Business Requirements Document

"AutoBuild" - Automatic PC Part Builder

September 29, 2020

Saturday Solution

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Document Revisions

Date	Version	Changes
09/29/2020	0.1.0	Initial Draft formatting.
10/4/2020	0.2.0	Added summary, scope, and initial requirements.

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Introduction

Project Summary

Objectives

- The goal is to create an intuitive website that gives users recommendations for computer components, including peripherals.
- All users will have access to an "Upgrader" and "Builder" that, given certain criteria, will generate a recommended list of components.
- Offers a registration system to support additional functionality on the site.
- Users that register will have access to special storage spaces for "Favorites", be they posts, builds, or components, as well as the ability to create new threads or respond to existing threads on the support forums.
- Allows users to easily browse a catalog of computer components and peripherals with relevant information and a place to purchase, if available.
- Contains forums to allow for open discussion between registered users about relevant topics.
- Supports search and sort functions on each page for locally relevant information, when appropriate.

Background

The initial proposal was a simple automatic custom pc builder, that took existing benchmarks for components and output an optimal computer build within a price point. This limited our market so we have branched the system out to be more user friendly, more interactive, and more customizable. The new variation of the project contains much more functionality, including the ability to add peripherals to be budgeted for, and supports laptop replacement/upgrades as well.

Business Drivers

- Building a computer, or finding upgrades to existing computer components, can be challenging, customers want an easy to use resource that can help them simplify that choice.
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Project Scope

In Scope Functionality

- Creating a product for United States residents, that is usable by those who can understand U.S. English text.
- Create an automated "builder" that recommends optimal components within a selected budget.
- Allow for the builder to account for additional peripherals within the budget that customers may need/want.
- Create an upgrader tool that gives the user a series of recommended parts that perform higher than or equivalent to a selected item.
- Create an upgrader tool that gives a recommended upgrade to an entire system (such as a laptop) that performs equal or better than the selected system. If parts are able to be swapped to make the current system better users may select to keep their current computer and replace parts only, those parts will be recommended instead of an entirely new system.
- Allow users to register with the site, with 4 levels of access: normal, developer, vendor, and admin.
- Allow users to hide their profile from other users.
- Allow other users to view profiles, hiding details through user preferences.
- Allow registered users to save content to the web system, including generated builds, parts, or posts.
- Allows users to publish builds to the web server for public viewing.
- Create a "Popular Build" section to show off new fancy builds generated and published to the build section, by users, that can be voted on.
- Allows registered users to write reviews and rate published builds.
- Create a fairly comprehensive catalogue of computer components, including peripherals and batteries.
- Provide a support forum section that allows users to share knowledge about computer systems, to discuss problems with parts, and/or get support from others users about how to make a computer.

Out of Scope Functionality

- Multi-language support.
- Laptop customization.
- Custom parts catalogue.
- Personal API to provide to companies that wish to integrate PC Upgrader/Builder.

Business Requirements

Priority Legend

The requirements in this document are prioritized as follows:

Value	Rating	Description
1	Critical	This requirement is critical to the success of the project. The project will not be possible without this requirement.
2	High	This requirement is high priority, but the project can be implemented at a bare minimum without this requirement.
3	Medium	This requirement is somewhat important, as it provides some value but the project can proceed without it.
4	Low	This is a low priority requirement, or a "nice to have" feature, if time and cost allow it.
5	Future	This requirement is out of scope for this project, and has been included here for a possible future release.

Archiving

Components Catalogue

Data Store Access

Error Handling

Requirements:
- The system will not crash.
- The system will not become unresponsive.
- No action should cause a system failure.
- All errors must be logged. (Excluding errors caused by logging)
- All errors must be handled.
- All exceptions must be handled.

Non-functional Requirements:
- Error responses should be lightweight, meaning not much programmatic execution.
- Users will be informed of an error, but errors must be handled and reported quickly and concisely to prevent user confusion or frustration.

Success: Fast, responsive, and informative handling that is clear to the user.

Failure: Error handling is slow, confusing, and/or computing intensive, requiring rewriting.

Logging

Login

Logout

Most Popular PC Build

Network Communication

PC Builder

PC Upgrader

Privacy

Registration

Security

Support Page

User Access Control

User Analysis Dashboard

User Experience

Requirements:
- **Useful**: Your content should be original and fulfill a need.
- **Usable**: Site must be easy to use.
- **Desirable**: Image, identity, brand, and other design elements are used to evoke emotion and appreciation.

- **Findable**: Content needs to be navigable and locatable onsite and offsite.
- **Accessible**: Content needs to be accessible to people with disabilities.
- **Credible**: Users must trust and believe what you tell them.

Success: A pleasant experience for users.

Failure: Disinterest in further using the product.

User Garage

User Interface

Requirements:
- Interface must be simple.
- Elements must be consistent.
- Inform the user of actions in progress.
- Interface must be legible.
- Users should be able to change text size without affecting placement of elements.
- Text, buttons, and labels must be clear. (No weird fonts)
- Buttons must either redirect to the logical page (link name) or perform the expected task.

Non-functional Requirements:
- Interfaces must be intuitive.
- Colors should not be offensive to the eyes.
- Text and backgrounds must be different colors, preferably high contrast to aid in clarity.
- Users must be able to see they are logged in somewhere on the page.

Success: Users can see, understand, and interact with the content provided with no frustration.

Failure: The system may be unusable to some, many, or all users. Repairs to the design are needed.

User Management

User Reviews and Ratings

Functional

Req#	Priority	Description	Rationale

General / Base Functionality

FR-G-001	1	Accounts can write and publish a review.	The feature will not be accepted without this requirement
FR-G-002	1	Accounts can make a rating of 1-5 stars.	The feature will not be accepted without this requirement

Security Requirements

FR-S-001	1	Image recognition software to verify that images are appropriate for posting.	Features will not work without this requirement. Inappropriate images should not be allowed.

Usability Requirements

FR-U-001	1	User interface will allow users to easily input their reviews and make ratings without difficulty.	Without a proper UI, the user will not know how or where to write reviews / make a rating.

Audit Requirements

FR-A-001	3	Updates made to reviews will be time-stamped.	

Non-Functional:

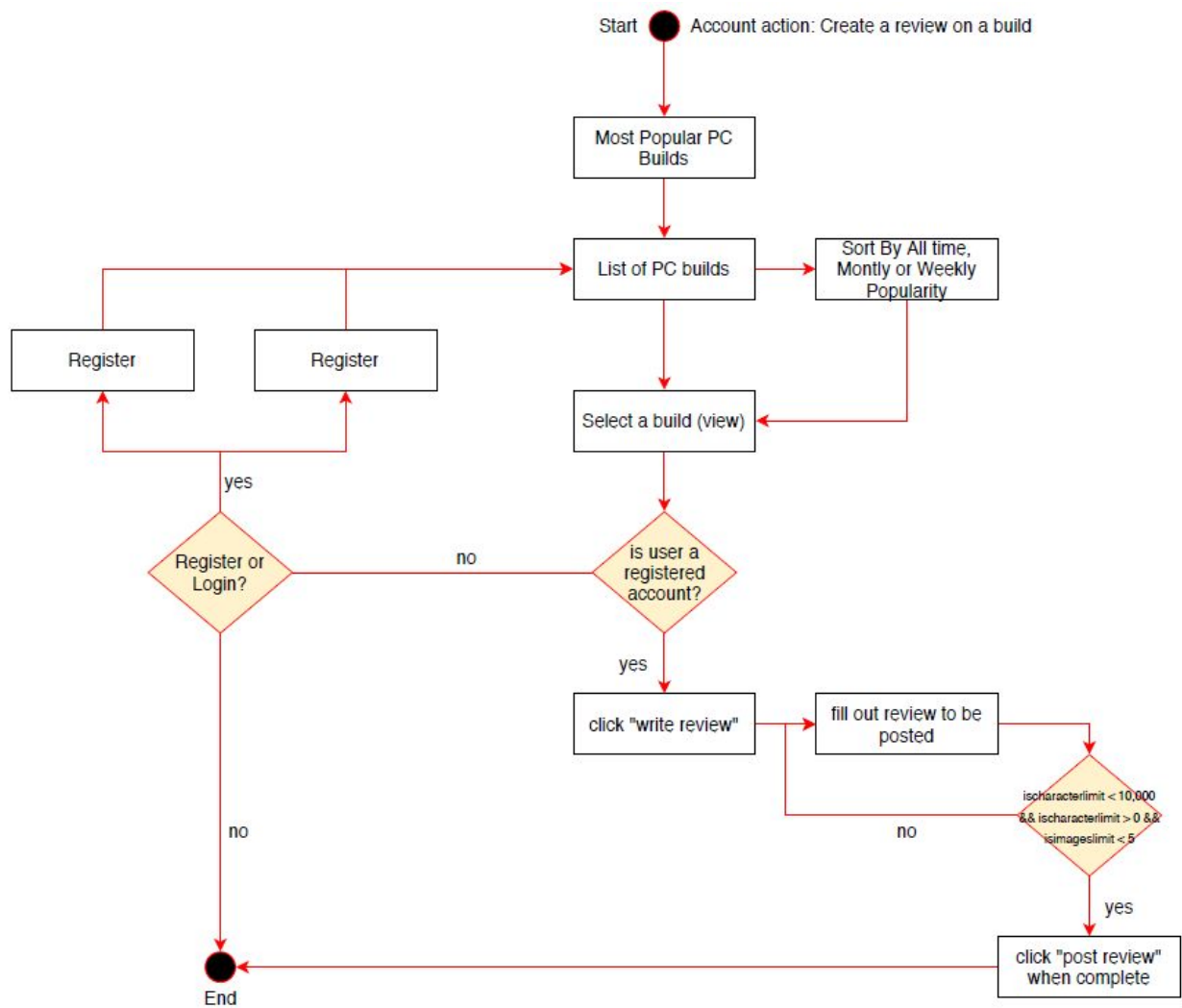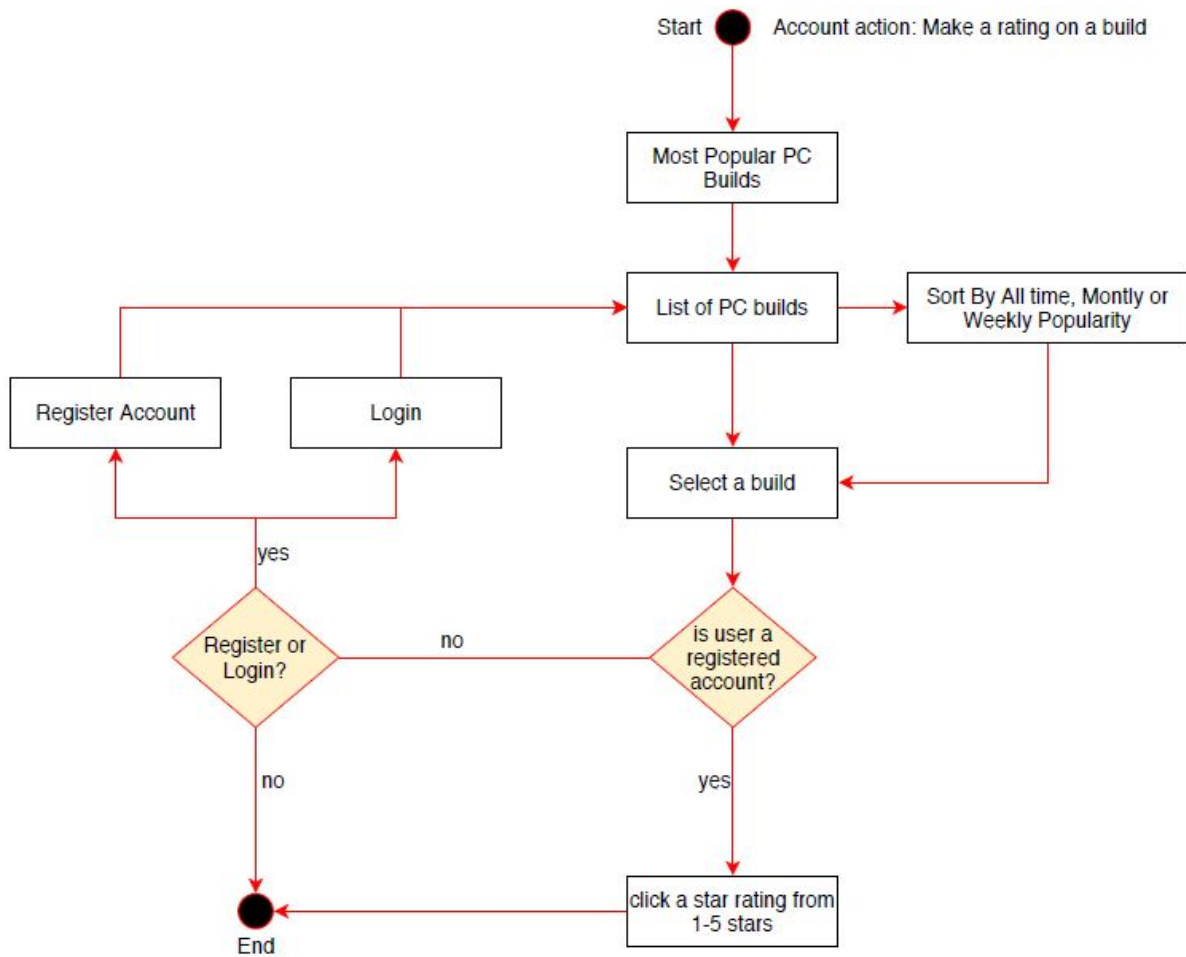| ID	Requirement
NFR-001	The review submission type box will have a limit of 10,000 characters.

NFR-002	The review submission box will allow a maximum photo upload of 5 images.

User Review and Ratings Activity Diagrams

- User creates a review on a build:

- User adding a star rating on a build:

Start ● Account action: Make a rating on a build

Most Popular PC Builds

List of PC builds → Sort By All time, Montly or Weekly Popularity

Register Account   Login

Select a build

yes

Register or Login? ← no ← is user a registered account?

no

yes

click a star rating from 1-5 stars

End ←

Vendor Linking

<u>Appendices</u>

- **Acronyms**
- **Glossary**
  - Account - A registered user.
  - Image recognition software - A program that will be used to make sure that images to be uploaded are checked and verified for inappropriate material.
- **Related Documents**