Design

Contents

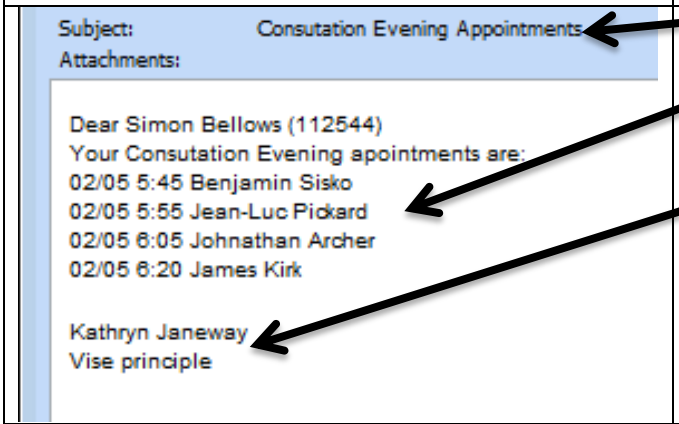
Output

The system will display to students blocks they have declared themselves to be available for. This will up until the sorting algorithm has been run they can change and see their choices. This will be so that they can check what they entered and change it if needs must. Once the deadline for appointment selection is over and the admin trigger the sorting algorithm emails will be sent to each students college email. The emails will contain the names of the teachers the student has an appointment with along with the time and the day, they will also contain a section of text written by an admin with further information to be added at the discretion of the admin.

The system will display blocks the same way as the students. Since like the students they will also want to check what times they have declared themselves available for and also will likely wish to change it closer to the time as circumstances change. The teachers will, the same as the students, receive an email containing the names of the students that they have appointments with along with the times and days in order so that they can print it off giving them a schedule.

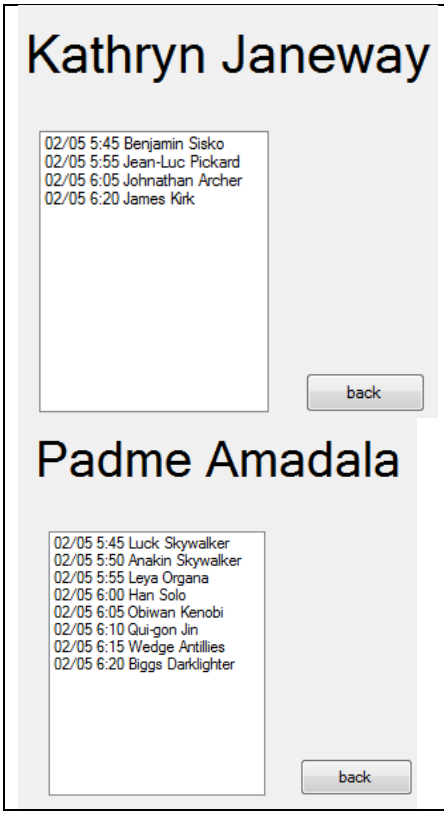
Admin will also be able to see the appointments that users have received though a results form which contains links to another form containing the selected user's appointments. This will be so that they can check the appointments of individuals primarily teachers to see whether they are booked at certain times as they may need to manualy fiddle around with appointments to fit others in after the sorting algorithm has been run since it will not be perfect and students may find that they can find more time in their schedual for an important appointment.

The system will also output the data of appointments to the user who it involves via the send results button on the admin form which will send out a mass mail merge involving the students.

<table>
<tr><td>Example of an email to a student containing appointment infromation, this will not differ from the email to teachers.</td><td></td></tr>
<tr><td> 
</td><td>Subject will be editable in email settings

Appointments list generated from assigned appointments

Conclusion editable in email settings. This may contain anything though primarily designed to contain a message from the event organiser reminding participants about a extraneous information ie parking.</td></tr>
<tr><td>Example of the further restults form</td><td></td></tr>
</table>

	See results forms with a student or teacher selected and the populated list box containing the list of appointments the individual has been asigned, shown as and admin would see it. Only the informaiton about timings and te name is being inclueded buecause it is all that is necicary for the processes stated above. Further description of the form given in the form design section.

Input

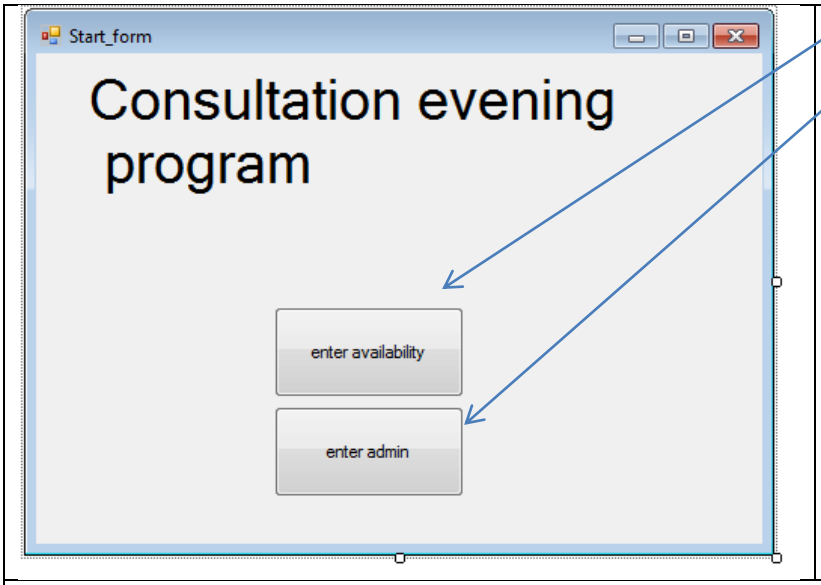
Data will be collected from the college MIS database as to the lessons and the student and staff data. It will be read by the program and will be line by line be written into the desired format in a set of new DAT files created for and by the program. It is done this way because it is fast and because so long as the code is correct the process will be completed with out error.

Upon loading the program the user will automatically input their area logon which is checked against the system to log the user in if they are a current user. This is done because the user has already logged on proving who they are, it is easier to program and takes up less time.

The users will input data as to their availability on the availability form. This is done by checking checkboxes which refer to blocks of time. Upon checking an option the system data will be altered to reflect this change. Ie the availability file of the student or staff member will be changed for the time in question. It is done this way because it is much more simple to handle than time in large blocks but also because it makes sure that people sign up to the minimum time required for them to have any reasonable chance of getting the appointments they want.

Form design

frmStart

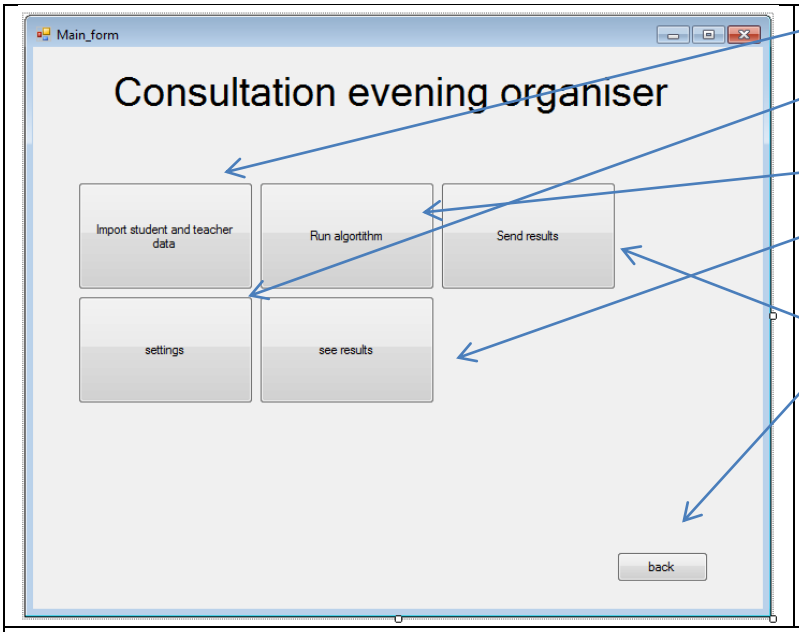


btnEnter

btnAdmin

First form opened
when opened – checks the network profile and from that derives weather they are a teacher or a student and if they are a member of staff weather they are an admin the form then acts acordingly
btnEnter – sends the user to the student form if the user is a student and the staff av form if they are a member of staff.
btnAdmin – only visible if the memer staff is also admin, when clicked opens the Admin form.

frmMain



btnImport

btnSettings

btnAlgorithm

btnSeeResults

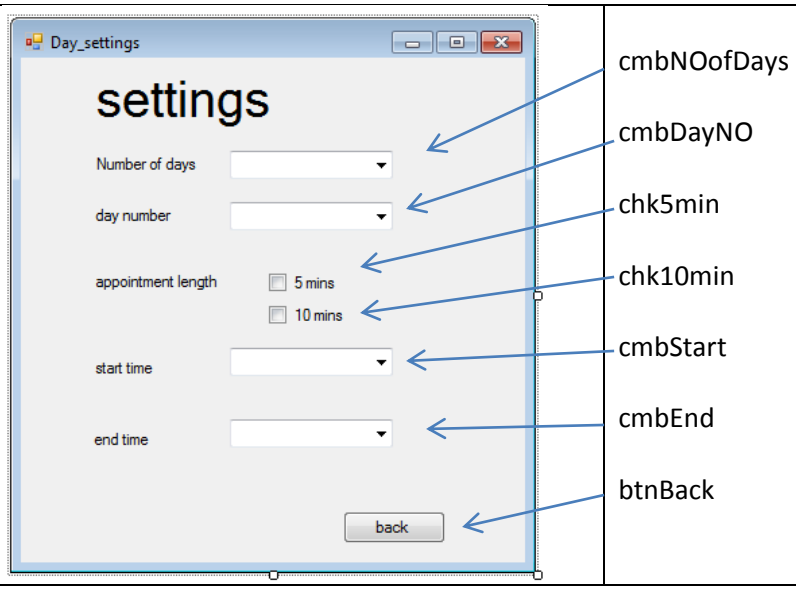
btnSendResults

btnBack

btnImport – a button that when clicked will import data from the colleges csv files that contain student data and teacher data into the csv's that will be used for the consultation evening.
btnsettings – a button that when clicked will open up the settings form
btnAlgorithm – a button that will execute the algorithm that will organise the appointments

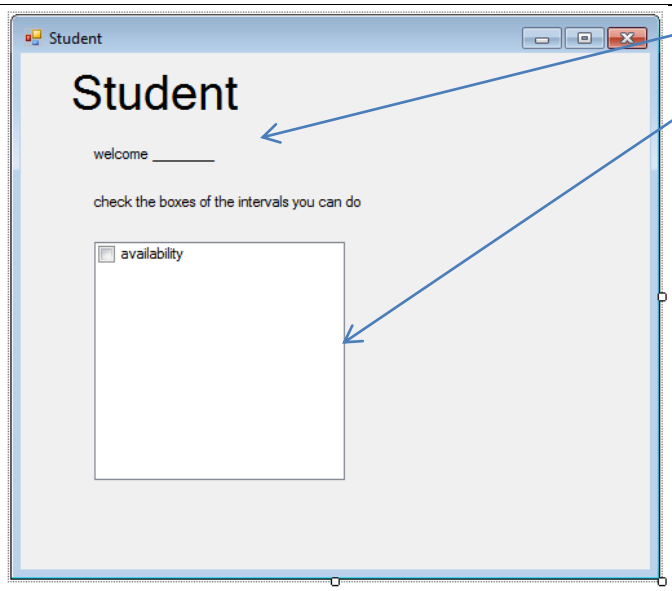
btnSeeResults – a button that will open up the results form
btnSendResults – a button that will seen the lists of appointmetns to each student and teacher via college e-mail
btnBack – a button that will open the Start form

frmSettings



cmbNOofDays - drop down menu from which the user will select the number of days they wish to have the consultaition evening across
cmbDayNO – drop down menu from which the user will select the day by number they wish to edit the settings for and will only go up to the number of days selected
chk5min – when checked changes the information for that day changing it so that it is recorded as being 5 mins. When checked chk10min is un checked and when chk10min is checked chk5min is unchecked. Will be the default checked box
chk10min – when checked changes the information for that day changing it so that it is recorded as being 10 mins. When checked chk10min is un checked and when chk10min is checked chk5min is unchecked.
cmbStart – drop down menu from which the user will select the start time for the consultation evening. The options will be staggered by 30 mins and when changed the change will be set that time as the start time on the day record for that day. Will only display times before cmbEnd.
cmbEnd – drop down menu from which the user will select the end time for the consultation evening. The options will be staggered by 30 mins and when changed the change will be set that time as the end time on the day record for that day. Will only display times after cmbStart
btnBack – button that will be used to exit back to the admin form. Upon clicking the button the day structures will be validated, they will be checked so that the form cant be closed unless all the days have a start and end time.

frmStudent

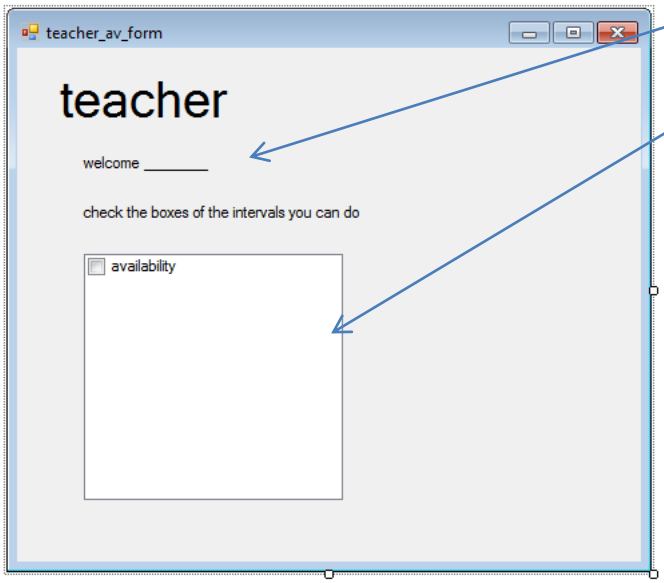


lblName

chklstAvailable

lblName – a lable that will cotain the name of the user
chklstAvailable – a checked list box in which the student will check the boxes of the bocks of time he will be available.

frmStaff

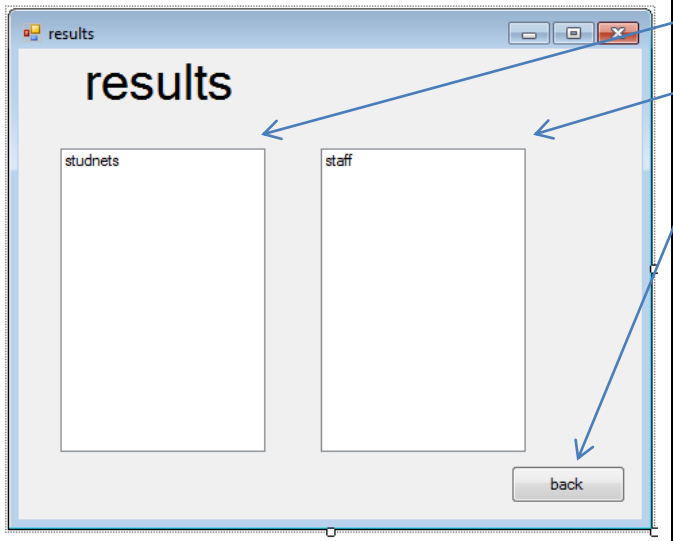


lblName

chklstAvailabilty

lblName – a lable that will cotain the name of the user
chklstAvailable – a checked list box in which the member of staff will check the boxes of the bocks of time he will be available.

frmResults



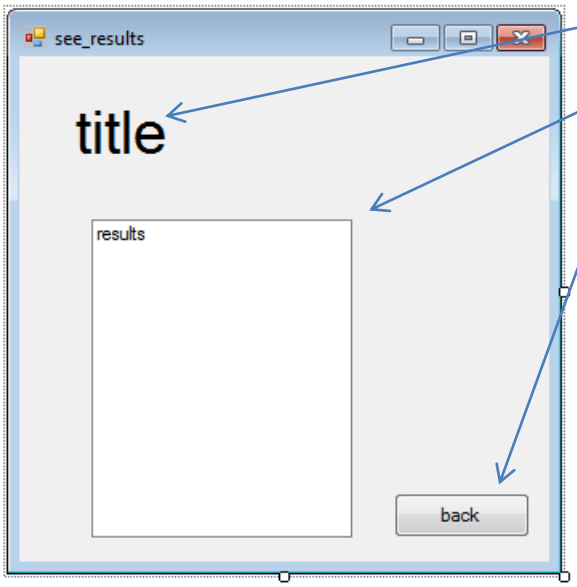
lstStudents

lstStaff

btnBack

lstStudents – a list box that contains the names of all the students, when a students name is clicked on it will open up the see results form with the data on the students appointments on it.
lstStaff – a list box that contains the names of all the staff, when a staff member is clicked on it will open up the see results form with the data on the member of staff's appointments on it
btnBack – closes the form and opens up the main form again.

frmSeeResults



lblTitle

lstAppointments

btnBack

lblTitle – a lable that contains the name of the student or member of staf that is having their appointments looked at
lstAppointments – a list box that contains the appointments that the student or the member of staff has including the teacher , the student and the time. Also when they are clicked the student or teacher that the appointment is will is selected on the see results form. This is incase after seeing the first users information the admin has a follow question he wishes to resolve.
btnBack – a button that when clicked closes the see results form and opens the results form.

Files /Data structures and methods of access

Data Structures

Student table (StudNo, StudID, Forename, Surname, Year, Form, Email, PhoneNO)

Field name	Data type	Length (bytes)	Format	Validation	Purpose	coments	Example data
Stud NO.	Short	2	0000		Primary key		0011
Stud ID.	Integer	4	000000		To store the id of the student for outputs		112544
Forename	String	60	xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx		To store the name of the student for outputs		Jason
Surname	String	60	xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx		To store the name of the student for outputs		Scott
Year	byte	1	00		Purpose to help divide between the years which will have separate consultation evenings		13

```
76,112678,James,Harriet,12,
77,112679,Damion,Jones,12,
78,112680,Arthur,Pritchard,12,
79,112681,Daron,Clarke,12,
80,112682,Garry,Eden,12,
81,112683,Bob,McArther,12,
82,112684,Robert,Armstrong,12,
83,112685,Frederick,Baldwing,12,
84,112686,Jason,Joli,12,
85,112687,Jimmy,Sebastion,12,
86,112688,Jordan,Lloyd,12,
87,112689,Elliot,Lanister,12,
88,112690,Keith,Middleton,12,
89,112691,Nick,Hyde,12,
90,112692,Thomas,Horris,12,
91,112693,Joe,Mortyboy,12,
92,112694,Mathew,Hems,12,
93,112695,Luke,Rowlands,12,
94,112696,John,Bo,12,
```

Teacher table (StaffNO, Forename, Surname, Email, Admin)

Field name	Data type	Length (bytes)	Format	Validation	Purpose	coments	Example data
Staff NO	short	2	000		Primary key		032
Forename	string	60	xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx		To store the teachers name for outputs		Jane
Surname	string	60	xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx		To store the teachers name for outputs		Law
Admin	Boolean	2	True/false		To decide weather the teacher will have access to the admin area		true

```
24,Geoffy,Renwick,#True#
25,Penny,Cooper,#False#
26,Ian,Aman,#False#
27,Stephanie,Jones,#False#
28,Robbert,French,#False#
29,Jean,Cootle,#False#
30,Jude,Fuffler,#True#
31,Steve,Egenhoffer,#False#
32,Harry,Ahunon,#False#
33,Charles,George,#False#
```

Stud av table (Appointment, *StudNO*, *Day*, Available)

Field name	Data type	Length (bytes)	Format	Validation	Purpose	coments	Example data
appointment	byte	1	000	Must be in staff av table	Primary key		12
Stud NO.	Short	2	0000		Primary key / Foreign key		0011
Day	Byte	1	00		Primary key / Foreign key		1
Block	Byte	1	0		To store which block the student is		1

					available for		
Available	Boolean	2	True / False		to store whether the student is available		True

```
2,99,2,2,#True#
3,99,2,2,#True#
4,99,2,2,#True#
5,99,2,2,#True#
6,99,2,2,#True#
7,99,2,2,#True#
8,99,2,2,#True#
9,99,2,2,#True#
10,99,2,2,#True#
```

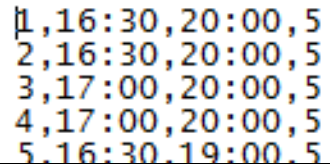
Staff av table (Appointment, *StaffNO*, *Day*, available)

Field name	Data type	Length (bytes)	Format	Validation	Purpose	coments	Example data
Appointment	Byte	1	000	Must be in stud av table	Primary key		001
Staff no.	Short	2	000		Primary / Foreign key		0012
day	Byte	1	00		Primary / foreign key		01
Block	Byte	1	0		To store which block the staff member is available for		1
available	Boolean	2	True/False		Store weather or not they are able to do that appointment		false

```
19,99,2,2,#True#
20,99,2,2,#True#
21,99,2,2,#True#
22,99,2,2,#True#
23,99,2,2,#True#
24,99,2,2,#True#
25,99,2,2,#True#
26,99,2,2,#True#
27,99,2,2,#True#
28,99,2,2,#True#
```

Day table (Day, Start, End, length)

Field name	Data type	Length (bytes)	Format	Validation	Purpose	coments	Example data
Day	byte	1	00		Primary key		03
Start	Date		hh/mm		Records the start time		0600
End	Date		hh/mm	Must be atleast an hour and a half after start	Records the end time		0830
Length	byte	1	5|10	It will be from a selection of 5 to 10 mins	It is used to work out how many appointments. If 5 1 hour blocks and if 10 an hour and a half	There will be a drop down	10



Appointments table (*Day*, *LessonNO*, appointment)

Field name	Data type	Length (bytes)	Format	Validation	Purpose	coments	Example data
Day	Byte	1	00		Primary key / Foreign key		01
Lesson NO.	Short	2	0000		Primary key / Foreign key		0456
appointment	byte	2	0000		Stores the time as the slot		0023

```
1,45,23,
1,46,26,
1,47,24,
1,48,16,
1,49,27,
1,50,34,
1,51,13,
1,52,16,
1,53,14,
1,54,28,
1,55,24
```

Lesson table (LessonNO, *StudNO, StaffNO*)

Field name	Data type	Length (bytes)	Format	Validation	Purpose	comments	Example data
Lesson NO.	Short	2	0000		Primary key		0124
Stud NO.	Short	2	0000		Foreign key		0011
Staff NO.	Short	2	0000		Foreign key		024

```
76,25,39
77,26,39
78,27,39
79,29,39
80,30,39
81,34,39
82,35,39
83,37,39
84,38,39
85,42,39
86,78,39
87,79,39
```

Methods of access

Validation

Presence of day settings validation

When btnBack is clicked on the settings form it will check whether there has been a value for both the start and end days have been entered e.g.

```
For counter = 1 to NDays
        If day(counter).start = -1 then
                set = false
        Else if day(counter).end = -1 then
                set = false
        Else if Day(counter).Date = -1 OR 0 then
                Set = false
        end if
        if set = false then
                 msgbox("you have to enter start and end time for all the days")
                exit sub
        end if
next
```

Basic presence check

This will be used for checking if there has been a conclusion set for the Results emails set in the Email Settings. It will be triggered when btnEmail is clicked

```
If email.Conclusion = "" then
        Msgbox("You must add a email conclusion before you are able to send out the emails")
        exit sub
End if
```

Error recognition in importing

This will be used while importing data from csv to dat, example used is for students

```
Try
        Student.forename = currentrow(0)
```

```
        Student.surname = currentrow(1)
        Ect
Catch
        Message ("Error with the student csv file")
        Exit sub
End try
```

Processing stages

Code to find out who the user is logged on as

```
Dim parts() As String = Split(My.User.Name, "\")
ID = parts(1)
```

```
The code finds what the network logon is and then chops of the username which will
just be their ID for both teachers and studnets
```

Import from csv to dat

Fileopen(selectedcsv)

While not document over

Current row = filereader.currentrow

Variable 1 = currentrow(0)

Variable 2 = currentrow(1)

Variable 3 = currentrow(2)

Variable 4 = currentrow(3)

putSelected(selected, selecte.selectedNO)

End while

The code opens the csv and line by line reads it in where it is split up by the deliminating character and the fields are put into the correct variabeles of the corresponding structure where they are then put into their corresponding dat file.

Get function

getRecord (record number)

file open (record.dat , record length)

file get (getrecord, record number)

file close

the code opens the desired dat file, finds the desired record using the parameter and then returnes it to be stored in a record structure

Put function

Putrecord(editedrecord , record number)

Fileopen(record.dat , record length)

Fileput(edited record, record number)

Fileclose

The code opens the desired dat file finds the desired record via the recordnumber parameter and then overwrites the record there with the editedrecord perameter and then closes the file.

Military time

Militarytime(timeNO)

Hours as string

Minuets as string

Hours = (timeNO \ 12) as string

If length of hours = 1 then

    Hours = “0” + hours

Else if length of hours = 0 then

    Hours = “00”

Minuets = timeNO – ((timeNO \ 12) * 12

Minuets = minuetes * 5 as string

If length of minuets = 1 then

    minuets = “0” + hours

Else if length of minuets = 0 then

    minuets = “00”

militarytime = hours + minuets

the code takes a time in the form of a number from 0 to 287 and turnins it into a 24 hour clock time . with hours being the truncated number divied by 12. And minuets being the remainder times 5. It also fills up the empty characters with zeros

the sorting algorithm

For counter1 = 0 To Number of students

    student = GetStudent(counter1)

```
For counter2 =  0 To Number of lesson
    Lesson = Getlesson(counter2)
    If Lesson.StudNO = student.StudNO Then
        Staff = GetStaff(counter2)
        For counter3 = 0 To Numbeer Studav records
            StudAv = GetStudAV(counter3)
            If StudAv.StudNo = student.StudNO And StudAv.available = True Then
                For counter4 = 0 To Number of StaffAv
                    StaffAv = GetStaffAV(counter4)
                    If StaffAv.StaffNO = Staff.StaffNO And StaffAv.Available = True Then
                        Appointment dat is put into appointment varable
                        Sets appoinments in different blcoks to unavailable
```

The code goes student by student and for each student lesson by lesson. When it finds a teacher a student has in lesson it looks for times when they are mutualy available and when it finds this it makes the appointment it then makes all times for the student that are in different boxes unavailable.

Evaluation Criteria

The project must

- Produce an easily printable list of appointments for each student and teacher
- Must score a unanimous vote as simple to use in the beta test.
- Must never generate two consecutive appointments for a student.
- Must handle multiple lessons with multiple teachers
- Must be multi user multi access
- Must allow users to log on just by their network area
- Must keep the appointments for each student within a reasonable distance of each other
- Loads within 10 seconds
- Must be less than 10 mb
- There is a consistent house style that keeps colour to a minimum
- Text boxes and buttons are clearly labelled
- All inputs must be validated so that errors don't often arise
- Must not cost more than £100
- Must not be in breach of the data protection act
- Must import student, staff and lesson information from csv to dat
- Students must be able to
    - Input when they are available
    - Change their availability settings
- Staff must be able to
    - Input when they are available
    - Change when they are available
- Admin must be able to
    - Decide set the number of days
    - Set the start and finish times for the consultation evenings
    - Be able to view the appointments for each student
    - Must be able to email students and teachers their appointments
    - Must be able to reset the dat files
- must satisfy the customer