

Identification of the Problem

For my A-level project I am looking to computerise a system for Stuart Watson Decorating. Stuart Watson owns a local, independent business based in Kiveton Park which provides small-scale services in the surrounding areas, working on one to two jobs at a time. Stuart has owned and run the business for over 20 years and in that time has developed a reliable clientele of people in the area. His company prioritises painting and decorating small scale jobs such as houses this can mean just doing one bedroom or re-painting the whole house however the company never does any large scale work for example government based contracts only private customers.

He offers multiple services and can be booked for a few days or up to multiple weeks depending on how many rooms need work and any issues that may need sorting before he can start. I will look at creating a system that takes into account the labour cost and the prices of basic materials used, to help Stuart keep on track with the maths, and the pricing for each job organised.

Currently, the entire system is paper based so I will consider computerising the main aspects of the company Stuart struggles with such as scheduling where him and his co-worker will be, and also making a more organised format of storing customer information and details.

In the business there are both Stuart and his co-worker which both work only on a small scale however there are sometimes problems with organising who takes on what job in relation to who has the most time to complete it to a good level. I will attempt to help them fix this problem.

At the moment, all of their work is booked by phone and there is no digital platform for the company as they rely on word of mouth. I am looking at a way to help digitise the company to help solve the issue of papers and entries being mixed up.

However, I will consider the limitations that will arise such as only focusing on one aspect of the company and not attempting to create a system for the entirety of the business.

In the next stage I will create a presentation indicating the problem to my classmates, addressing them on the broad aims of the project and asking for their feedback which I will take on board to help strengthen my system since they may think of ways which will allow my project to succeed that I didn't think of.

Discussion

Stuart Watson Decorating

Background

Stuart Watson owns an independently run decorating business located in Kiveton Park. Stuart has worked in the area for over 20 years and in that time has sustained a reliable clientele.

The businesses main role is providing small scale decorating, only in the local area, between him and his co-worker who he employs.

They only work on one to two houses at a time and take on jobs from one room to a whole house occupying between a few days to a few weeks.

Identification of Stakeholders

- Manager and owner of the company - Stuart Watson
- 2 Decorators - Stuart and his co-worker
- Accountant
- Customers - Which are local to the area and book them to decorate houses only, no larger scale projects.

Broad Aims – User Requirements Management

- Create an easy to use menu driven interface to help make the system accessible.
- A security system using a suitable hierachal access allowing only Stuart to access certain aspects of the program.

FEEDBACK

Have I missed anything important that I should add to the overall management requirements?

Have I included anything that isn't necessary or doesn't make sense to the context of the project

Broad Aims - User Requirements Staff

- Create a storage system with full file editing capabilities
- Use suitable validation techniques to reduce the number of errors
- The ability to assign work to them both and edit any changes if needed

FEEDBACK

Have I missed anything important that I should add to the overall staff requirements?

Have I included anything that isn't necessary or doesn't make sense to the context of the project

Broad Aims - User Requirements

Customers

- Create a storage system with full file editing capabilities
- Use suitable validation techniques to reduce the number of errors when entering customer details
- A suitable search to find customer details via name or postcode and output as an easy to read list

FEEDBACK

Have I missed anything important that I should add to the overall customer requirements?

Have I included anything that isn't necessary or doesn't make sense to the context of the project

Broad Aims - User Requirements Quotes

- Create a storage system with full file editing capabilities
- An appropriate search to find quotes
- A useful calculation to work out a quote for the job
- Use suitable validation techniques to reduce the number of errors

FEEDBACK

Have I missed anything important that I should add to the overall bookings requirements?

Have I included anything that isn't necessary or doesn't make sense to the context of the project

Broad Aims - User Requirements Stock

- Create a storage system with full file editing capabilities
- An appropriate search to find specific stock quantities
- A fitting sort to help reduce wasted costs and time by finding low stock

FEEDBACK

Have I missed anything important that I should add to the overall stock requirements?

Have I included anything that isn't necessary or doesn't make sense to the context of the project

Broad Aims - User Requirements

Scheduling

- Create an easy to use schedule to show when they are working and when they can be booked
- A visual, user friendly representation showing bookings for the current week and the week ahead
- The ability to conveniently change the schedule when implications arise

FEEDBACK

Have I missed anything important that I should add to the overall scheduling requirements?

Have I included anything that isn't necessary or doesn't make sense to the context of the project

Broad Aims – User Requirements Invoices

- Create a storage system with full file editing capabilities
- A suitable search to find unpaid invoices
- The option to easily search for specific customer invoices
- Use suitable validation techniques to reduce the number of errors

FEEDBACK

Have I missed anything important that I should add to the overall invoicing requirements?

Have I included anything that isn't necessary or doesn't make sense to the context of the project

Limitations of the Project

- Payment of workers
- Accounting / Taxes of owning the business
- Will not automatically contact customers with invoices, pricing or any information all of this will be done in person
- Quotes will be booked as a days work

Limitations of the Project

- When calculating the quote a standard rate of pay will be used and won't register extra hours or working bank holidays etc.
- Any change in VAT rate will not be taken into account
- If either staff are ill it won't be able to automatically cover their work this would have to be organised in person

FEEDBACK

Is there anything more I should include in the limitations of my project?

FEEDBACK

charlie kelly

Have I missed anything important that I should add to the overall management requirements?

- Putting back-up system
to reduce lost details

Have I included anything that isn't
doesn't make sense to the context
project

FEEDBACK

Have I missed anything important that I should add to the overall staff requirements?

Have I included anything that isn't
doesn't make sense to the context
project

FEEDBACK

Have I missed anything important that I should add to the overall customer requirements?

Have I included anything that isn't necessary or doesn't make sense to the customer?

- An appropriate storage system
- unique usernames , reduce mix up of details

FEEDBACK

Have I missed anything important that I should add to the overall bookings requirements?

Have I included anything that isn't
doesn't make sense to the context?

FEEDBACK

Have I missed anything important that I should add to the overall stock requirements?

Have I included anything that isn't relevant or doesn't make sense to the context?

Appropriate and user friendly interface showing available stock.

FEEDBACK

Have I missed anything important that I should add to the overall scheduling requirements?

- Backup system reducing lost schedules

Have I included anything that isn't make sense to the context?

FEEDBACK

Have I missed anything important that I should add to the overall invoicing requirements?

- levels of access for searching schedules
- user friendly interface to inform user of invoice

Have I included anything that isn't relevant or doesn't make sense to the context?

FEEDBACK

Is there anything more I should include in the limitations of my project?

If a customer cancels, will be shown as
unavailable on the system.

FEEDBACK

Have I missed anything important that I should add to the overall staff requirements?

Have I included anything that isn't
doesn't make sense to the context
project

FEEDBACK

Have I missed anything important that I should add to the overall bookings requirements?

Have I included anything that isn't
make sense to the context?

FEEDBACK

Have I missed anything important that I should add to the overall stock requirements?

Have I included anything that isn't relevant or doesn't make sense to the context?



FEEDBACK

Have I missed anything important that I should add to the overall scheduling requirements?

Using suitable validation techniques to reduce error

Have I included anything that isn't
doesn't make sense to the context?

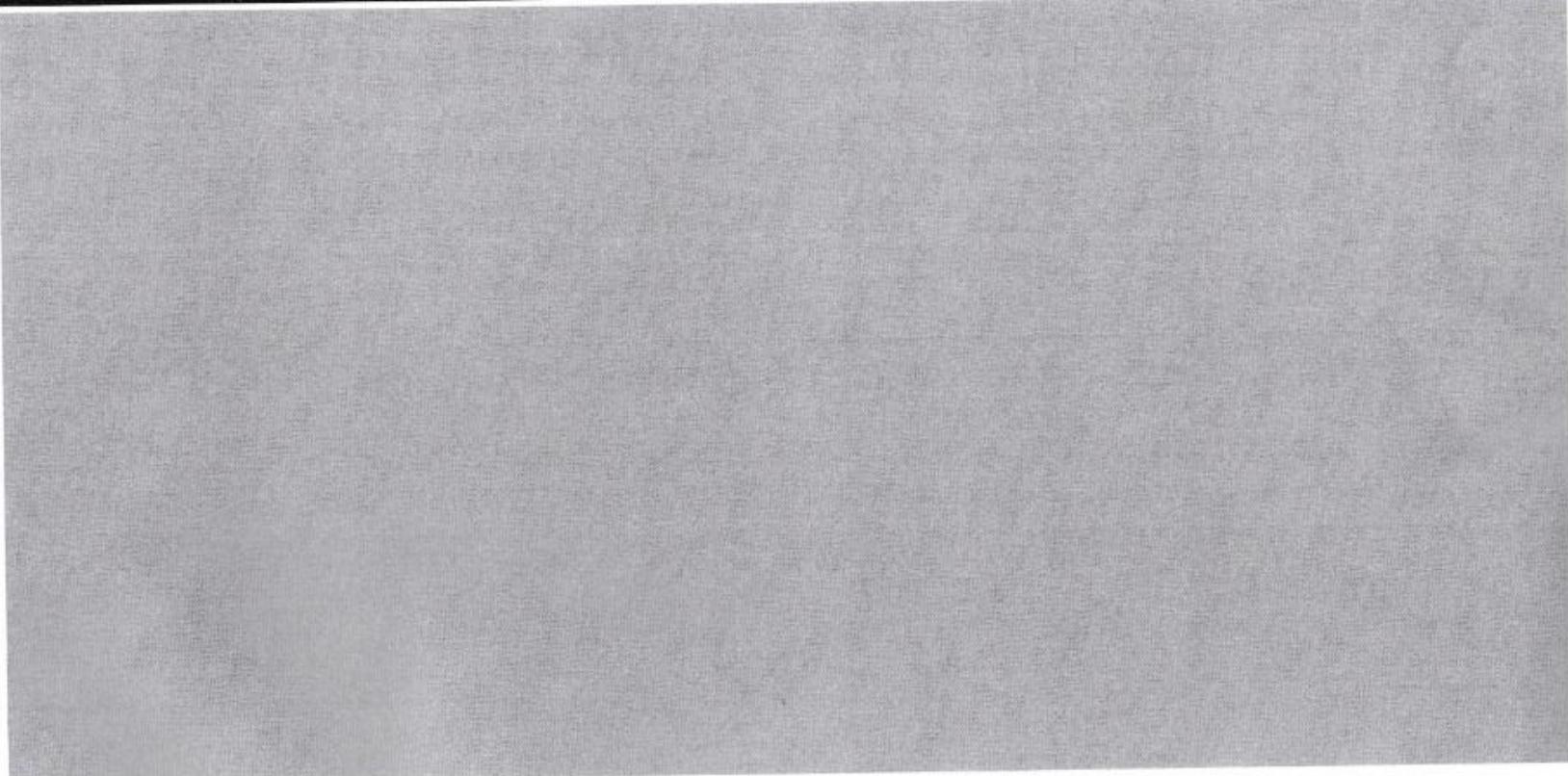
FEEDBACK

Have I missed anything important that I should add to the overall invoicing requirements?

Have I included anything that isn't relevant or doesn't make sense to the context?

FEEDBACK

Is there anything more I should include in the limitations of my project?



FEEDBACK

invalid Adebayo

Have I missed anything important that I should add to the overall management requirements?

Have I included anything that isn't make sense to the context project

Ability to log on with unique user name

FEEDBACK

Have I missed anything important that I should add to the overall customer requirements?

Have I included anything that isn't relevant or doesn't make sense to the context?

FEEDBACK

Luke Phillips

Have I missed anything important that I should add to the overall management requirements?

Have I included anything that isn't make sense to the context project

FEEDBACK

Have I missed anything important that I should add to the overall staff requirements?

Holidays

Have I included anything that isn't
doesn't make sense to the context
project

FEEDBACK

Have I missed anything important that I should add to the overall customer requirements?

Have I included anything that isn't relevant or doesn't make sense to the context?

Could there be any benefits to frequent or long term customers
such as loyalty

FEEDBACK

Have I missed anything important that I should add to the overall bookings requirements?

Have I included anything that isn't
make sense to the context?

If there any security because
if there is some on the
schedule access there should be
on the bookings / guests

FEEDBACK

Have I missed anything important that I should add to the overall stock requirements?

~~Is there~~ Stock cost changes
~~and~~

Have I included anything that isn't relevant or doesn't make sense to the context?

FEEDBACK

Have I missed anything important that I should add to the overall scheduling requirements?

Have I included anything that isn't
make sense to the context?

How could the schedule account
for changes in the number of
staff e.g. if someone leaves
or joins

FEEDBACK

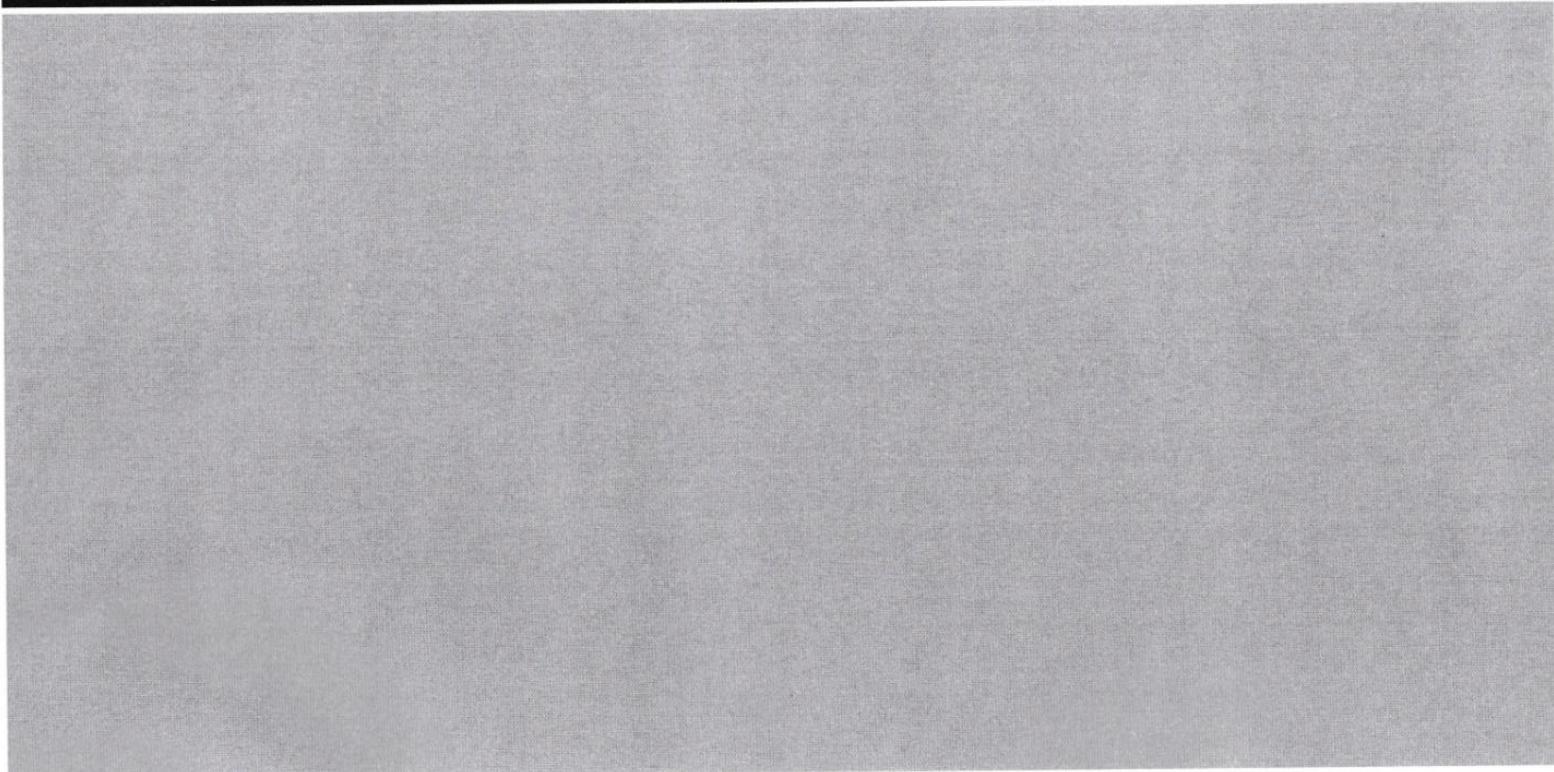
Have I missed anything important that I should add to the overall invoicing requirements?

~~Hh.~~

Have I included anything that isn't necessary or doesn't make sense to the context?

FEEDBACK

Is there anything more I should include in the limitations of my project?



Mrs H.

FEEDBACK

Have I missed anything important that I should add to the overall management requirements?

Have I included anything that isn't makes sense to the context project

- Back-up and recovery of data files
- Will you take into account encryption of data?

FEEDBACK

Have I missed anything important that I should add to the overall staff requirements?

Have I included anything that isn't does't make sense to the context project

- Will you have the ability to access the data ie carry out suitable searches
- When assigning jobs to the staff do you prioritise them in any way or is this a limitation?

FEEDBACK

Have I missed anything important that I should add to the overall customer requirements?

- ~~Can you access this data in any way~~
- Will you be able to pull lists / keep records of regular' customers to target advertising ?

Have I included anything that isn't relevant or doesn't make sense to the context?

FEEDBACK

quotes .

Have I missed anything important that I should add to the overall bookings requirements?

Have I included anything that isn't makes sense to the context?

Ability for customer to accept / reject the quote accordingly ?

Suitable analysis on rejected quotes — is there a pattern ?

FEEDBACK

Have I missed anything important that I should add to the overall stock requirements?

Have I included anything that isn't
make sense to the context?

- Amounts of stock required ~~for~~ from ~~the~~ Wholesaler ?
- Will the ~~of~~ stock get allocated to the job ?

FEEDBACK

Have I missed anything important that I should add to the overall scheduling requirements?

Have I included anything that isn't make sense to the context?

If a job needs booking a few months in advance would you need to know in a specific date range to advise a customer?

FEEDBACK

Have I missed anything important that I should add to the overall invoicing requirements?

Have I included anything that isn't relevant or doesn't make sense to the context?

Create the actual invoice
Calculate invoice or taken from
the quote?

FEEDBACK

Is there anything more I should include in the limitations of my project?

IS IT A 24/7 365 OR MON-FRI ONLY ?

• HOW FAR IN ADVANCE CAN A JOB BE BOOKED ?

WILL ANY BANK-HOLIDAYS BE TAKEN INTO ACCOUNT ?

SPARK

FEEDBACK

Nathaniel

Have I missed anything important that I should add to the overall management requirements?

Have I included anything that isn't relevant to the context of the project?

Access levels for such a small company seems like an extreme security response

FEEDBACK

Have I missed anything important that I should add to the overall staff requirements?

Have I included anything that isn't relevant or doesn't make sense to the context of the project?

FEEDBACK

Have I missed anything important that I should add to the overall customer requirements?

Have I included anything that isn't relevant or doesn't make sense to the context?

FEEDBACK - *Quizes*

Have I missed anything important that I should add to the overall bookings requirements?

Have I included anything that isn't makes sense to the context?

*Create a suitable search to see first booking via quote
price quotes by price*

FEEDBACK

Have I missed anything important that I should add to the overall stock requirements?

Add an automated re-supply of stock when it gets low

Have I included anything that isn't relevant or doesn't make sense to the context?

FEEDBACK

Have I missed anything important that I should add to the overall scheduling requirements?

Schedule should have options to see further than a week ahead

Take bank holidays into account

Have I included anything that isn't makes sense to the context?

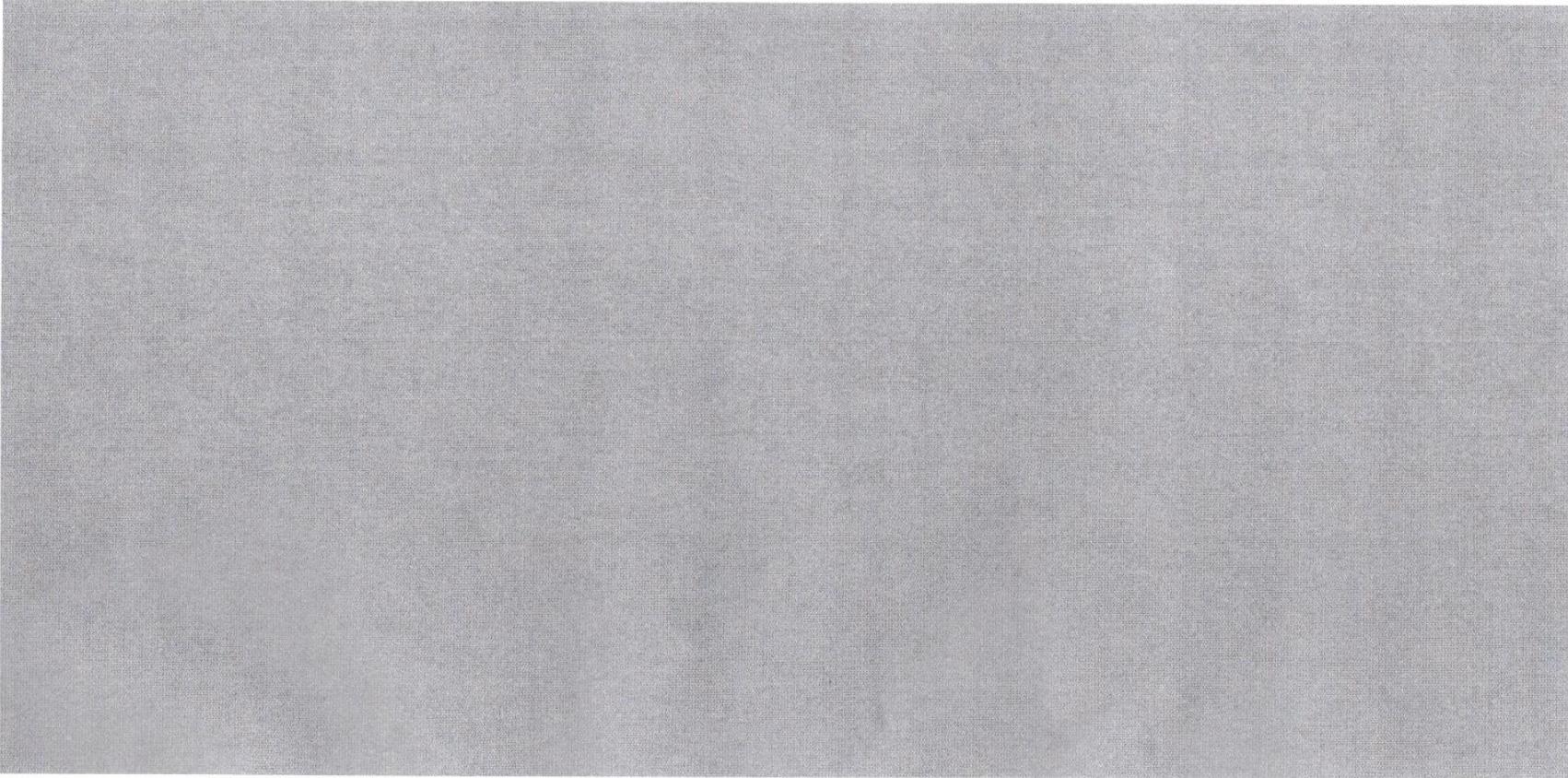
FEEDBACK

Have I missed anything important that I should add to the overall invoicing requirements?

Have I included anything that isn't relevant or doesn't make sense to the context?

FEEDBACK

Is there anything more I should include in the limitations of my project?



Tom

FEEDBACK

Have I missed anything important that I should add to the overall management requirements?

Have I included anything that isn't make sense to the context project

FEEDBACK

Have I missed anything important that I should add to the overall staff requirements?

Have I included anything that isn't
doesn't make sense to the context
project

FEEDBACK

Have I missed anything important that I should add to the overall customer requirements?

Have I included anything that isn't relevant or doesn't make sense to the context?

FEEDBACK

Have I missed anything important that I should add to the overall bookings requirements?

Have I included anything that isn't
doesn't make sense to the context?

FEEDBACK

Have I missed anything important that I should add to the overall stock requirements?

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FEEDBACK

Have I missed anything important that I should add to the overall invoicing requirements?

Have I included anything that isn't relevant or doesn't make sense to the context?

FEEDBACK

Is there anything more I should include in the limitations of my project?

Feedback from Outline

I used the attached presentation to deliver to my classmates about my proposed project. (See attached). I then asked them to complete the blank slides regarding any feedback they may have for me. The copies from them are attached.

I have summarised the feedback below:

Elements to be considered	Feedback	Accept/Reject	Justification	Action to be taken
Management / User Requirements	Backup and recovery of data files	Accept	It helps reduce loss of important information if the systems crashes.	Create an aim to allow the use of backup and recovery of data files.
	Access levels for a small company seems like an extreme response	Reject	Even if it's a small company there is still sensitive information that can only be viewed by Stuart the manager therefore I believe that security is needed in the system.	
	Ability to log on with unique usernames	Accept	As this will help improve the security of the system and make it easier for the staff to remember usernames if its personal to them.	Adjust the aim to include increased validation to allow the use of unique usernames.
	Will the encryption of data be considered	Reject	Encryption is beyond the scope of the project and is not necessary for such a small company.	
Staff	Will holidays for staff be considered?	Accept	I think it would be beneficial for Stuart and the other workers to see when each other are out of reach and cannot be booked for work when	Adjust the aim to allow Stuart and the workers to book holidays through the year on the schedule.

			customers try to book in.	
	Will a suitable search be carried out to access the data	Accept	Searching for staff information will help Stuart when he is sorting out any legal documents for his employers.	Adjust the aim to allow a search to be carried out to access staff and their information
	When assigning jobs to the staff do you prioritise them in anyway?	Reject	Prioritising jobs would create unfair advantages among employees and keep everything fairer within the company.	
Customers	Will customers have unique usernames to reduce mix-up of details?	Reject	As the customers will have no interaction with the system only the staff it wouldn't be worthwhile customers having their own login.	
	Will you keep lists of regular customers to target advertising?	Reject	The company does little to no advertising so this would be a waste.	
	Could there be any benefits to frequent or long term customers such as loyalty?	Reject	As far as I am aware there is no membership or discounts for long standing customers however if I learn more about the company this may change.	
Quotes	Create a suitable sort to find quotes by price	Reject	Searching quotes by price will not help with the efficiency of booking as the system does not	

			organise quotes by price but rather by date so the sort would not be used by the employers.	
	Ability for customer to accept / reject the quote accordingly	Accept	It would be advantageous for Stuart and other workers to see if customers have confirmed a booking or not as they will know whether they can add in any extra work or if those dates are booked for that customer.	Adjust the aim to allow the system to store whether a customer accepts or rejects the quote
	Is there any security on the schedule so quotes cannot be edited by anyone	Reject	This would not be useful as employees may need to be able to view each other's work if they are helping to finish the job or taking it over.	
	Suitable analysis on rejected quotes	Reject	Analysis is not required as Stuart has enough business so it's not important for the company to see patterns in rejections.	
Stock	Stock cost change	Accept	For the system to accurately price a job the price of stock needs to be kept up to date.	Adjust the aim to allow full editing facilities on the stock so prices can be updated
	Add an automated response to when stock gets low	Accept	An automated response will be a useful tool for Stuart and the other employees as it means they can easily manage what stock they will need before a job to help reduce	Adjust the aim to allow an automated response to low stock through a search.

			multiples wasted trips for stock where as an automated response will show all low stock meaning they can rather make one large trip.	
	Appropriate user-friendly interface showing available stock	Accept	A user-friendly interface would be highly valuable to help Stuart and his co-workers when they are using the new system.	Include an aim to display an easy-to-read list of stock information.
	Will stock get allocated to the job?	Reject	As the stock list is only the basic equipment needed for most jobs it would be unnecessary to allocate it.	
	Lists of stock required from wholesaler	Accept	For both Stuart and the staff being able to view what is needed from the wholesaler will be useful as they can see what they will need before starting a job to help them be as organised as possible increasing the efficiency of a job.	Include an aim to show a list of stock required from the wholesaler.
Scheduling	Using suitable validation techniques to reduce error	Accept	I think this will be beneficial to the system to help stop confusion and mix ups on data that is entered to the system.	Adjust the aim to allow suitable validation techniques to data entered.
	Backup system reducing lost schedules	Accept	To reduce the risk of files and data being lost which is important and	Adjust the aim to allow the backup and recovery of files

			necessary for the company to run the backup of the files would be particularly useful.	
	Schedule should have the option to see further than a week ahead	Accept	For Stuart and the co-workers to be able to book work further in advance and store it in an organised manner the schedule should have the option to see further than a week ahead.	Adjust the aim to allow the schedule to be viewed for a suitable time length
	To take bank holidays into account	Reject	Holidays for the staff are already being taken into account and since it's a small company most of the employers tend to work bank holidays therefore this does not seem viable for the company.	
	Could the schedule account for changes in the number of staff e.g., if someone leaves or joins	Reject	This is a limitation for my project as the staff at the company have not changed for many years and are all loyal, I decided to not consider any staff changes to the schedule as it would not be viable for this business.	

	Levels of access for searching schedules	Reject	Although there will be security in place for editing the schedule there will not be for viewing it as this has no implications to anybody's work or customer privacy as it will just show when someone is booked for work. This may also be helpful for employers to know when their colleagues are working.	
Invoicing	User friendly interface to inform user of invoice	Accept	This will help to clearly show the breakdown cost of the price which would be beneficial for the workers since they can then forward the invoice to the customers and if it is displayed in a user-friendly way hopefully the customers would have no issues reading it.	Adjust the aim to allow the use of a convenient user-friendly interface

	Create the actual invoice	Accept	As the invoices are useful for both workers and customers since it shows all the information about a job it would be helpful to create the invoices for the company.	Adjust the aim to allow the creation of a suitable invoice per booking
	Take the calculation from the quote	Reject	Since a quote is only an estimated price and different implications may cause the job to change or increase / decrease in price the calculation used in the cost will not be worked out until then.	
Limitations	Will it be Mon-Fri only?	Reject	It will be Monday – Sunday as the workers tend to also do work on the weekends so it would be wasteful to not include them.	
	If a customer cancels will it still be shown as unavailable on the system	Reject	If a customer cancels then they would be removed from the system to allow way for the addition of new jobs as this allows the company to take on any additional work instead of leaving an empty space.	

Final lists of aims and limitations:

User Requirements:

- The user interface will be menu driven to help make the system easy to use

Staff:

- The backup and recovery of data files
- Create a storage system with full file editing capabilities
- Use suitable validation techniques to reduce the number of errors
- Security in place to allow staff to logon with unique usernames and passwords which will be validated
- Allow Stuart and his co-workers to book holidays throughout the year
- A suitable search to allow Stuart to search for employees and their information

Customers:

- The backup and recovery of data files
- Create a storage system with full file editing capabilities
- Use suitable validation techniques to reduce the number of errors
- A suitable search to find customer details via name or postcode and output as an easy to read list

Quotes:

- Backup and recovery of data files
- Create a storage system with full file editing capabilities
- The ability to accept / reject quotes accordingly
- Suitable hierarchical access so quotes cannot be edited by any one
- A search to find quotes via customer name or reference
- Multistage calculation to work out an estimated cost of a job
- Use suitable validation techniques to reduce the number of errors

Stock:

- Backup and recovery of data files
- Create a storage system with full file editing capabilities
- A search to find stock for information such as cost or stock quantity
- An automated response to help find low stock
- A sort to find stock quantities from low to high
- A user friendly interface which makes the list easy to read and understand

Invoices:

- Backup and recovery of data files
- Create a storage system with full file editing capabilities
- A search to find unpaid invoices and customer invoices
- Use suitable validation techniques to reduce the number of errors
- A user friendly interface that makes an invoice easy to read and understand for both employees and customers

- Using a multistage calculation when the invoice is created

Scheduling:

- Backup and recovery of data files
- Hierarchical access in place to allow only certain staff to edit the schedule
- A user-friendly interface which is easy to use and view for the employees
- Create a storage system with full file editing capabilities
- An option to view the schedule and work booked for a month in advance
- Use suitable validation techniques to reduce the number of errors

Limitations:

- The payment of the workers
- Accounting / Taxes
- Will not automatically contact customers with invoices, pricing or any information
- Quotes will be booked as a full day's work
- Standard rate of pay will be used when pricing a quote
- Any changes to VAT won't be taken into account
- Any changes in staffing due to illness won't be automatically taken into account