Five Move Murder Fest

The RPG Manager Application

Developed by Starshiplad

Update as of: 13/10/19

Contents:

Overview:

Five Move Murder Fest is an RPG system developed by Starshiplad for at-home games http://www.starshiplad.com/FMMF.pdf .

This program will, in its final form, be able to automate a campaign for one computer (Either one player playing multiple characters or multiple people taking turns playing each of their own characters).

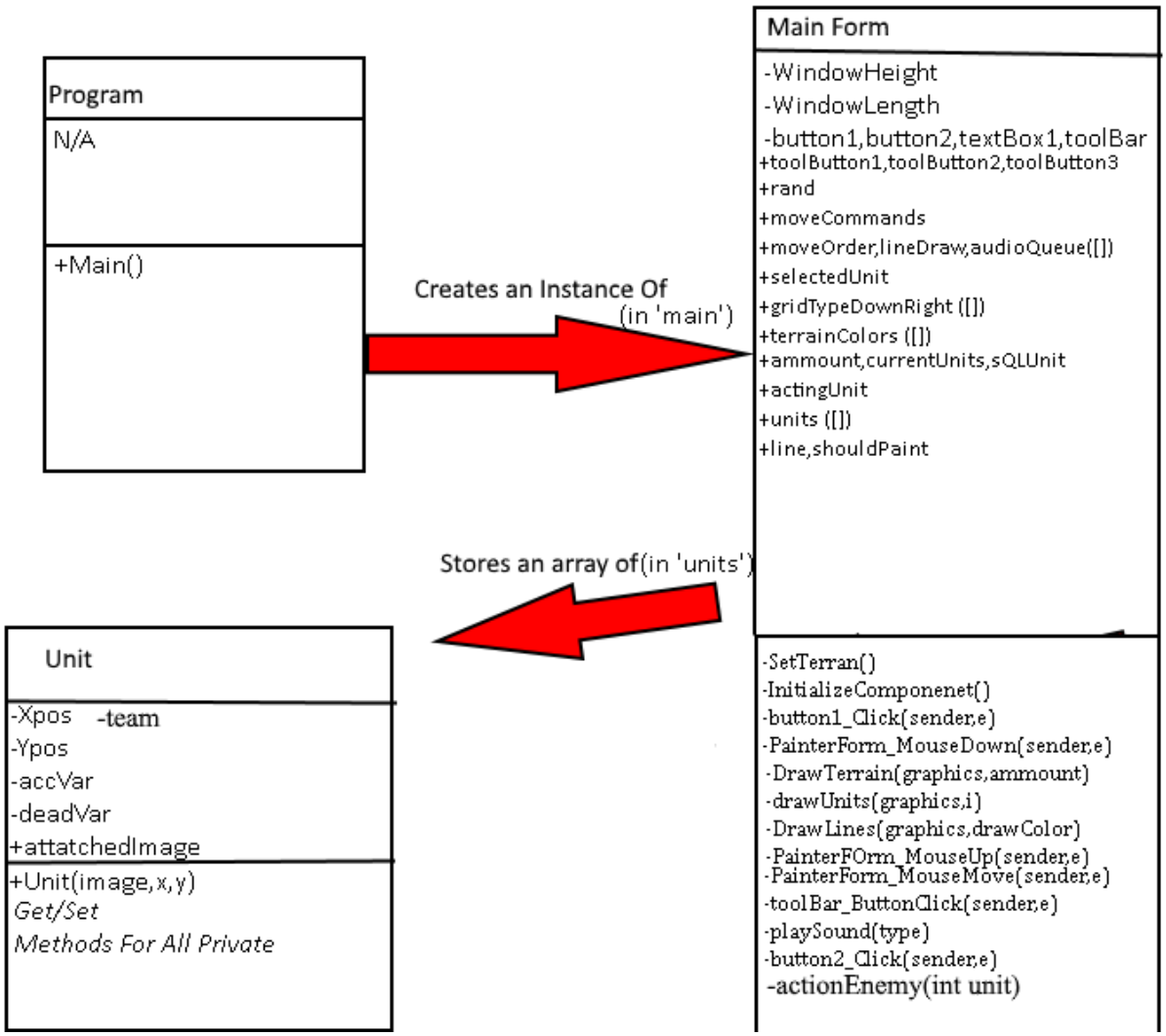
The program will generate events the players can interact with, randomly generate combat encounters that use the actual stats to resolve 'rolls', and will perform NPC and enemy actions using simplistic decision making.

The program will feature sound and several menu bar items.

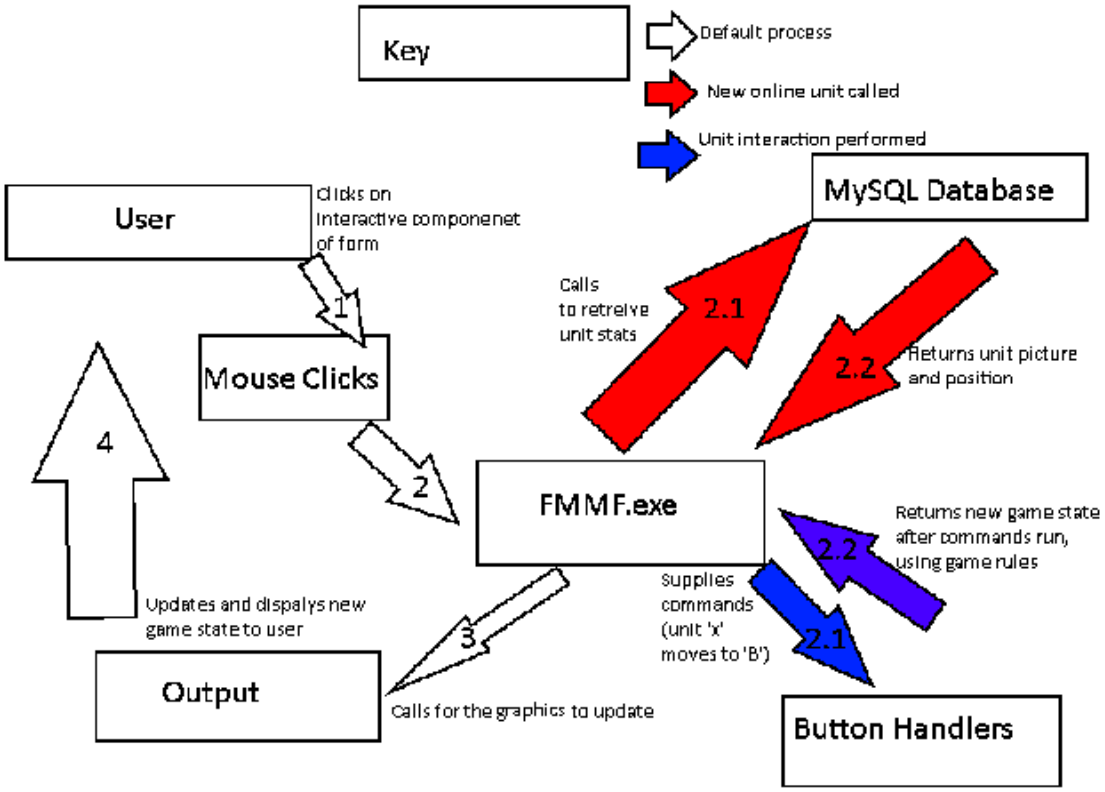
The program will run on windows 7 - > windows 10. If time allows it will be able to be multiple resolutions, however the default is 800x450 px.

The program will run via an executable, and although it will have the ability to connect to a remote database, it will be entirely runnable offline.

UML Diagram:



Application Process Flow:



Method Descriptions:

Unit:

Unit(Buffered Image Image,int x,int y,int team,int init):Initialises a new instance of the Unit class, alive,with an acc of 50 and unacted.
Unit has given image, xpos and ypos.
02/10/19: 'team' added to constructor, 'team' int added.
13/10/19 'Init' added to constructor, 'initvar' added as value

MainForm:

MainForm_Load(object sender, EventArgs e):
Draws terrain once window of application is shown subscribed to the 'shown' method group
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SortMoves(String[] moveCommandsTemp):
Takes an unsorted array of command strings, and returns the same list organized from lowest tohighest unit initiative value
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Dispose(bool disposing) : Clean up any resources being used.

InitializeComponent(): Runs set-up operations and initialises relevant componenets on *MainForm* start up
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button1_Click(object sender, EventArgs e):
button1_Click deals with the SQL loading of several variables from an SQL database. It then displays output text to a console and textbox and draws
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PainterForm_MouseDown(object sender, MouseEventArgs e):
Handles any mouse down events performed on MainForm.
If a unit is clicked or already selected, it handles the logic for adding a command string to be run in order when *button_2 Click* is run
---

DrawTerrain(Graphics graphics,int ammount):
Utility method to draw all terrain as their respective colors based on terrain type
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DrawUnits(Graphics graphics, int i):
Utility method to iterativly call all units currently initialised
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DrawLines(Graphics graphics,Color drawColor):
Utility method to draw the lines between all actioned units and their action target
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PainterForm_MouseUp(object sender, MouseEventArgs e):
When using the 'paint on mouse' mouse down environment, tells the program to stop drawing

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PainterForm_MouseMove(object sender, MouseEventArgs e):
Animates the potential target of selected unit if a unit is selected. Draws continuously if mouse down and 'paint on mouse' is true.

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actionEnemy(int unit):
Randomises an action, then has the passed unit (an index in the 'units' array) perform that action if not dead.
Returns a command string that will then be run by *button2_click().*

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toolBar_ButtonClick
(object sender, ToolBarButtonClickEventArgs e):
Utility method to handle any clicks on the toolbar. Checks against the button's 'Name' value

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playSound(int type):
A utility function to play a sound.
As of this build:
The type of sound:
1=move,2=shoot

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button2_Click(object sender,EventArgs e):
Listener class that handles the stored 'Command strings', and the changes they produce, drawing any required. CommandStrings are built in *Mouse down.*
CommandStrings have the following structure:

```
//Kill Move - 'K' | Shooter index | shot unit index
//Move Command - 'M' | Moving unit's index | 4 digits, leading zeros, x move co-ordinate | 4 digits, leading zeros, Y move co-ordinate
```

Program:

*Main():*Runs when the .exe is first run, creates an instance of *MainForm*

Window Layout:

1:
Console- This is for the debug build only. Displays any significant callback messages or changes to the program that occur.

2:
MainForm- The main application program that the user can interact with and that any important changes are drawn to.
2.1:
(Note: Toolbar's height must be taken into account when drawing to mainform)
Toolbar- Useful features not specifically part of the game will be drawn at the top of the window.
2.2:
(Note: 2.2-2.4 will probably be moved to toolbar in future builds)
Load unit- Makes a call to a mySQLserver to retrieve the next available unit data, then draws that unit onto the mainform.
2.3:
Textbox- Textbox is currently a redundant debug reporter replaced by 'Console' [1]. It will eventually be the output of narrative interactions relevant to the player (E.G instead of "unit 3 fired at co-ords 123,456 and got a score of 45.7", it will say "Billy Bob fired at a bandit but missed!")
2.4:
End Turn- Most important part of the game logic component of the program. On click performs all recorded commands in order of initiative, updates game state once all actions are performed, then updates UI and resets unit states.
2.5:
MainForm Drawing Space-
The area of the MainForm where the 'game' will be drawn and intractable
2.51:
Unit-
A catch all term for interactive objects in the game. Currently all units can be clicked, then assigned orders (See actionLine [2.53]), however it will be updated so only the player's units can be interacted with by the player. Unit's contain individual images that are drawn to the MainForm Drawing Space at the coordinates the unit exists in.
2.52:
Terrain-
The MainFormDrawing Space is segmented into areas of terrain. These represent the various aspects of a combat area and impact some game logic based on if a targeted unit is 'in' the terrain
2.53:
actionLine-
When a unit is selected and given an order, the order will not be performed until the end of turn (See End Turn [2.4]). Until then, a line between the unit and their target(Either to move to or shoot at) will display on the MainForm Drawing Space

Development Log:

27/09/19-

Added a documentation log, added and icon to program, build .exe
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Changes:
>Began this developer documentation, Added UML diagram Application process flow diagram, method descriptors and Window layout diagram.
>Added the FMMF_icon.ico file, changed program icon to said .ico.
>Removed the developer Console before publishing an .exe of current program.
>Release 0.01 build to Github

To Do:
-Implement basic enemy Decision Making
-Implement initative system
-Make terrain more asthetic

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02/10/2019

Added basic enemy functionality for them to be plyed only by computor.
Putting A.I functionality and terrain effects into new branch until error free and relevant toolbars added
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Changes
>*actionEnemy* added to handle A.I actions
> Added a 'team' value to the 'Unit' object. *actionEnemy* currently only deals wih team 2 units, and the palyer can only interact with team 1 units.
Default team is 1.
> *actionEnemy* randomizes an action then has the passed unit perform that action if not dead.
>Command strings will now itterate if the passed command string is 'EXIT'
>Terrain now draws from form initialization due to *MainForm_Load*

To Do:
-Add *MainForm_Load* to UML
-Add decision making/reasoning
-Add team selecter in starshiplad.com/upload.php
-make terrain more asthetic

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13/10/2019

Added implementation of initiative system. Changed basic output images
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Changes
>*sortMoves* utility method added to take a list of command strings and sort them based on initiative values
> *Unit* Now takes an init value in constructor, that sets unit's initiative
>BadGuy1.png and Hero1.png edited
> Changed Log layout to include github changes and Next Update/ Next Build deadlines
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Changes -Github
>Released this Update
> Merged 'Computer-Controlled' branch with master branch
>Released 0.01 build

To Do:
-Add *MainForm_Load* to UML
-Add decision making/reasoning
-Add *sortMoves* to UML
-Add team selecter in starshiplad.com/upload.php
-make terrain more aesthetic

Next Update :
Week ending 20/10/19
Next Build:
Week ending 03/11/19
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12/11/2019

Late update due to finishing university.
Implemented basic terrain display when drawing, and shifted the background color.
Increased A.I capability, giving them non-random decision making
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Changes
>New 2D int array *gridTerrainCoords* defining coordinates of terrain images.
>*gridTerrainCoords* values initialized in *SetTerrain()*
>*DrawTerrain* now draws terrain images on grids that are colored.
>*actionEnemy* Now makes AI perform actions based on a cascading priority list
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Changes -Github
>Uploaded this update to new branch- *Advanced AI*

To Do - Next build:
-Add *MainForm_Load* to UML

-Add *sortMoves* to UML
-Add team selector in starshiplad.com/upload.php
-Bugtest
-Merge *Advanced AI* and *Master*

Next Update :
Week ending 24/11/19
Next Build:
Week ending 24/11/19