3.2P

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SWE30010 Development Project 2: Design, planning and Management

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Project Proposal: *PHP-SRePS*

Background

Please visit the project documentation generated up till this point at:
https://github.com/Wabi-Mink/DP2_pass/wiki

Solution Direction

The team has generated to possible directions for the project: a Java Web or a C#/Winforms local application. Each option presents its own strengths and weaknesses as identified and formatted in the following SWOT analysis tables.

C# - Desktop Application w/ Local Storage

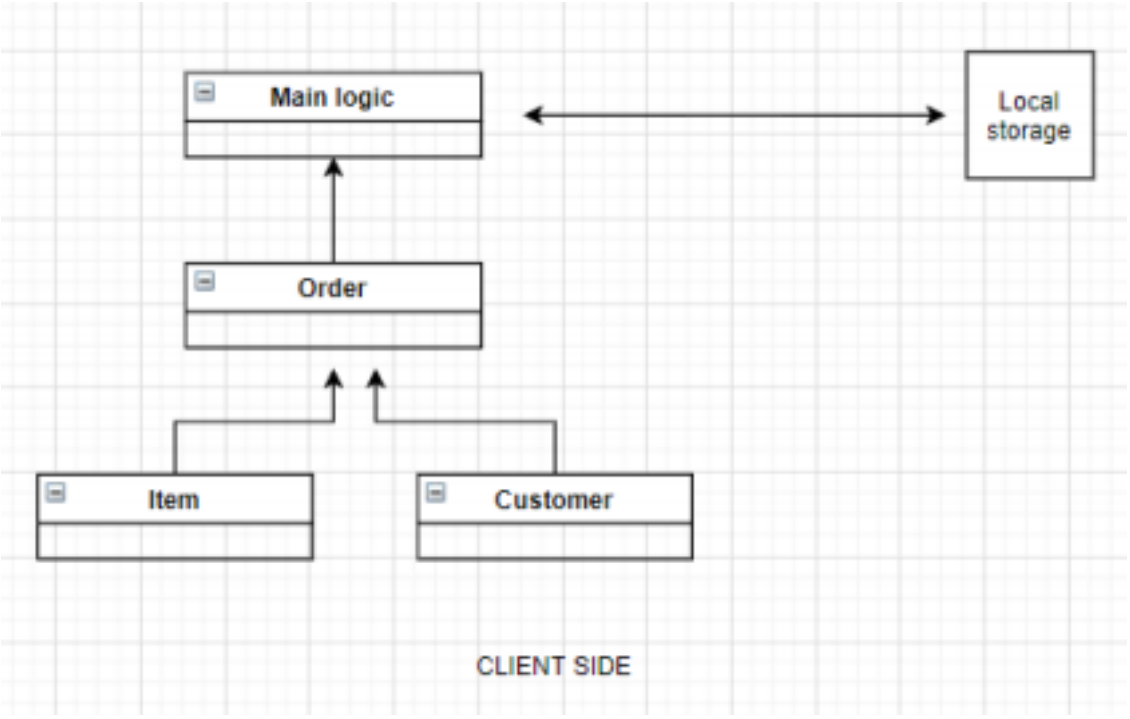
Strength	*Weakness*
• **Commonly known language among team** • **Local storage is more secure** • **Visual Studio IDE is a fully supported environment we can use for free with C#** • **Numerous libraries that are open source can be used by the team** • **Desktop applications are more secure as they have better administrative control and authorization.**	• **Backups required for local storage** • **Risk of loss of data** • **Updates and Installations must be manually implemented on individual client machines.** • **Cross platform implementation may be difficult and require a lot of planning e.g. developing on MacOS will have different requirements than developing on WindowsOS**
Opportunities	*Threat*
• **Easily converted to CSV format** • **More flexibility in creating a desktop application vs a web application, in terms of design and functionality**	• **WinForms is unsupported**

Web Based Java Application

Strength	*Weakness*
• **Commonly known language among team** • **Local storage is more secure** • **Visual Studio IDE is a fully supported environment we can use for free with C#** • **The application can be implemented across platforms making it more portable.** • **Web applications are better for implementing continual updates as the source code is mostly server side.**	• **Backups required for local storage** • **Risk of loss of data** • **The application can be implemented across platforms making it more portable.** • **Web applications are better for implementing continual updates as the source code is mostly server side.**
Opportunities	*Threat*
• **Easily converted to CSV format** • **More flexibility in creating a desktop application vs a web application, in terms of design and functionality**	• **WinForms is unsupported** • **Important updates such as Security are dependant on the user to be installed.**

As a group, we have chosen to commit to creating a desktop application using C# and WinForms. As our database system, we have decided to use local storage as opposed to using MySQL on a web server. We believe this solution will be easier to use than a web server, as information cannot be stolen by outside sources, and it may be easier to use for the technologically inept. We have decided on creating a C# desktop application instead of a Java web application, as everyone in our group has had prior experience using C# and Visual Studio. No one in our group has had past experiences in developing Java. If we use C# and WinForms, we all have free access to the IDE Visual Studio through Swinburne, which will make coding our solution relatively stress-free in comparison to using Java, where we would have to use another IDE that we might not be familiar with.

Solution Architecture



Element	Description
Order, Item, Customer	Technical details, program classes to be specified in lower level design
Main logic	Handle logic and calculation as well as export data to local storage and sync data to database
Local storage	Can be physical hard drive storage on client machine
DBMS	Third party database management system to handle requests, manage/retrieve/manipulate data

Reflection

101111372 | JAKE SCOTT
The three design possibilities proposed by our group members can be summarised as 'all online', 'data online & UI local', and 'all offline'. After a short discussion we agreed that we didn't have enough experience for a fully online java-based project, and that an online database - while better for the average client - might actually be worse for a small pharmacy (especially since they tend to use very old computer systems) - so we decided that a fully local solution would be the best option.

102259710 | TIEN PHU NGO
After the weekly team discussion choosing between Java web services and C#, the team agreed on using C#/WinForms as the main language for the product since all the team members have at least some experience with C#. We also decided that the project will only run from data stored locally rather than using a third-party DBMS which requires an internet connection. I am totally happy with the team's decision, everything is going as planned and we are on track to start the next phase soon.

101100655 | LACHLAN BURNS
After discussing our individual 3.1 tasks and analysing both the online and desktop application options, the group decided to opt for the desktop-based application with local storage. This was the obvious choice as most members in the group had little experience with web-based applications and we also agreed that having a locally stored database was more suited to PHP's needs. I believe the group is now well on track to begin programming the software for PHP.

102095118 | JAYDEN MCQUEEN
Upon compiling our individual ideas together, we could separate three main design proposals; an all online web application, an idea which has both an online database and desktop application, and a desktop application with a storage solution that is entirely local. As a group, we decided to go ahead with the entirely offline solution, as we believe it will be easier to create, given our current skills and preferences in programming. I agree with the group that this solution would be the best to develop. Jake said that he knows from experience that pharmacies generally use older computer systems, so an entirely offline solution (without needing the internet) would be best for the client. I am quite happy with the group progress this week, as everyone has completed all their agreed to work on time, and everyone attending the two meetings this week.

101131147 | MONIQUE KUHN
The team was timely in their week 3 submissions, allowing for effective group discussion and project progression. The ideas generated had some overlap, with WinForms/C# being one of the more popular suggestions. Given the likely experience of the pharmacy, their potential hardware, and the team's experience, the team has decided to build a local data base.
This week also saw the addition of a new member who has been updated and added to the required repo/documentation smoothly.

102079989 | DAVID STARE
During this task the group discussed whether to use a local c# desktop application or a web based Java application to create a helpful software tool for a small pharmaceutical company. A SWOT analysis was one of the methods used to thoroughly analyze which approach would be better. The group concluded after weighing the pros and cons of both approaches, that a local c# desktop application would be best. Some reasons for this were: a c# desktop application can be tailored for a csv format (coma separated values), a unique user interface can be more easily developed and the team has more experience with c# than with Java making the development process smoother.