

2 Investigation

2.1 Carry out an investigation of the current system using a variety of appropriate methods.

To fully investigate how data is currently input, processed and output in the semi-automated system I must carry out a number of investigative methods on the company. These will allow me to gain a proper insight into how the whole system is currently being implemented by all users within the organisation.

2.1.1 Interview

I will need to have an interview with specific people within the association who use the system on a day to day basis and also highly regarded people within the association to ensure their views are properly considered so I can find out as much information about the association and system from them.

Firstly, I will need to arrange an interview with the President of the organisation and a member of the admin team to determine all the data that they collect from each band and all of their individual members and how they process and store their data. I will also need to find out if there are any major issues which need resolving in the new system.

President's Interview

Can I ask currently how do new members register to a band?

When a user registers in the current system, the Pipe Major must give a form to the person and they must fill out all of their personal details and the Pipe Major must complete the necessary details of the band. The form must be then signed by the new member, the Pipe Major and the Secretary or Treasurer of the band. Once fully complete this form must be then sent off by post to the RSPABNI and the admin must then process this information and add it to a database of members details.

What fields do you require the new user and Pipe Major to fill out in this registration form?

The Pipe Major must fill out the band's name, branch, band number and their current grade.

The user must then select which instrument within a specific section, whether it would be piper, drummer, bass drummer, tenor drummer etc. The new member is required to give their full name, street name, city/town and postcode and their date of birth along with the date of when the form was completed.

If members are registered to a specific band, how do they change band? Is this allowed or possible?

If a member decides that they wish to change bands whether to challenge themselves in a band in a higher grade or for any other reason, they must complete another form in whereby they are released from their current band and have the option of registering to a new band.

Again, what is involved in the completion of these forms? What information do you collect to be able to fully process this in your current system?

This form is split into two sections; the first section is to be completed by the releasing band and the second section by the receiving band. If the member is not wanting to join another band section two must be left blank.

In Section One, the member must state the band and the branch of the band which they wish to be released from, the band number and the grade at which the band competes at.

The releasing band must give the name, address and date of birth of the released member, provide which instrument the member plays and the band member's registration number which the band receives from headquarters when the member was first registered. The Pipe Major and the Secretary must then sign and by doing this they confirm that the releasing member has returned all equipment and uniform and has paid all current dues.

In section Two, the new band must complete their new information including: the band name, branch, band number and grade. The Pipe Major and Secretary of the receiving band then must sign to say that they are willing to take on this member and on which date and again which instrument they will be playing.

The transferring member must then sign to confirm all the information above is correct before the form is then sent to headquarters to be processed and the database once again updated.

Would you be able to run me through how the scoring system works?

For each competition, there are six grades with different difficulty ratings. Each band in each grade is judged by the same judges. There are two piping judges, one drumming judge and an ensemble judge. Each judge must complete a comment sheet about each band's performance noting down things they liked about the performance and things that the band could work on. After the individual band's performance, the comment sheets are all collected by admin staff and photocopied. This is because they must keep a copy of the comment sheet as the original is given to the band during the march past and awards. Once the last band has performed in the particular grade, each judge is then tasked with ranking the bands from best to last, giving the best band a '1' and the worst the highest number, specifically on the section of the band that they were marking. The results from each judge are collated and the results given by each judge

for a particular band are added up. The band which comes out with the lowest overall score is placed first and so on. If only a likely event of a tie between two positions where two bands have the same score, the band with the lowest ensemble score will be placed ahead of the other band.

Additionally, there are separate prizes for each section; best pipes, best drum core and best bass section along with best M&D (March and Deportment). The winner of best pipes is the band with the lowest overall piping score, the best drum core is the band who the judge ranked 1st for drumming, and the best bass section is also chosen by the drumming judge. The winner of the M&D award is chosen by the ensemble judge for the band that is dressed the best and displayed the best deportment.

Is there anything that you know of which doesn't currently work for the association in relation with the current semi-computerised system and is there anything you would like added or improved?

As I do not really get involved too much in the administration side of the association, I am not sure exactly what needs improved to save the admins time and effort collating the results and publishing them after the competition. I don't think ringing the coordinator in charge of each competition to enter it is the right solution so I would like to see some way that possibly each Pipe Major can log onto a system which would allow them to enter all the competitions in one place and be able to see which competitions they have entered and be able to pull out of competitions in advance, with a fee for a late notice within a specified time period. I would like to give the option for bands to organise transportation to and from competitions, however this would be provided through an external company. I would like to see the new system make the association paperless, making the registration/transfer forms electronic and the judges being able to enter their results directly into the system saving for all the manual process currently done by all the voluntary admin staff. You will need to speak with the lead admin Ian [REDACTED] to get all the technical information and to be able to get an insight into how they process and store all the details of bands and their members, as I am no use in that respect.

In my own opinion I would like to see the turnaround time reduced between the last band playing and the start of the march past and finale. I would just like to make the whole process of registration of members, entering competitions and recording and accessing results so much easier and more efficient for all my colleagues and bands.

Admin Leader Interview

Hello Ian, after speaking to Winston about the current system with regards the information that the association gather about its members and bands, I have been able to figure out

exactly all the information that you must store, but would you be able to give me a quick over view of how you actually go around storing the data?

At the minute, we use an excel sheet to store the data about each member. We do have a few features within the excel sheet which does allow us to search under different fields to find specific members.

We use another excel spreadsheet to store information about each band and their results from each competition. We have then another spreadsheet that we use to store all the results from every competition. This is very human intensive and requires a lot of manual processing and not the most efficient way of storing data due to the mass of data redundancy and time involved.

Are there any features that I could implement which would make your job easier and all for the most efficient way of processing the results from each competition?

With the new system you could create an auto rank/sort that is able to order the bands with respect to their total score which would decrease the turnaround time and give my colleagues less work to do.

What kind of outputs do you have once the member's/competition data has been processed?

Once the deadline for the competition has been reached, the list of entered bands is created and attached to their website, followed by the addition of their competing time and the competing circle they must go to.

We are able to use the results once they have been processed and stored in the excel spreadsheet to then produce a pdf document highlighting all the winners from each completion and this is then uploaded to our website where the public is able to view after the competition.

2.1.2 Questionnaire

My Questionnaire will target the Pipe Majors from different grades to ensure I get a wide range of opinions. It will also allow me to gather the opinions of all stakeholders within the association and get feedback from them on how good or bad they think the currently system is and what features they would like to see improved and if they would like to see any new features.

The image displays five mobile phone screens, each showing a different question from a questionnaire. The phones are arranged horizontally.

- Question 1:** "How do you find the current Transfer and Release of members using the current paper based forms?"
Options: Very Poor, Poor, Average, Very Good, Excellent, Other (please specify).
Additional comments: [Text area].
- Question 2:** "Would you prefer to be able to enter all competitions at once using a new system rather than ringing?"
Options: Very Satisfied, Satisfied, No opinion, Unsatisfied, Very unsatisfied, Other (please specify).
Additional comments: [Text area].
- Question 3:** "How do you find paying the entrance fee on arrival at a competition?"
Options: Like it, I don't mind, Too much hassle, Other; please specify.
Comments: [Text area].
- Question 4:** "Would you like the option of being able to book transport for your band to and from competitions?"
Options: Yes, No, I'm not sure.
Comments: [Text area].
- Question 5:** "If the results sheets were to become electronic, in a rating between 1 - 10 how likely would you like for them to be sent via email after a competition?"
Options: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.
Comments: [Text area].

RSPBANI Pipe Major Questionnaire

Q1. How do you find the current Transfer and Release of members using the current paper based forms?

Poor

Q2. Would you like the option of being able to book transport for your band to and from competitions?

Yes

Q3. How satisfied are you ringing the co ordinator of each competition to enter?

Unsatisfied

What do you think about having an online platform which would allow you to enter all competitions in one central place?

Yes I think being able to enter all competitions at once is a brilliant idea and would save so much time and would be quicker for bands and organisers

Q4. How do you find paying the entrance fee on arrival at a competition?

Too much hassle

Comments:

When you are trying to gather a band to warm up and you are competing at the start it is very awkward to go and pay

Q5. If the results sheets were to become electronic, in a rating between 1 - 10 how likely would you like for them to be sent via email after a competition?

8

Comments:

I think this is a much better idea - they won't get damaged if it is raining

RSPBANI Pipe Major Questionnaire

Q1. How do you find the current Transfer and Release of members using the current paper based forms?

Average

Additional comments

I think currently it is okay as it means that's members can't officially leave until I have signed their form which means that the band has the opportunity to gather all their equipment from the releasing member.

Q2. Would you like the option of being able to book transport for your band to and from competitions?

Yes

Comments:

Yes - I struggle at the moment trying to get a coach provider for all competitions.

Q3. How satisfied are you ringing the co ordinator of each competition to enter?

Very unsatisfied

What do you think about having an online platform which would allow you to enter all competitions in one central place?

This would be so much less hassle and it would mean that less errors would be made as co ordinators are not necessarily making note of who rings them but instead try and remember it in their head before they send their final names off to headquarters.

Q4. How do you find paying the entrance fee on arrival at a competition?

I don't mind

Too much hassle

Comments:

I don't mind this method as my band always plays later on in the day.

Q5. If the results sheets were to become electronic, in a rating between 1 - 10 how likely would you like for them to be sent via email after a competition?

10

Comments:

This would be a great idea as it means I can forward it on to all my band members and post it up on my band groupchat

RSPBANI Pipe Major Questionnaire

Q1. How do you find the current Transfer and Release of members using the current paper based forms?

Poor

Q2. Would you like the option of being able to book transport for your band to and from competitions?

Yes

Q3. How satisfied are you ringing the co ordinator of each competition to enter?

Very Satisfied

What do you think about having an online platform which would allow you to enter all competitions in one central place?

I prefer ringing up because I'm not sure if I would be able to use the new system

Q4. How do you find paying the entrance fee on arrival at a competition?

I like it

Q5. If the results sheets were to become electronic, in a rating between 1 - 10 how likely would you like for them to be sent via email after a competition?

1

Comments:

I think having them on a system would be quite hard to be able to sort them where as paper is very easy for me

RSPBANI Pipe Major Questionnaire

Q1. How do you find the current Transfer and Release of members using the current paper based forms?

Poor

Q2. Would you like the option of being able to book transport for your band to and from competitions?

No

Q3. How satisfied are you ringing the co ordinator of each competition to enter?

No opinion

What do you think about having an online platform which would allow you to enter all competitions in one central place?

Good idea as long as it is easily accessible and simple and intuitive to use

Q4. How do you find paying the entrance fee on arrival at a competition?

Too much hassle

Comments:

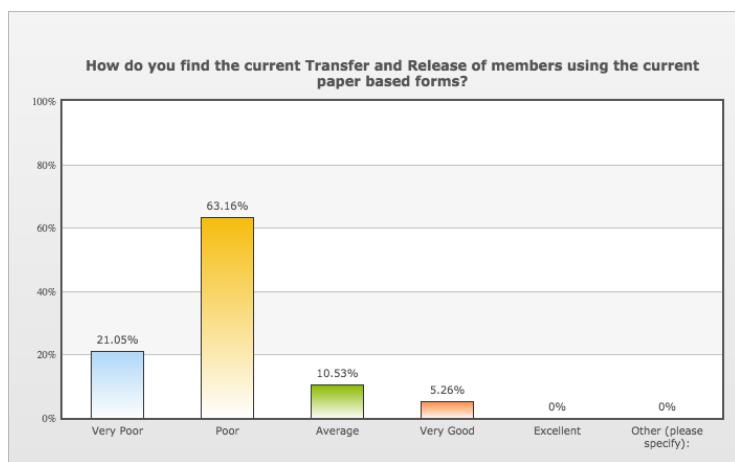
I would prefer to make an online payment or a payment all at once

Q5. If the results sheets were to become electronic, in a rating between 1 - 10 how likely would you like for them to be sent via email after a competition?

10

This Questionnaire was very useful to get a wide range of opinions from different Pipe Majors to get their views on the current system.

The addition for the Pipe Majors to also add any extra comments below each question came in more useful than first thought. It allowed them to explain their reasoning behind their choices and gave an insight into how band life is.

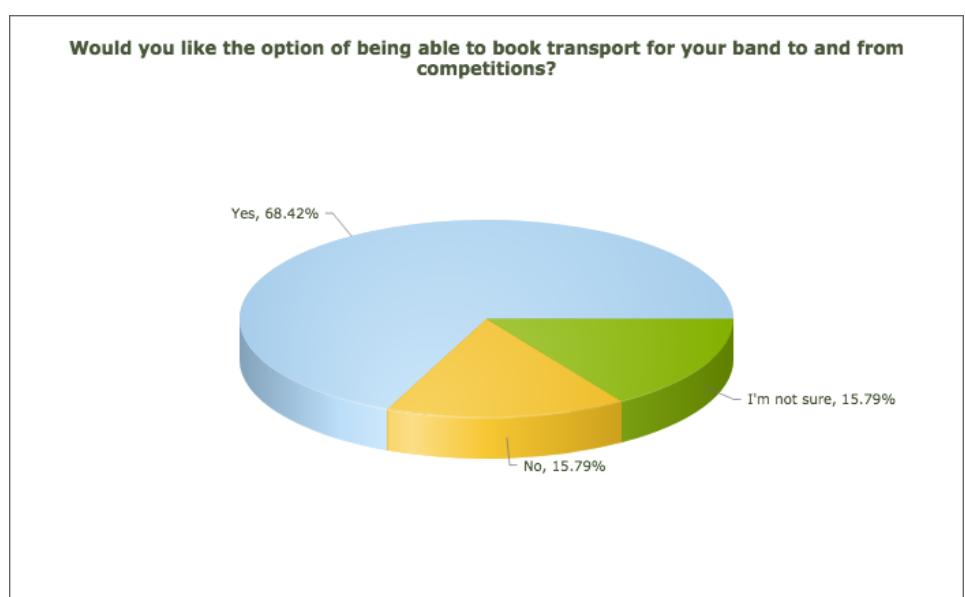


Most thought that the current transfer/release forms very poor with examples saying that it takes too long for the admin staff to process the request to change band and sometimes they don't do it in time and bands have been disqualified as they have had the new member playing before confirmation comes through.

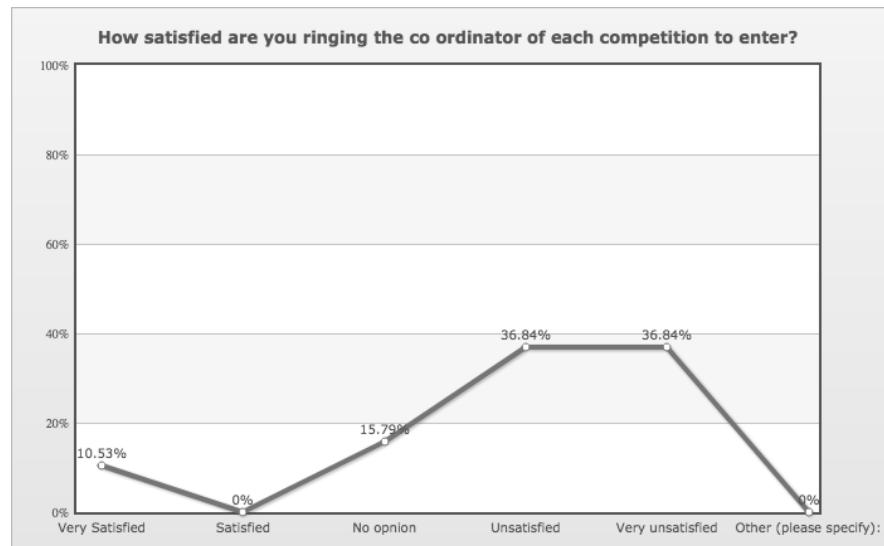
However, some thought it was a good idea as it means that the member leaving

can't leave before the pipe major signs the form off – this gives the opportunity for the old band to make sure they get all their equipment and uniform back from the leaving member before they move on. I will try and implement somehow that will allow the Pipe Major of the leaving band to confirm that the leaving member has returned everything whether it would be by adding a tick box that only the PM can tick or just simply an electronic signature to confirm.

Statistically Pipe Majors would like to see the addition of the option of booking transport to and from competitions. Nearly seventy percent of Pipe Majors who completed out my questionnaire would like to see this feature in the new system as it would save them time getting quotes from lots of company's and finding the most suitable.

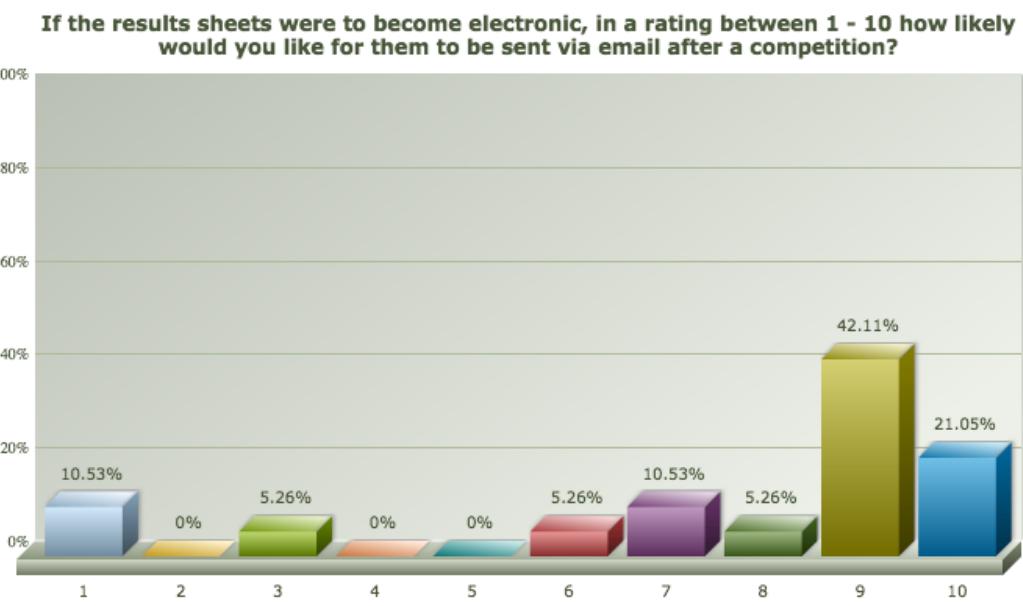


The vast majority of Pipe Majors thought that the current method of entering competitions was unsatisfying. To pick an example, an individual said that organisers get so many phone calls from Pipe Majors that it is very easy for them to forget to record a bands entry and this could lead to many issues down the line when bands aren't in the draw and the grade has to be redrawn or similar problems.



Very little Pipe Majors disagreed with the idea of competitions being marked electronically which would lead to the results being sent out as an email attachment.

Several liked this idea as it would mean they were able to share it quickly and easily with the rest of their band.



2.1.3 Direct – Observation

I will spend a day with the Administration staff which will also allow me to observe how they use the system. This will make me aware on the limiting factors of the current solution and give me a direct opportunity to see how I can make the new system more efficient. The direct observation will also allow me to gather all documents that they currently use in current system which I will be able to analyse to understand how they process and then store their data. Throughout the direct observation and interview I was able to collect all the documents that are used in the system in a daily basis.

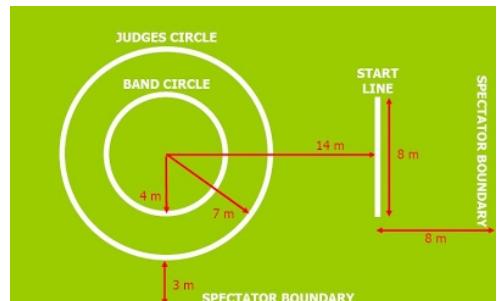
Registration and Transfer

I was able to get an example of a registration form (*figure 2.1.4.1*) and a transfer/release form (*figure 2.1.4.2*). These are filled in by the member and countersigned by the necessary people in the band(s). Once the registration has been received by headquarters, new members must be added to the members excel sheet with all their details under specific fields, with all their personal details and then the band that they registered with. Once this is done and they have received confirmation are they only allowed to compete with the band. A similar procedure occurs with the transfer form but only the member is searched for in the excel worksheet and the band that they are registered to is updated to the new band or ‘-’ if they did not join another band.

Entering competitions, making the draw and publishing

Each band if they (in most cases the Pipe Major or Secretary) wish to compete in competitions must ring up the competition organiser to put forward their band for each competition. Entries must be made by either text/call or in person before the closing deadline. Once the deadline is closed the organiser passes on their list of bands in each grade to headquarters and updates their current system so that the bands that have entered are listed before the draw takes place. The draw to see in what order each band plays takes place two weeks before each competition. The names of each band per grade are put into a bag and the president picks out the bands one by one. The first band picked out is first to play and the last band to be picked is the last to play. Once again, the current system must be updated so that the bands can then see when they have been drawn to play. Each band will be given a competing time where they must be at the start line ready to begin their set. Depending on the grade each band has a time slot that they must play in before the next band arrives at the line.

- All grade 4 (A & B) = 4mins, all grade 3(A & B) = 5mins, grade 2 = 6mins and grade 1 = 8mins



Judging and results

Each Judge for each performance will get a comments sheet (*Figure 2.1.4.3 – 2.1.4.6*) in which they must record what they liked and didn't like about each performance along with tips and improvements for next time. They must at the top of each sheet fill in details about the competition, the band they are judging and their details. Once the band has finished their set, an admin representative must then collect the comment sheets off all judges before the next band can begin.

The admin team must keep a photocopy of each comment sheet and then collate the sheets for each band, so they can be given out after/during the results and march past.

After the final band has finished their set, only can the judges start filling in their results sheet (*figure 2.1.4.7 – 2.1.4.10*) for the section that they were judging (Piping 1, Piping 2, Drumming and Ensemble), they must fill in the same details as before in the comments sheet and then fill out all the bands and the draw they played in along with the ranking that they have gave each band. Where for example if 11 bands competed, the best band would get '1' and the worst band would get '11'.

The admin staff then have the role of adding up the score of each band in each grade, and then they create the final results sheet for each grade. The rank given by each judge for each section and the band in each grade with the lowest overall score wins and the band with the second lowest comes in second place. In the event of two bands receiving the same score, the band with the lower ensemble score will be placed ahead of the band with the higher ensemble score.

The admin staff then must create a document with the results of every band for all grades. This is then published to the current system so that the public can see how every band did. (*Figure 2.1.4.12*)

2.1.4 Document Analysis

Figure 2.1.4.1



The Royal Scottish Pipe Band Association

15 Washington Street, Glasgow G3 8AZ. Telephone 0141 221 5414



REGISTRATION FORM

ALL SECTIONS TO BE COMPLETED IN BLOCK CAPITALS

PART ONE: ALL PARTS TO BE COMPLETED BY NEW MEMBER

INCOMPLETE FORMS WILL DELAY REGISTRATION

AS A CONDITION OF MEMBERSHIP, THE RSPBA WILL PROCESS THE DATA
CONTAINED IN THIS APPLICATION FORM WITH THE PUBLISHED PRIVACY POLICIES
AT WWW.RSPBA.ORG

BAND: Mc Neilstown
BRANCH: Northern Ireland

BAND NO. 72
GRADE: 3B

The above band has registered the following member as from (date): 14.9.17

Please tick as appropriate

P/M _____
L/Drummer _____
Drum Major _____
P/M Ass _____
Drummer Bass Drummer _____
Committee _____
Piper _____
Secretary _____
Tenor Drummer _____

MEMBER'S NAME

Andrew Cole

ADDRESS

44 ANNS STREET
CULLYBACKY

POSTCODE BT39 7XQ

DATE OF BIRTH

12.7.1979

MEMBER'S SIGNATURE

Ac

PIPE MAJORS SIGNATURE

O

SECRETARY / TREASURER'S SIGNATURE

R Stu

On completion of Part One, this form should be returned to RSPBA Headquarters for endorsement.

Figure 2.1.4.2



The Royal Scottish Pipe Band Association

45 Washington Street, Glasgow G3 8AZ. Telephone 0141 221 5414



RELEASE / TRANSFER FORM

ALL SECTIONS TO BE COMPLETED IN BLOCK CAPITALS

PART ONE: ALL PARTS TO BE COMPLETED BY RELEASING BAND

INCOMPLETE FORMS WILL DELAY REGISTRATION

AS A CONDITION OF MEMBERSHIP, THE RSPBA WILL PROCESS THE DATA CONTAINED IN THIS APPLICATION FORM IN LINE WITH THEIR PUBLISHED PRIVACY POLICIES AT WWW.RSPBA.ORG

BAND: Broughshane
BRANCH: Northern Ireland

BAND NO. 115
GRADE: 4B

The above named Band has released the following member as from (date): 25/2/16

Please tick as appropriate

P/M _____	P/M Ass. _____	Piper <input checked="" type="checkbox"/> Secretary _____	Committee _____	_____
L/Drummer _____	Drummer _____	Bass Drummer _____	Tenor Drummer _____	Drum Major _____

MEMBER'S NAME David Reed

ADDRESS 9 Belfast Road, Portrush, County Antrim NI

POST CODE BT67 4BL

DATE OF BIRTH 7/4/1986

BAND MEMBER'S REGISTRATION NUMBER: 774

We confirm that ALL equipment has been returned and all monies due have been paid.

PIPE MAJOR'S SIGNATURE [Signature]

SECRETARY / TREASURER'S SIGNATURE [Signature]

On Completion of Part One, this form should be given to the member concerned for submission to the new band the member is joining. If the member does not intend joining another band, a copy of this form should be forwarded to RSPBA Headquarters in order that their name can be removed from the releasing Band's membership list.

PART TWO: ALL PARTS TO BE COMPLETED BY RECEIVING BAND

INCOMPLETE FORMS WILL DELAY REGISTRATION

BAND: Field Marshall Montgomery
BRANCH: Northern Ireland

BAND NO. 97
GRADE 1

We confirm that we are prepared to accept the above named person as a member of our band as of (date):

PIPE MAJOR'S SIGNATURE [Signature]

SECRETARY'S SIGNATURE [Signature]

NEW MEMBER'S SIGNATURE David Reed

This member will act in the capacity as:- Please tick as appropriate

P/M _____	P/M Ass. _____	Piper <input checked="" type="checkbox"/> Secretary _____	Committee _____	_____
L/Drummer _____	Drummer _____	Bass Drummer _____	Tenor Drummer _____	Drum Major _____

On completion of Part Two, this form should be returned unseparated to RSPBA Headquarters for endorsement.

Figure 2.1.4.3

 RSPBANI Royal Scottish Pipe Band Association Northern Ireland Branch		Official Results Sheet
Championship: Ulsters	Date: 26 / 7 / 17	
Location: Antrim	Adjudicator: C Edgar	
Band: Walk of Atholl	Section: Piping	
Draw No.: 9		

Disappointing early e led to inconsistent playing throughout

low hand doublings were good, however as set continued it was noticeable that players were struggling as drones fluctuated in pitch as blowing weakened

Good Finish

- Flat e's
- Sharp High A's

Registered with The Charity Commission for Northern Ireland NIC103199

Figure 2.1.4.4

 RSPBANI Royal Scottish Pipe Band Association Northern Ireland Branch	Official Results Sheet
Championship: Ulster	Date: 26/07/17
Location: Ardscoil	Adjudicator: J. McAllister
Band: Vale of Atholl	Section: Piping
Draw No: 9	

A start & spoilt a good solid opening tune
Strong lower hand movements however top
hand lacked refinements
Strong finish
Chanters well tuned in most cases

Figure 2.1.4.5

 RSPBANI Royal Scottish Pipe Band Association Northern Ireland Branch		Official Results Sheet
Championship: Ulster	Date: 26 / 07 / 11	
Location: Antrim	Adjudicator: M. Wilson	
Band: Vale of Atholl	Section: Drumming	
Draw No: 9		

crisp rolls at beginning to open

Pitch of drums too high

Phrasing and integration between tunes was superb

Unclean finish

Bass section was strong providing added effect

flourishing was slightly untidy at times

Figure 2.1.4.6

 RSPBANI Royal Scottish Pipe Band Association Northern Ireland Branch		Official Results Sheet
Championship:	ULSTER	
Location:	Antrim	
Band:	Vale of Atholl	
Draw No:	9	
Date: 26/07/17		
Adjudicator: J. CAMPBELL		
Section: Ensemble		
<p>Good integration between all sections</p> <p>Tempo too fast at beginning as it gradually decreased as set progressed</p> <p>Both start and finish were untidy</p> <p>Intonation was lacking</p>		

Registered with The Charity Commission for Northern Ireland NIC103199

Figure 2.1.4.7



Official
Results Summary

Championship: Ulster
Location: Antrim

Date: 26 / 08 / 17
Adjudicator: J Mates

Grade 1 – Piping 1

Draw	Band	Piping 1
1	Gfield Marshal	1
2	St Laurence O'toole	2
3	PSNI	6
4	Scottish Police	8
5	Ravara	9
6	Closkelt	7
7	Scottish Rover	4
8	Inverary	3
9	Vale of Atholl	5

Figure 2.1.4.8



Official
Results Summary

Championship: Ulster

Date: 26 / 07 / 17

Location: Antrim

Adjudicator: C Edgar

Grade 1 – Piping 2

Draw	Band	Piping 2
1	Field Marshal	1
2	St Lawrence O'toole	3
3	PSNI	5
4	Scottish Police	8
5	Ravara	9
6	Closkelt	4
7	Scottish Power	6
8	Inverary	2
9	Vale of Atholl	7

Figure 2.1.4.9



Official
Results Summary

Championship: ULSTER

Date: 26/07/2017

Location: ANTRIM

Adjudicator: M. WILSON

Grade 1 - Drumming

Draw	Band	Drumming
1	FIRE MARSHAL	2
2	St Lawrence O'Toole	4
3	PSNI	3
4	SCOTTISH POLICE	9
5	RAVARA	6
6	CROSS KELT	7
7	SCOTTISH POWER	8
8	INVERARY	1
9	VALE OF ARHOLL	5

Best Bass Section: CROSS KELT **Draw:** 6

Registered with The Charity Commission for Northern Ireland NIC103199

Figure 2.1.4.10



Official Results Summary

Championship: U L S T E R

Date: 26/07/17

Location: ANTRIM

Adjudicator: J. CAMPBELL

Grade – Ensemble

Draw	Band	Ensemble
1	FIELD MARSHAL	1
2	ST-LAWRENCE O'TOOLE	3
3	PSNI	4
4	SCOTTISH POLICE	9
5	RAVARA	8
6	CLOSICELT	7
7	SCOTTISH POWER	6
8	INVERARY	2
9	VALE OF ATHOLL	5

Best M&D: PSNI **Draw:** 3

Figure 2.1.4.11



Official
Results Summary

Championship: Ulster

Date: 26/7/2017

Location: Antrim

Admin: I. BIKOU

Grade 1 – Results

	DRAW	BAND
BEST PIPES	1	Field Marshal Montgomery
BEST DRUM CORP	8	Inveraray
BEST BASS SECTION	6	Closkett
BEST M&D	3	Police Service of Northern Ireland

Figure 2.1.4.12



Ards And North Down Championships Results

Saturday 12th May 2018
Castle Park, Bangor

Grade 1:

Place	Band	Piping 1	Piping 2	Piping Total	Drumming	Ensemble	Total
1	Field Marshal Montgomery	1	1	2	1	1	4
2	St. Laurence O'Toole	2	2	4	2	2	8
3	Vale of Atholl	4	3	7	3	3	13
4	Police Service of Northern Ireland	3	4	7	4	4	15

Grade 2:

Place	Band	Piping 1	Piping 2	Piping Total	Drumming	Ensemble	Total
1 EP	Closkeit	2	1	3	3	1	7
2	Ravara	1	3	4	1	2	7
3	Mandurunningham	3	2	5	2	3	10
4	Marlisco & District (3a)	4	4	8	4	4	16
5	Colmcille	5	5	10	5	5	20

Grade 3A:

Place	Band	Piping 1	Piping 2	Piping Total	Drumming	Ensemble	Total
1	Thiopval Memorial	1	2	3	5	2	10
2	Marlisco & District	4	4	8	3	1	12
3	Matt Boyd Memorial	2	1	3	6	4	13
4 EP	Quinn Memorial	3	6	9	2	3	14
5	Drumloough	5	3	8	1	5	14
6	Upper Crossgar	6	5	11	4	6	21

Grade 3B:

Place	Band	Piping 1	Piping 2	Piping Total	Drumming	Ensemble	Total
1	Batdenhill (3a)	1	1	2	1	2	5
2	St. Mary's Derrytrasna (3a)	2	2	4	5	1	10
3	Glocher & District	3	3	6	2	4	12
4	Tullylagan	4	6	10	4	3	17
5	Major Sinclair Memorial	5	4	9	3	6	18
6	Raffrey	6	5	11	6	5	22
7	Cleland Memorial	7	7	14	7	7	28

Grade 4A:

Place	Band	Piping 1	Piping 2	Piping Total	Drumming	Ensemble	Total
1	McNeillstown (3b)	2	2	4	1	1	6
2	Raphoe Ulster-Scots	1	1	2	4	3	9
3	Kilcoag	3	3	6	7	2	15
4 EP	McDonald Memorial	5	4	9	5	4	18
5	Cullybackey*	4	5	9	3	6	18
6 EP	Augharban	6	8	14	9	5	28
7	Ballycoan*	7	6	13	8	7	28
8 EP	Tanlaght O'Croily	8	7	15	6	8	29
9	Clytibret	9	9	18	2	9	29



The Royal Scottish Pipe Band Association

45 Washington Street, Glasgow G3 8AZ. Telephone 0141 221 5414



Grade 4B:

Place	Band	Piping 1	Piping 2	Piping Total	Drumming	Ensemble	Total
1	Bessbrook Crimson Arrow (4a)	1	1	2	6	1	9
2 EP	Broughshane & District	2	4	6	5	2	13
3	Gransha (4a)	3	3	6	1	6	13
4	Wicklow	4	2	6	4	5	15
5	Sgt Walker Memorial	5	5	10	3	3	16
6	Altnavagh Memorial	6	7	13	2	7	22
7	Major Sinclair Memorial*	7	6	13	7	4	24
8	Killeshin	8	8	16	8	8	32
9	Harry Ferguson Memorial	9	9	18	9	9	36
10	Kirkistown	10	10	20	10	10	40

From these findings, I have come to the conclusion, that the association require a system that is able to meet their current needs when grading competitions. If my system does not meet these very specific needs for judging and grading competitions, my system will not be successful. From gathering all these documents, I have been able to gather all the information I will need to start to design and prototype my processing stages that will be required to ensure my system will be as of an industrial standard that meets the criteria of their current system.

Currently, to complete a specific task, whether it is registering a band or member or judging a competition, an official form must be filled out. These forms can be accessed by the band through the headquarters. At a competition each judge will have a comments sheet for every band. These sheets are very generic and require the judge to write their name, the band name, and the competition details on every sheet. This is good as it means that less forms are needed as one form is able to be used for all grades.

In the current system, the integrity of the data is not great. There is no method of checking that the administrator has calculated the results correctly and hasn't made a mistake in the process. This could be improved by making two administrators' carryout this task and then checking that what they both matching results summaries with all bands having the same score after the process.

2.2 Research existing solutions to similar problems.

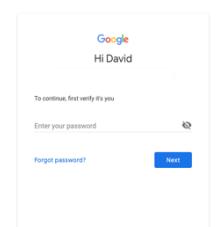
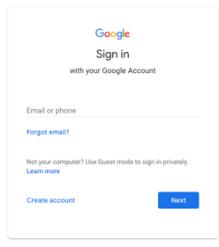
Due to the specific needs of the association and the fact that they are stand alone and have no market competitors, I have not been able to find identical examples with the exact functionality that I need must include in my new system. I began my research by looking at examples of registration forms that I could potentially adapt to use for the registration of new members. I will analyse and draw conclusions from explaining why I will make use of specific features and why I won't.

During my Document analysis / observation, I have been able to gather all the documents I need to be able to piece together the functionality of their current system and which functionality is important to them. Because of this my desk-based research is not critical to the success of my overall project. However, I still will find this research useful as it will allow me to see industry practice in developing forms and techniques to aid validating my program.

To allow for users to log into their account I will use a standard log in page that they will feel conformable using as it will be familiar to them from logging into other

account they may already have with other businesses. Most businesses ask for your username and password in one stage like the example to the left, however recently a few have been asking you to enter your username and password in two different steps (example on the right). I think the idea of two different steps but for the purpose of this system and with the wide range of computer literacy I think sticking to the standard one below the other will cause less issues and be less confusing for the less experienced users.

A screenshot of a standard two-step Google sign-in process. It shows a 'Sign in' button highlighted in blue, indicating the first step. Below the button are links for 'Text a temporary password' and 'Reset your password'. To the right, there is a second step showing a 'Next' button.



This organisation, Organ Donation Northern Ireland, uses a simple interface. They give a brief description to the end user to explain to the user exactly what filling out this form is achieving. The form takes the format of a comment to describe which information they are wanting the user to enter into a field textbox below. They have also included a red asterisk that distinguishes to the user which information they require to create the account and which is optional.

Their form is broken down into sections where one section asks the user to enter their personal details and the second their contact details. I like this idea due to the fact that it makes each part of the registration process self-explaining. I would adapt this form to have a section of the form on the details of the new user and another section on the band that they are registering to.

To navigate to different pages of my system I would like use a button menu like the one shown in the organ donation registration. It will be down the left-hand side and the current page that the user is on will be highlighting in a different colour. I like the idea of this feature as it makes navigating through the system simple, the user is always going back to the same place to move on.

When a member is registering to a band or transferring from band to band, I could use a drop-down menu like shown in this example to the left. This will mean that they can only select an existing band and it will act as key validation and users could enter the name of the band in slightly different ways.

However due to the sheer number of bands, I may decide to incorporate this into two drop down menus. The first menu will ask the grade of the band and then only the bands in that particular grade will appear in the second drop down.

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Name Email Phone Party Size

Pick Up Destination Return

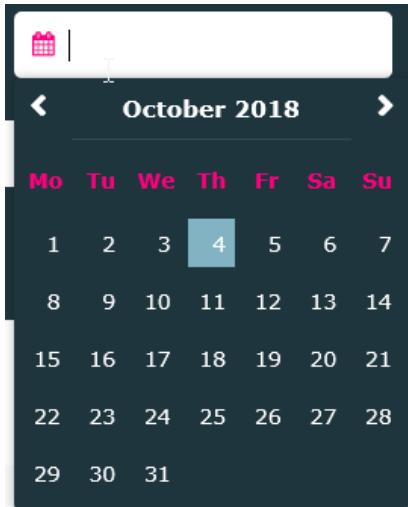
Departure Date Departure Time Return Date Return Time

Special Instructions Get Quote

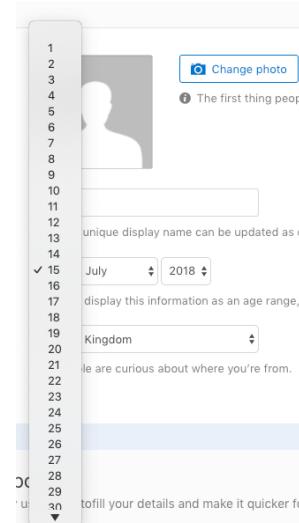
Booking transport:

The new system must allow for the pipe major to potentially book transport for their band to get to and from the competition.

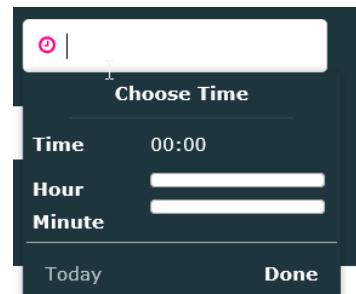
This design is again simple and easy for all experience end users to use.



The drop-down date feature of this booking form (left) is very intuitive and would be the best option for selecting a date rather than just a drop down for each day, month and year like seen in the example on the right. I think this because displaying the day along with the date would be less confusing for the Pipe Major when booking the transport as they can confirm that the day, they have selected is actually the Saturday (the only day the competitions are held on) and not another day of the week by accident.



I do not like this feature whereby the external entity selects their pick-up time using a scrolling time feature to select the pick-up time. This feature made it very difficult to select an exact time eg 8:00 due to the nature of the scroll.



From: [REDACTED]
Sent: 03 October 2018 09:45
To: [REDACTED]
Subject: [REDACTED] Quote Enquiry

Name: [REDACTED]
Email: [REDACTED]
Phone: [REDACTED]

Journey: One-Way
Party Size: 50

Pick Up: [REDACTED]
Departure Date: 04/10/2018
Departure Time: 08:12
Destination: [REDACTED]

Special Instructions: [REDACTED]

This is an example quote enquiry I received from a company after I gave them a few details of a bus that I would like to book. Once I filled in all the necessary details about where I would like to, where I'd be needing picked up from, the date and time of arrival and the size of bus needed, I received a quote back with a price. I would adapt this to allow a pre-formatted email to be sent to the bus company that offers to transport bands to and from competitions. I would format the email of interest in the same way with the necessary fields that are required to arrange a bus and the bands requirements for the bus.

Warehouse Deals Outlet Subscribe & Save Vouchers Amazon Family Amazon Prime Amazon Pantry Prime Video I

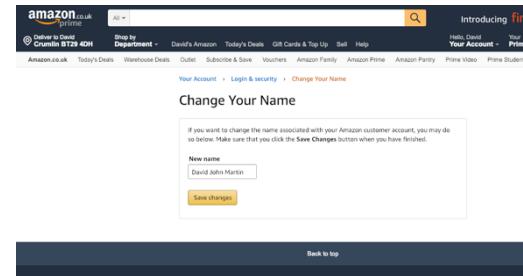
Your Account > Login & security

Login & security

Name:	David John Martin	Edit
E-mail:	dalidjohn.martin233@gmail.com	Edit
Mobile Phone Number:	+44-7881248217	Edit
Verify your mobile number?		Verify
Password:	*****	Edit
Advanced Security Settings: Manage how and when you receive security codes		

Done

When you go into your account settings on your Amazon account and you wish to change a personal detail. They display your current details and give a button to the right which allows you to edit each individual field.



I prefer ITV's approach to solve the same feature. Being able to change all your details from the same screen from prepopulated fields, I think would be easier for the clients to understand and

also this method would take less time as the amazon solution is slightly overkill.

I also like their idea with regards to the password change functionality, whereby they show you the length of your current password in a disabled entry field and once you click on "change password" it nicely prompts you confirm your current password and then double enter your new password.

Looking into validation of data when it is entered into the system by an end user, while the password that the account holder enters does not meet the necessary criteria to pass as an acceptable password a message will be displayed for the reasoning behind it. In the example on the right, the user has entered a long enough password and a capitalised but hasn't included a number and special character, but they haven't. This example confirms with the user that when they enter their password for the second time that they match before they press to navigate to the next part of the process. This is a very nice feature however I doubt the GUI I will use will allow me to implement something as advanced like this.

The screenshot shows a 'Change your password' form with the following fields:

- Current password:** * (empty input field)
- New password:** * ⓘ (empty input field)
- Confirm password:** * ⓘ (empty input field)

Validation messages are displayed below the fields:

- A red warning message: "Your passwords do not match"
- A red warning message: "Weak" with the sub-instruction: "Include at least one number or special character" and example: "e.g. !@#\$%^*-+=

A red button labeled "Change my password" is at the bottom. A note at the bottom left says "* required fields".

In conclusion, the features that I have found in my research which I will include are:

- Double entry for passwords – this is almost a standard in any program to ensure valid entry
- Populating entry boxes on editing – this makes it easier for the user to edit details.
- An emailing feature that contacts the bus company. – This is a good feature because the form filled out will be sent which means that the bus company receives all the necessary information to provide the band with a true quote with no ambiguity

2.3 Consider the limitations of the current system.

Registration

- Forms could get lost in the post or misplaced once they arrive to headquarters.
- The paper-based registration currently is not as efficient as it should be as it takes too long for headquarters to receive the form in the post and to then process it and then add the new member to the system.
- Information could be misread and therefore entered wrongly by the administrator if the hand writing wasn't clear enough.
- Personal details about each band member is not kept up to date as the only way it can be updated is when the member gets into contact with headquarters

Transfer/Release

- The paper-based transfer/release forms currently take too long to complete as entities from both bands must sign to confirm the release.
- Forms could get lost in the post or misplaced once they arrive to headquarters.

Entering competitions

- There is no set way to enter competitions currently – contact just needs to be made with the coordinator
- Each competition must be entered individually
- There could be communication issues if a Pipe Major sends a message to the organiser and it is not received, and a band may not be entered. (There is no confirmation)

Judging/results:

- Weather conditions mean that it is very hard to judge bands when it is raining. Sheets of paper can be ruined when in contact with water.
- The current collation of results is a very time-consuming process due to the mass amount of manual processing, this leads to productivity issues.
- The time constraint of all this manual processing leads to a delay in the finale where the results are announced – this means that bands have to wait considerable amounts of time before they can get their results.

2.4 Identify stakeholders of the current system and their requirements for the proposed project.

Requirements of stakeholders using the current system:

Administrators:

- Maintain the system:
 - Adding new bands
 - Updating band details
 - Registering new members to bands
 - Transfer members between bands
 - Adjusting band gradings
 - Add list of competition dates
 - Update competition lists with draws once taken place
- Publish competition results once announced

Bandmembers:

- Register to the band by completing the registration form.
- Transfer between bands by filling out the Transfer/Release form.
- View a list of competition dates.
 - View the Draw.
 - View the Results.

Pipe Major:

- View a list of competition dates.
 - View the Draw.
- Enter competitions
 - View the Results

Guests:

- View a list of competition dates.
 - View the Draw.
 - View the Results.

With the new system, the roles of each stakeholder will slightly differ. The **new** requirements for each stakeholder in the system are as followed:

Administrators:

- Register a new Pipe Band and set up and be able to change their log on details.
- Enter, store and edit additional information about Bands including
 - Their grade
 - Location and time of practise
 - Tartan
 - Contact details of Pipe Major
- Read, register and edit a member within a band including:
 - Name
 - DOB
 - Address
 - Phone Number
 - Email address
 - Their instrument or role
- Be able to edit and add the results entered by the Judges
- Set and edit the competition dates and locations
- Send an email to confirm the entering of competitions to the PM.
- Update the competition entries once the draw for each grade has been drawn and include a time slot for each band and competition circle for the grade.
- Create and configure more admin accounts.
- Create and configure Judges accounts.

Guests /Band members:

- View competitions dates and locations
- View list of bands and their grade and be able to search for a band.
- View competing times and circle number once the draw has been made
- View the results of competitions

Pipe Majors:

- Register and transfer new and existing members
- Enter competitions
- View competing time and circle once the draw has been made
- Organise transport if required
- View the location of each competition

Judges:

- Chose the correct competition for judging.
- Choose the grade they are about to judge
- Select the band within the grade that has entered that specific competition
- Select the section within the band to judge
- Open the comments sheet
- Update the comments sheet with their comments
- Save the comments sheet
- Open the Grade's result sheet
- Score the bands from best to worst
- Save this results sheet

2.5 Specification of the new system

Now that I have fully investigated the current system, researched the market for existing solutions and made note of the limitations of the new system and can now produce my specification for my new system and its objectives:

User Interface

- GUI that is simple and intuitive, so all kinds of experienced users are able to use the system confidently.
 - Guest mode (minimal features) on start up.
 - Informative Buttons
 - Straightforward navigation between screens
 - Familiar format for admin
 - Self-documenting textboxes for input
 - Menu with Competition info, Results, Band Info etc down left-hand side
 - Log in along top bar

Functionality

Login

- A unique username and password will be required to log into any account on the new system.
 - Each password must be of a suitable strength and must meet specified criteria:
 - At least 8 characters in length
 - Contain at least 1 uppercase letter
 - Contain at least 1 lowercase letter
 - Contain at least 1 number
- Each Account will have section where they can change their username, name, email, password or security question.
- Depending on the username entered; the features for that kind of user will appear. For example, if a judge successful logs in, the additional features associated with judges will appear.

Judges specific features

- All Judges will be given their username and password – they will be given the opportunity to change their password when they log in for the first time.
- Judges must be able to search for competitions depending on their date.
- They must be given access to each grade and then each band but only the section of the band which they are marking.
 - They must press a tick box at the bottom of the page to confirm that they have completed each sheet to allow the admins to then begin to process it.

Pipe Major/Band specific features

- All Pipe Majors will be given their username and password – they will be given the opportunity to change their password when they log in for the first time.
- Once they log in, it will be possible for them to:
 - Edit the Bands Details – This will update the information displayed about the Band on the Bands page:
 - Enter Competitions
 - Once a band Enters a competition it will appear that the Band has entered the Competition.
 - Book Transport
 - Band should fill in form and it is sent to the bus company via email.
 - Register Member
 - If the band registers a new member, the member will be registered to the Band which is Logged in.
 - The Member will then be added to the list of Members that is displayed in the Edit Member details feature
 - Transfer Member
 - Edit Member Details
 - All the members will be listed.
 - A member can then be selected, and their details edited

Admin specific features

- Allow admin staff to make new admin, Judge and Pipe Major accounts and enter their required details to set up the account.
- Allow admins special access to be able to edit all information added by Judges and Pipe Majors through their buttons:
 - For Band features there will be an additional screen before they can edit specific band or member details. They will have to select the band they want to edit or the band which has a certain registered to it etc
 - For the Judges they must select the Judge and the section that they mark are marking (Piping, Drumming or Ensemble)
- Add competitions, enter bands manually and update the list once the draw takes place, with a time and circle number.
- Collate Competition Results and produce an output where the results for each band are displayed in a table format and there is a table for each grade.
- Admins can then send the results to all the bands via email.

2.6 Methods used in the problem solution

Programming Languages

I have chosen to entirely write my program in Python and SQL. I have chosen these languages due to their simplicity and my previous experience using them. Python will allow me to create a simple graphical user interface efficiently using one of its built in GUI modules. With my previous experience of Python, I should be able to program all basic features quickly and with a little research I should be able to implement more advanced features in my solution.

For my development, I may use PyCharm IDE. I like this environment due to the ability to program on both Mac and Windows without any formatting Issues. I might use Git Hub for version Control. This will allow to me to keep track of all my changes and will allow me to store my code in the cloud. I am easily then able to pull my code on to any device, allowing me to work on my solution from school and home through the push of a button.

Database

For Data storage, I have found an open source piece of software called DB Browser for SQLite. This software will allow me to manually edit and create new tables and will allow me to ensure that data being retrieved from the Solution is being stored correctly during development.

2.7 Set objectives for the proposed system with their specific success criteria.

- 1. Appropriate layout, font and colour-scheme to follow associations colours**
 - For this objective to be successful my proposed system must include the logo of the association, use the blue and green colours of the association and use their official font (Arvo)
- 2. All users of the system on launch will be brought to the home page.**
 - For this objective to be successful my proposed system must launch when the icon is pressed, and the user is brought to the home page.
- 3. All users have the ability to view and search for a band on the bands page.**
 - For this objective to be successful my proposed system must allow the user to be able to search for a band from the band name or their grade. All information stored about the band will be presented in a table structure.
- 4. All users have the ability to view a competition draw on the competitions page.**
 - For this objective to be successful my proposed system must allow the user to select a competition and if the competition has been drawn, the draw will be displayed otherwise a message stating the competition hasn't been drawn will be displayed.
- 5. All users have the ability to view and search for a grades' result in a competition on the results page.**
 - For this objective to be successful my proposed system must allow the user to select a competition and if the competition has taken place and the results have been published, the user will be asked to select the grade. All results will be displayed from the grade and bands will be ordered by their position. If results haven't been published a message to the user will be displayed.
- 6. All users have the ability to login if they have an account.**
 - For this objective to be successful my proposed system must allow the user to enter their username and password in the login page.
- 7. All Account holders have the ability to reset their login credentials.**
 - For this objective to be successful my proposed system must allow for a user to click a forgot password button and then enter the required security questions to be able to identify themselves before being allowed to enter their new password with double entry to ensure new password is valid.
- 8. Different permission levels for band, judge and admin accounts once logged in.**
 - For this objective to be successful my proposed system must display and only display the features that are available to the user type logged in.
- 9. Update and set password, security question and answer when accounts are logged in for the first time.**
 - For this objective to be successful my proposed system must know ask the user to change their password on their first log in. They must be able to select their security question from a list and then type their answer. They must change their password from the initial one given in the email sent. This will require double entry.
- 10. Band accounts will have the ability to update the Bands details & their band members details.**

- For this objective to be successful my proposed system must get all the details from the specific band or member and populate current data in a form and allow user to update and save new/changed data to the database. The email must be sent to the data subject. The email should be sent within five second time frame to ensure my program maintains good performance.

11. Bands will have the ability to enter and withdraw from competitions.

- For this objective to be successful my proposed system must allow bands to select competitions that are available to enter. The Band entered must receive an email in confirmation of this. The email should be sent within five second time frame to ensure my program maintains good performance.

12. Bands have the option of booking transport.

- For this objective to be successful my proposed system must allow users to complete an existing form before pressing submit which will send their request to the bus company along with their stored contact details in an email. The email should be sent within five second time frame to ensure my program maintains good performance.

13. Bands have the ability to register new players and transfer existing members.

- For this objective to be successful my proposed system must allow band and admin users to fill out an existing form to register a member. The member will receive an email with the email address provided to confirm their registration. The email should be sent within five second time frame to ensure my program maintains good performance. Both account holders will also be able to select a member to view their current details and update them if and when required. Again, the member will then receive an email letting them know that their details have been updated.

14. Admins have the ability to carry out these band features above on behalf of the band.

- For this objective to be successful my proposed system must allow admins to successfully edit a bands details, enter and withdraw a band for competitions, book transport and register and edit members details. My program must ask the admin to select the Band they wish to carry these features on behalf of, then the functionality will be the same as the band for each feature. Emails are sent to Pipe Major as in the Band Feature objectives.

15. Admins have the ability to add and remove band accounts, judge accounts and admin accounts. When an account is created an email is sent to include the initial log in details.

- For this objective to be successful my proposed system must allow for admins to complete three existing forms which allow them to register admins, bands and judges. The admin will give the account an initial password which is sent to the user of the new account with the email address linked to the newly registered account. The email should be sent within five second time frame to ensure my program maintains good performance.

16. Admins have the ability to create, update, delete and draw individual competitions.

- For this objective to be successful my proposed system must allow admins to complete an existing form to create a competition. The competition will appear on the competitions page and in the list box to allow bands to enter it. Updating a competition will require the admin to select a competition and the create competition form is populated with the data currently stored about the competition. Deleting a competition will delete a

competition and all the cascading related data from the competition will also be deleted. When drawing a competition, all bands entered each competition will be given a circle number and competition which is entered by the admin. The draw for each grade is sent to all the bands who have entered each grade. All users can view the draw from the competitions page. Once draw has taken place no more bands can enter so competition must be removed from competition list box.

17. Judges have the ability to write comments about each section and the score bands in competitions.

- For this objective to be successful my proposed system must allow the judge to select the competition to be judged. They must be able to select the grade and section of the bands that they are judging. When they select the grade, the judge must select the band that is currently competing to write their comments about their performance. Once they have seen all bands in the grade, they must rank the bands from best to worst. After the judge is brought back to select another grade.

18. Admins then have the ability to collate the judges results and produce the results and send them to all bands which then updates the latest results feed on home page.

- For this objective to be successful my proposed system must allow admins to collate the results to produce the official results document once the admin knows that all bands have entered, and all judges have submitted their results. After they have collated the competitions results. They competition will appear in the send results list box to allow the results to be sent to all bands. An email is produced and sent to all bands and the full results summary is attached so everyone can see the results of all bands in the competition. As an email is being sent to all bands, the admin will have to allow for a delay in using the system while all these emails are sent. Alongside this each band will receive their comments sheet in an individual email sent to them – only the band will see their judges' comment sheets.