Part 1

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1. A local bicycle shop, small 5 employees at most.
2. The Cycle Manager will be a system that can help a bike shop manage their store in an easy and efficient manner and also make the purchasing or service experience satisfying to the customer.
3. Owner of shop, Employees, and then the Customer
4. The bike shop that I am using as the basis for this project currently uses a paper ticket system for when they service a bike. You drop the bike off and they will write out a ticket with the services you need done, or the parts you need installed. This can cause problems because if the description of the services or how stuff should be installed isn’t written out clearly then it could be done wrong. Or the ticket could be lost. They also currently have no easy way for a customer to check the status of their bike, other than the customer calling in and asking. This takes the employee away from doing other things if they are answering the phone. They also have no way of tracking the average time it takes to complete a specific service or how many of each service they sell each month. These numbers can be very valuable as it can help the business understand where their money comes from and also work on speeding up services that are taking too long. For keeping track of the inventory they have in the shop they have a very basic computer inventory system that doesn’t automatically subtract stock when they sell an item. They have to manually remove the item that they have sold in the computer. This can cause problems because it can make them think they have something in stock when they really don’t. They also just keep price lists around in binders of the parts they don’t keep in stock and can order. This can cause troubles because if the price list gets misplaced or take up extra minutes as they look through the pricelist looking for the price of a part a customer is asking about. They also have to keep records of who sold what bikes so they can calculate commission for the sales people.
5. I am planning on doing a C# windows based application that will allow for entry of services, entry of customers, and entry of purchases. It will also allow for tracking of sales, services, time, employees, and other important business tracking. I would also like to do a simple web environment that would allow the customer to get on and see what the status of the service on their bike is at.
6. The key business functions are

Use cases :

Add inventory Edit Product

Remove inventory Delete Product

Enter purchase Enter Service Time

Enter new service Edit customer

Delete service calculate commision

Enter bike for service Get Service Report

Enter new customer

Look up existing customer

Update service status

Employee Clock in

Employee Clock out

Get sales report

Look up receipt

Domain Classes: Look at attached page

1. I will be using a agile approach to Unified Process. I plan on doing It in iterations but haven’t decided how long each of my iterations will last but I plan on having a working feature at the end of each of my iterations.
2. The sponsor isn’t involved at all. No they won’t be using the system. It is a prototype system. I came up with the idea after dropping my bike off for service and talking to them about some parts I was looking into buying that they had to look up in a paper price list that wasn’t even up to date. There are no other issues to talk about.

Part 2

Tangible benefits

View Attached Tangible Benefits Savings Breakdown spread sheet

Increased Efficiency

The new system will help the shop increase their efficiency in several different ways. It will make it easier for them to lookup prices in their system. It will also help increase their efficiency at services as it will provide them a report of how long certain services take so they can work with their techs to increase their performance on services they struggle with.

Increased sales

The Increased sales are from the increased Efficiency that the shop will see because of the new system. Also the webpage where customers can look up the status of their bikes services will also help them to increase sales as the customer will like know what stage of the service their bike is in and how many bikes are before their bike in the service queue.

Less Paper

Using this system will allow them to cut back on their paper use as they won’t need the slips for the services they will just need to print a small recipt thing that has the service number on it to give to the customer. Also they will be able to view any important reports on the computer itself and print it if they would like.

Intangible benefits

Tracking of sales

With the new system they will be able to better track their sales and the items they are selling the most of. This will allow them to determine what parts sell well and which parts don’t sell very well. It will also help them determine what new parts to stock in the store. It will also help them determine if there are parts that they should stock in store rather then special order when a customer wants them.

Happier customers

This is an important intangible benefit because having happier customers means several things. The happier they are the more likely they are to suggest other people come in and get services or buy parts. Then also the more likely they are to come back for future services and purchases they might make.

Increased turn around on services

The new system will allow them to increase the turnaround of their services. This increase in turn around will allow them to complete more services per week it will also bring more customers into the shop because the people won’t have to wait as long to get their bike back from the shop because of the increased efficiency and turn around.

Part3

1. Look at attached Tasks spread sheet
2. Look at attached Costs spread sheet

Part 4

1. Risk Analysis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Risk Description | Potential Impact on Project | Likelihood of occurrence | Difficulty of timely anticipation | Overall threat |
| Users Not Computer Savvy | Low | Medium | Medium | Medium |
| Critical Developers Not Avaliable | High | Medium | Medium | High |
| Changing Requirements | Medium | High | Medium | High |
| Application Being Rejected by users | High | Medium | Medium | High |
| Program Errors | Low | Low | Low | Low |
| Scope Creep | Medium | Medium | Low | Medium |

1. Organizational/ cultural feasibility

With the company’s current processes there is a large possibility that the employee’s will pose a large issue. They may pose a large issue because they are used to the manual system that they use and because of this comfort level with their current system they will be unwilling to change to a newer system. Also since the current system is a manual system the employees might poses limited computer understanding. So To help mitigate these potential issues the application needs to be user friendly and then it needs to make the user feel confident and comfortable when using it. There will also be no threat of job loss with this system as all it does is help simplify things related to purchases, product lookup, service entry, and tracking. All the other jobs that the employees perform will not be affected by the use of this new system.

1. Technological feasibility

The way the shop is laid out it will only need two to three computers. It will need one computer in the work area, one computer on the sales floor and than an optional computer in an office area. They could also have an optional server for holding the database. The computers will be windows based computers and they will have the standard input devices except for the sales floor computer which will also have a barcode scanner. There would be a database that is based in either micrsoftsql server or mysql. The software for constructing the application will be visual studios.

1. Schedule Feasibility

The project is expected to be take around six months to get a usuable product. This will consist of 2 week iterations where at the end of the iterations there will be some sort of deliverable. The iterations length will be adjusted after the first few iterations depending on the result. Upon the completion of an iteration, I will review to see if they are all staying consistent.

1. Resource Feasibility

The main resources are the Programming team and project leader and then the technology that is planned to be used. The project will include the programmers and the project leader. This could cause an issue as the programmers can leave and go on to other things if they please. Then the technology that will be used is a major resource in this project as it is the back bone of creating and making the program function.

1. Economic Feasibility

Look at attached Economic Feasibility Spreadsheet

Looking at the numbers the project does seem to be economically feasible. The value of benefit slowly grows each year starting in year one. A 5 year period was used in figuring up the net present value, payback period, and return on investment. The payback period is 2 years and 289 days. The Return On Investment is 398.06% over a 5 year period.

1. Based upon the Feasibility study I think this project is sort of feasible. It is feasible in an economic, technological, schedule and resources manner. It doesn’t seem to be organizationally feasible as there are a lot of things the employees would have to learn and they may not have a large technical background. It also carries a lot of risk that could derail the project at any moment.

Part 5

See Attached Work Log