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Practical 10

Design

Inputs (Via Inputbox)

- ID as integer (0 to 100)
- Name as string (20 Characters)
- Lockers as Boolean
- Popularity as integer (0 to 100)
- Number of stadiums
- Name of stadium
- Number of facilities
- Index of stadium to assign facilities to

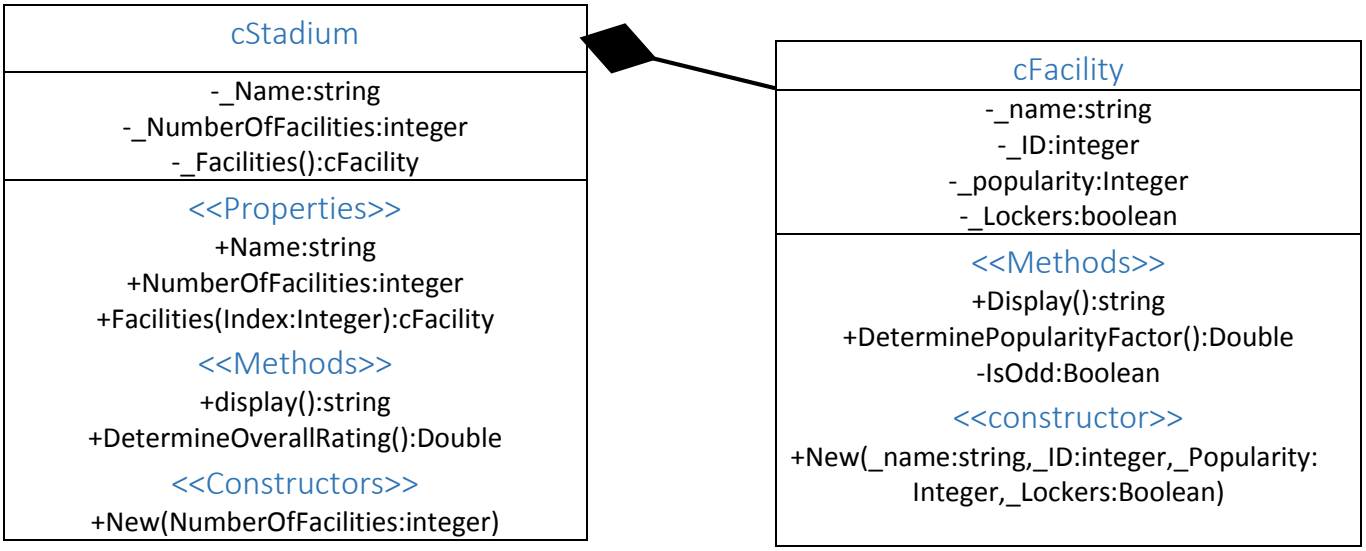
Outputs (All via TextBox)

- Details of each stadium
- Overall Ratings
- Stadiums that need upgrading
- All facilities Details for each Stadium

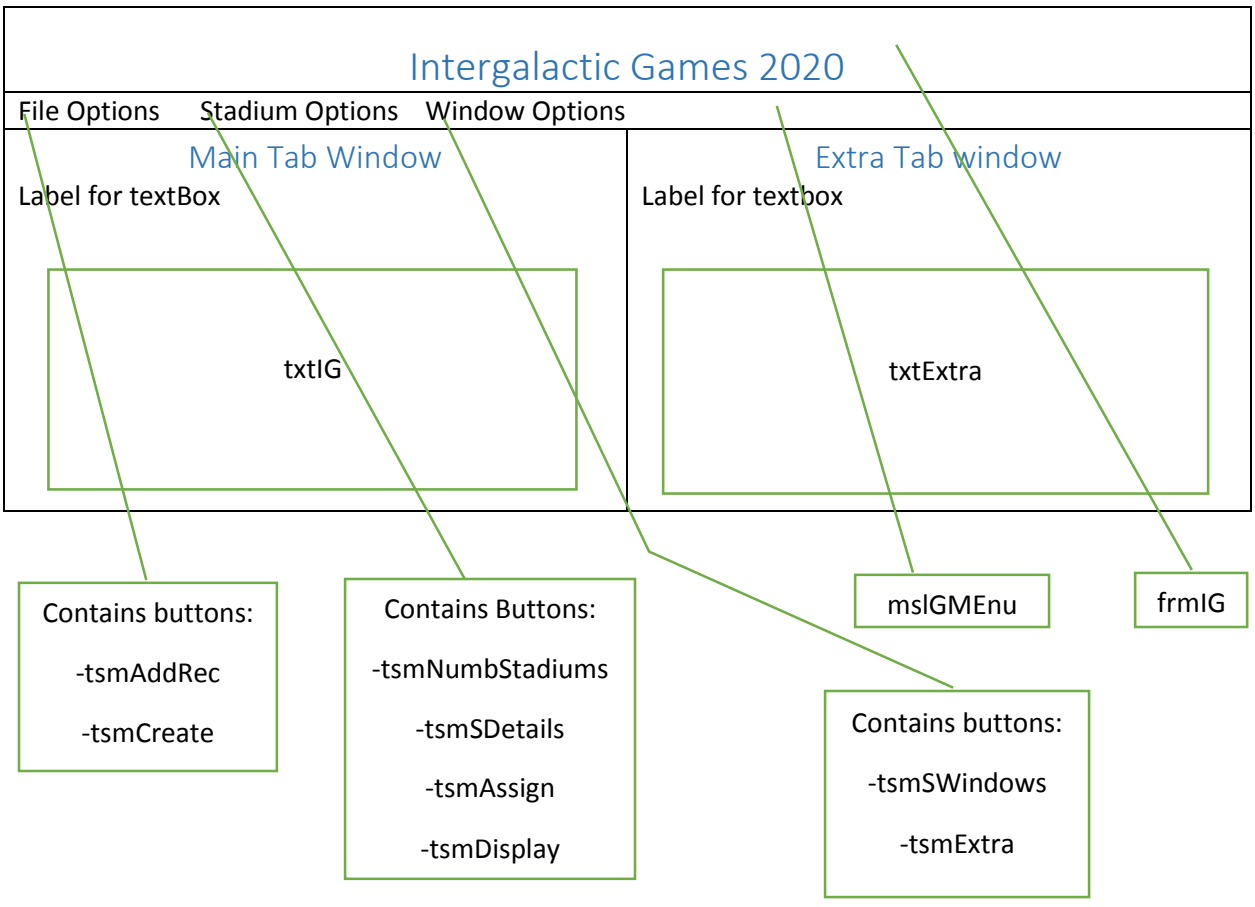
Events and Actions

Event	Action
tsmCreate button clicked	-Creates the file to save records to
tsmAddRec button clicked	-Allows the user to add a record to file
tsmnumbStadiums button clicked	-Allows user to specify the number of stadiums
tsmSDetails button Clicked	-Allows the user to enter all the stadiums information
tsmDisplay button clicked	-Displays all the stadiums data into a textbox -Displays the stadiums that require upgrading into the textbox
tsmAssign button clicked	-Allows user to set specified record to a specified stadium index
tsmSWIndows and TsmExtra buttons clicked	-witches between the main tab and extra tab

UML and Class Diagram



Interface



Variables

- Structure FacilityRec
- +name:string
- +ID:integer
- +popularity:Integer
- +Lockers:Boolean

  End

- blankRec, facilities : facilityRec
- fs: FileStream
- Const Filename : string <-“S201320596_P10.IFM”
- Const RecSize : Integer <- 4+(20*2)+4+2
- numbRec: integer <-30
- lastRec : Integer <-29
- Stadiums() : cStadiums
- Numberofstadiums :Integer

Algorithm

Class cFacility

Function DeterminePopularityFactor :Double

if the function is IsOdd is true then

return _Popularity x 1.5

else

return _Popularity

End

Function IsOdd :Boolean(true or False)

If _ID is an even number then

Return false

Else

Return true

End

End class

Class cStadium

```
Function DetermineOverallRating:Double
Total <- 0
For I <- 1 to numberofFacilities
Total <- total + _Facilities(i).DeterminePopularityFactor
Next
Return total /  numberofFacilities
End
Function display:String
‘ returns all the necessary information to the user
End
End class
```

Class frmIG

```
Sub tsmCreate_Click(…)…
‘ creates the file and sets the length of the file and writes blank record to the file
End
Sub writetofile(key:Integer)
‘ opens file stream
‘ creates binary writer
‘ seeks position In file to write data
‘ writes all the data
‘ closes all necessary stuff
End
Function readfromfile(key:Integer):FacilityRec
‘ opens file stream
‘ creates binary writer
```

‘ seeks position In file to read data from

‘ returns the data to user

End

Function GetRecPosition(Key:Integer):Integer

Returns the remainder when key is divided by 29

End

Sub tsmAssign_Click(…)…

‘gets the index of which stadium to set facility objects

‘informs user of the number of facilities

While count is less then or equal to Stadiums(stadiumnumb).NumberOfFacilities

‘gets id of the record that user wants to assign to the specified stadium

‘ if the record is blank , user is informed and will ask the user again

‘ else it will instatiate the object and assign it

‘ a count variable is incremented , it is used to keep track of the number of assigned variables

End while

End

Sub tsmDisplay_Click(…….)….

‘displays all stadiums information into a textbox

‘displays all stadiums that need upgrading into a separate textbox

End sub

End class