Innoventory: A Mobile and Desktop Shopping Application

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Keywords—component, formatting, style, styling, insert (key words)

# Introduction

Modern day shopping has transitioned from in-person selection and purchasing to online within a decade, spearheaded by moguls like Amazon and eBay. From the consumer’s perspective, the online shopping experience is simple and efficient as they navigate to their desired selection by typing in its title in the search bar and hitting Enter. However, the inner workings – the man behind the curtain – of the online shopping experience is just as complex as the local grocery store. Online shopping application must handle the same issues as a physical shopping center but in cyber form, having to guard against infiltration, data loss, product mishandling, and more. In short, the online shopping medium requires 24/7/365 sophisticated frontend and backend management distributed across multiple development and management teams to provide consumers with the smooth experience they desire. Therefore, for the Software Engineering class held at Midwestern State University, our group tasked itself to develop a functional pseudo-online shopping simulation application for both desktop and mobile devices that would offer the baseline services of user login/logoff, item search, item selection, and item purchasing. We selected Scrum as our agile software development process.

This paper will be divided into BLANK sections: project background and setup, requirements specification, design and implementation, results, and finally a conclusion.

# Project Background and Setup

This section briefly discusses the context of our project and the supportive software we reused in its development.

## Project Context

Our team of four designated Broday Walker as the leader, who would head our meetings, have the final say on our development plans, and be our group’s representative to the pseudo customer, the class professor, Dr. Khamaiseh. In line with an Agile methodology, we split our app development into the following parts: requirements specification, design and implementation, validation and verification, and testing. The latter three we intended to perform concurrently, with changes to any requirements made if necessary. With one-and-a-half months to complete the project, we established seven-day sprints and weekly meetings to outline the deliverables for the next sprint. Lastly, we split our group into two subgroups for each to focus on either the desktop or mobile implementation.

## Supportive Software

The mobile implementation was headed by Broday Walker and Ben Diekhoff, who chose Kivy [1] to design the mobile GUI and Python [2] as the driver. The desktop implementation was led by Corbin Matamoros and Matthew Stanley, who selected Qt [3] to design the GUI and Python for the driver. Our group chose MongoDB [4] for data storage and interacted through its Python API, PyMongo [5].

Identify applicable funding agency here. If none, delete this text box.

# Project Description

Our group of four decided to appoint Broday Walker the Before you begin to format your paper, first write and save the content as a separate text file. Complete all content and organizational editing before formatting. Please note sections A-D below for more information on proofreading, spelling and grammar.

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* Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as “3.5-inch disk drive”.
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* Do not mix complete spellings and abbreviations of units: “Wb/m2” or “webers per square meter”, not “webers/m2”. Spell out units when they appear in text: “. . . a few henries”, not “. . . a few H”.
* Use a zero before decimal points: “0.25”, not “.25”. Use “cm3”, not “cc”. (*bullet list*)

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*a**b* 

Note that the equation is centered using a center tab stop. Be sure that the symbols in your equation have been defined before or immediately following the equation. Use “(1)”, not “Eq. (1)” or “equation (1)”, except at the beginning of a sentence: “Equation (1) is . . .”

## Some Common Mistakes

* The word “data” is plural, not singular.
* The subscript for the permeability of vacuum **0, and other common scientific constants, is zero with subscript formatting, not a lowercase letter “o”.
* In American English, commas, semicolons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)
* A graph within a graph is an “inset”, not an “insert”. The word alternatively is preferred to the word “alternately” (unless you really mean something that alternates).
* Do not use the word “essentially” to mean “approximately” or “effectively”.
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* Be aware of the different meanings of the homophones “affect” and “effect”, “complement” and “compliment”, “discreet” and “discrete”, “principal” and “principle”.
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* There is no period after the “et” in the Latin abbreviation “et al.”.
* The abbreviation “i.e.” means “that is”, and the abbreviation “e.g.” means “for example”.

An excellent style manual for science writers is [7].

# Discussion

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## Authors and Affiliations

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Component heads identify the different components of your paper and are not topically subordinate to each other. Examples include Acknowledgments and References and, for these, the correct style to use is “Heading 5”. Use “figure caption” for your Figure captions, and “table head” for your table title. Run-in heads, such as “Abstract”, will require you to apply a style (in this case, italic) in addition to the style provided by the drop down menu to differentiate the head from the text.

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#### Positioning Figures and Tables: Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span across both columns. Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. Use the abbreviation “Fig. 1”, even at the beginning of a sentence.

1. Table Type Styles

| Table Head | Table Column Head | | |
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| Table column subhead | Subhead | Subhead |
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1. Sample of a Table footnote. (*Table footnote*)
2. Example of a figure caption. (*figure caption*)

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity “Magnetization”, or “Magnetization, M”, not just “M”. If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write “Magnetization (A/m)” or “Magnetization {A[m(1)]}”, not just “A/m”. Do not label axes with a ratio of quantities and units. For example, write “Temperature (K)”, not “Temperature/K”.

##### Acknowledgment *(Heading 5)*

The preferred spelling of the word “acknowledgment” in America is without an “e” after the “g”. Avoid the stilted expression “one of us (R. B. G.) thanks ...”. Instead, try “R. B. G. thanks...”. Put sponsor acknowledgments in the unnumbered footnote on the first page.

##### References

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Unless there are six authors or more give all authors’ names; do not use “et al.”. Papers that have not been published, even if they have been submitted for publication, should be cited as “unpublished” [4]. Papers that have been accepted for publication should be cited as “in press” [5]. Capitalize only the first word in a paper title, except for proper nouns and element symbols.

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1. https://kivy.org/
2. https://www.python.org/
3. https://www.qt.io/
4. https://www.mongodb.com/
5. https://pymongo.readthedocs.io/en/stable/
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