguous design or function specifications, erroneous page references. Critical errors included: discrepancies between the numbering for ‘Table of Contents’ versus the document proper; assumptions to which finite metrics could not be applied, chiefly reference to “many” other fast food ordering websites; potential contradictions between requirements—for example 4.1.14 and 4.1.11--and a functional requirement inhabiting the non-functional requirements section, principally 3.2.2 Security. Further observations that include those of lesser severity can be found the “Observation” section of this document.

**Conclusion**

To conclude the findings of this report, the current state of the requirements document will require re-working at the critical and major defects listed previously, and adding corrective measures using the comments provided as needed; whilst a general focus on standards for the minor errors identified in the appendices.

To demonstrate issues that were encountered with the document, an example of a reoccurring major error that did not suit the requirements document included web pages that were incorrectly labelled or were misleading to cause confusion, as to where the functionality of a certain point was to be designed into i.e. 4.1.30. Some additional points within the documents were flagged as having critical errors, and were determined to cause future problems with the design of the website. An example of a critical error included point 4.1.24 of the requirements document that was not a logical solution to solving a problem when dealing with password retrieval.

It should be noted each page of the requirements document exceeded more than three major and critical errors combined. Thus with this rate of errors, the document will require a second review to ensure the comments made above in the defects table have been evaluated and corrected to provide more information on these points, preventing errors in the design of the website in the future.

**Appendix**

* 1. **Evidence**

Further evidence to support our review process is available on the shared resources section of our team GitHub account. Please follow the link below to access this account:

<https://github.com/KevinOHare/Software-Testing-And-Verification>

**1.2 Defects Table – Minor Errors**

Throughout the requirements document, 36 Grammar mistakes were found, in addition to 35 formatting issues and 7 consistency issues. The following table provides the details of the minor errors found.

|  |  |  |
| --- | --- | --- |
| **Requirement** | **Error Type** | **Defect** |
| Cover Page | Grammar | “Web site” is listed here as two words. The Oxford English Dictionary 2015 allows for “website” to be spelled as one word only, without the space between “web” and “site. http://www.oxforddictionaries.com/definition/english/website?q=web+site |
| Revision History and Document Approval | Formatting | Page 1 should come after the contents. |
| Contents Page | Grammar | “This Software Requirement Specification”. The title and the harmonized title for the document is “Software Requirements Specification.” With an ’S’. |
| Contents Page | Consistency | “For the Pizza IT.” Likely should read “Pizza IT Company” to marry with the title page. On the other hand, maybe the title page is wrong and the company is, as the logo suggests, simply Pizza IT. In which case, the title page has an error. |
| Contents Page | Consistency | Firebrand Company does not align with information given elsewhere in the document. If it does, outside sources suggest that company should be capitalized. |
| 1.2 | Formatting | Scope should probably not be broken down into (1) and (2). It is thematically inconsistent with the rest of the document. Take, for example, Product Perspective, where points of a joined theme flow one after another under the appropriate rubric. Point 2 elucidates point 1 and defines it—it is not a disparate objective, as the numbering may imply. |
| 1.2 | Formatting | There is a return space entered on point (2) between “for and “later.” This is a formatting error which connotes the same problem as a spelling mistake. |
| 1.2 + 1.4 | Grammar | Oxford English Dictionary lists “website” as one word, not two. |
| 1.2 | Grammar | “Pizzas” once again spelled with a capital when it should be lowercase. |
| Functional Requirements | Formatting | Inconsistent formatting of text on page |
| 4.1.2 | Grammar | Typo – word ‘the’ in ‘the todays’ date |
| 4.1.2 | Grammar | Full stop missing |
| 4.1.5 | Grammar | There should be a colon after “the following functional web pages”. |
| 4.1.5 | Formatting | Website sections should be in italics. |
| 4.1.6 | Grammar | Missing punctuation – full stop |
| 4.1.8 | Grammar | Missing punctuation – colon after ‘following pages’ |
| 4.1.9 | Grammar | “shall be able to direct navigate”. Should read “directly navigate.” |
| 4.1.11 | Grammar | Spelled is “Forgot password”; the page proper is entitled “Forgot Password”, with “p” being afforded a capital. |
| 4.1.11 | Formatting | Also a page; so needs italics. |
| 4.1.12 | Grammar | Login “to”. Remove the word “to.” |
| 4.1.12 onwards | Grammar | Missing colons after all subheadings. |
| 4.1.13 | Grammar | Should be “of” six characters. |
| 4.1.14 | Grammar | Full stop missing at end. |
| General | Formatting | Whole document is not properly left justified. Some sections are; some aren’t. |
| 4.1.17 | Grammar | Should “Welcome” have capital? |
| 4.1.18 | Grammar | Page should be after “Home”. |
| 4.1.18 | Grammar | Pizza should be lowercase. |
| 4.1.8 | Formatting | About page should be in italics, as per standardization. |
| 4.1.19 | Formatting | About page should be in italics, as per standardization. |
| 4.1.20 | Formatting | About should be in italics. |
| 4.1.20 | Grammar | “Google” should be in caps. |
| 4.1.20 | Grammar | No full stop. |
| 4.1.21 | Formatting | Second website does not have http:// |
| 4.1.21 | Formatting | About page should be in italics. |
| 4.1.21 | Grammar | Should “section” be included in the inverted commas? |
| 4.1.21 | Grammar | Colon after ) after Window. |
| 4.1.22 | Grammar | Contacts should have capital letter. |
| 4.1.22 | Grammar | Colon after “details” |
| 4.1.22 | Formatting | Spaces after the colons for Support, Marketing and General. |
| 4.1.22 | Formatting | Two new lines between email and address sections. |
| 4.1.22 | Formatting | Address; should be 18 Malone Road and then new Line Northern Ireland, then post code. |
| 4.1.22 | Formatting | For phone, there should be a space after both main and after hours before +44. |
| 4.1.22 | Formatting | Should all of this be in italics? |
| 4.1.22 | Formatting | Contact Page should be in italics. |
| 4.1.22 | Grammar | Perhaps have colons after Phone, Email and Address. |
| 4.1.23 | Formatting | Unnecessary two spaces between email and message. |
| 4.1.23 | Formatting | Contact page in italics. |
| 4.1.24 | Formatting | Italics for forgot password page. |
| 4.1.24 | Formatting | Why is there such a big gap between FP and Ordering? |
| 4.1.24 | Grammar | States: “recognized” is American spelling but should that have an “s” instead? |
| 4.1.26 | Formatting | Ordering page in italics. |
| 4.1.26 | Consistency | States: “a” user. Throughout, we have “the”. This is inconsistent, but is it permissible? |
| 4.1.27 | Formatting | Superfluous space between 4.1.26 and 4.1.27. |
| 4.1.27 | Grammar | 4.1.27 - bad English; not clear, concise: “cost for an individual item and an extras”. |
| 4.1.27 | Formatting | Italics for ordering page. |
| 4.1.27 | Consistency | Cart should be called shopping cart. |
| 4.1.27 | Grammar | States: “any” extras instead of “an” extras. |
| 4.1.28 | Formatting | Ordering page should be in italics. |
| 4.1.28 | Grammar | “a user” instead of “the user”. |
| 4.1.28 | Consistency | “Shopping cart” instead of “cart”. |
| 4.1.29 | Formatting | Ordering page should be in italics. |
| 4.1.29 | Consistency | “Shopping cart” instead of “cart”. |
| 4.1.30 | Formatting | Ordering page should be in italics. |
| 4.1.30 | Grammar | “should enable” - rather than “enable” |
| Schedule page | Formatting | Large gap between 4.1.30 and Schedule page. |
| 4.1.31 | Grammar | Full stop missing |
| 4.1.33 | Grammar | Order receipt page referred to as “Order Receipt page” - lowercase ‘R’ elsewhere. |
| 4.1.33 | Formatting | Error double space between “order” and “Upon”. |
| 4.1.34 | Formatting | Add italics to “Order Receipt page”. |
| 4.1.35 | Grammar | Should read “their” current email. |
| 4.1.35 | Formatting | Gap between 4.1.35 and 3.2. |
| 3.2.1 | Formatting | Numbering is incorrect. 4.1.35 to 3.2. |
| 3.2.1 | Grammar | 24\*7 should be 24/7. |
| 3.2.3 | Grammar | Should be colon. |
| 3.2.3 | Formatting | Browsers are in bold. |
| 3.2.3 | Consistency | Version for Chrome. V for Firefox. Disparity. |
| 3.2.4 | Formatting | No space between the 3.2.4 etc. |
| 3.2.5 | Grammar | No full stop. |