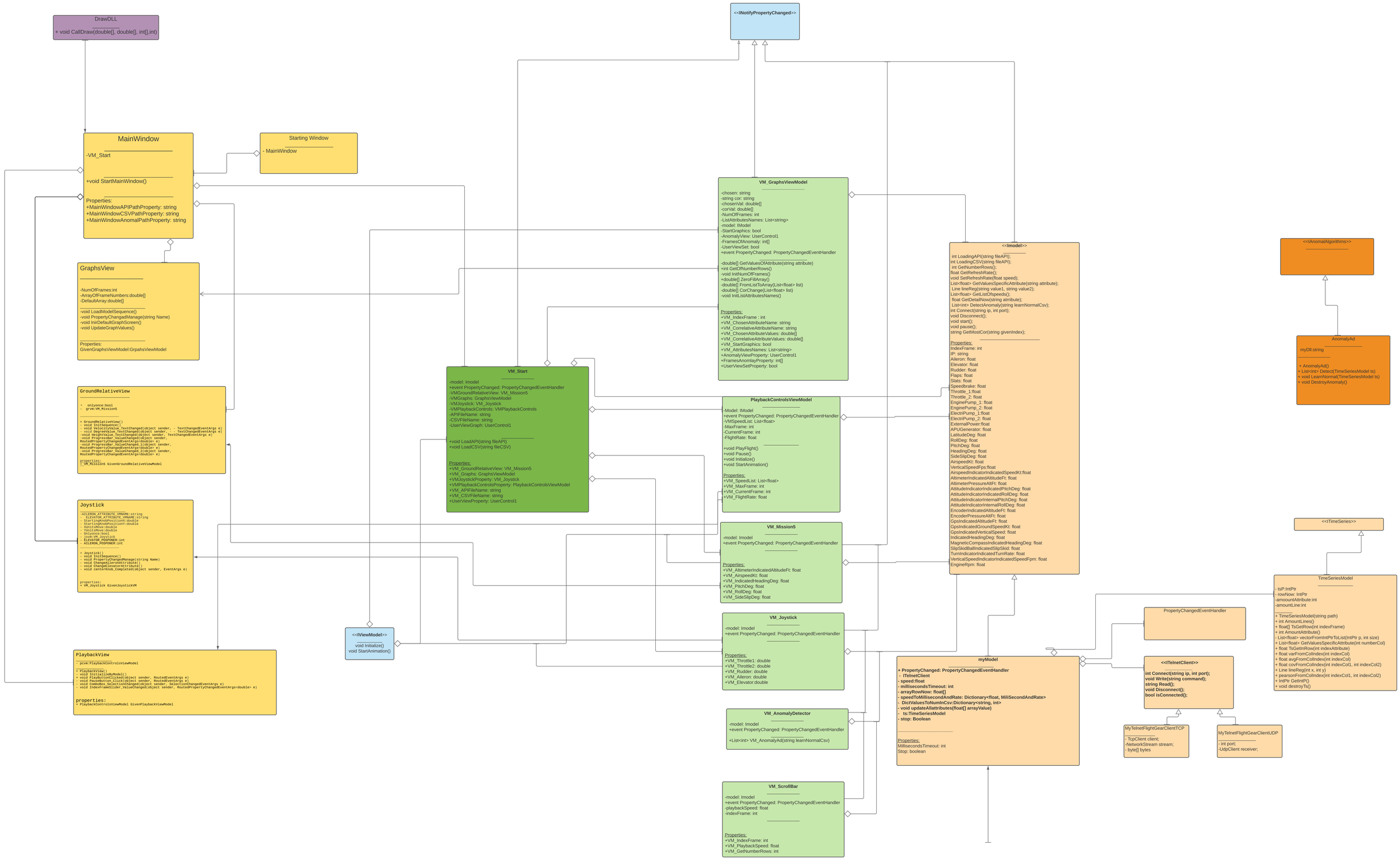
DrawDLL
+ void CallDraw(double[], double[], int[],int)
<<INotifyPropertyChanged>>
MainWindow
-VM_Start
+void StartMainWindow()
Properties:
+MainWindowAPIPathProperty: string
+MainWindowCSVPathProperty: string
+MainWindowAnomalPathProperty: string
Starting Window
- MainWindow
GraphsView
-NumOfFrames:int
-ArrayOfFrameNumbers:double[]
-DefaultArray:double[]
-void LoadModelSequence()
-void PropertyChangadManage(string Name)
-void InitDefaultGraphScreen()
-void UpdateGraphValues()
Properties:
GivenGraphsViewModel:GrpahsViewModel
GroundRelativeView
- onlyonce:bool
- grvm:VM_Mission5
+ GroundRelativeView()
- void InitSequence()
- void VelocityValue_TextChanged(object sender, - TextChangedEventArgs e)
- void PitchValue_TextChanged(object sender, - TextChangedEventArgs e)
-void HeightValue_TextChanged(object sender, TextChangedEventArgs e)
-void ProgressBar_ValueChanged(object sender,
RoutedPropertyChangedEventArgs<double> e)
-void ProgressBar_ValueChanged_1(object sender,
RoutedPropertyChangedEventArgs<double> e)
-void ProgressBar_ValueChanged_2(object sender,
RoutedPropertyChangedEventArgs<double> e)
properties:
+ VM_Mission5 GivenGroundRelativeViewModel
Joystick
-AILERON_ATTRIBUTE_VMNAME:string
- ELEVATOR_ATTRIBUTE_VMNAME:string
- StartingKnobPositionX:double
- StartingKnobPositionY:double
- XUnitsMove:double
- YUnitsMove:double
- Onlyonce:bool
- jvm:VM_Joystick
- ELEVATOR_PDSPOWER:int
- AILERON_PDSPOWER:int
+ Joystick()
- void InitSequence()
- void PropertyChangedManage(string Name)
- void ChangeAileronAttribute()
- void ChangeElevatorAttribute()
- void centerKnob_Completed(object sender, EventArgs e)
properties:
+ VM_Joystick GivenJoystickVM
PlaybackView
- pcvm:PlaybackControlsViewModel
+ PlaybackView()
- void InitializeMyMode()
+ void PlayButton_Click(object sender, RoutedEventArgs e)
- void PauseButton_Click(object sender, RoutedEventArgs e)
- void ComboBox_SelectionChanged(object sender, SelectionChangedEventArgs e)
- void IndexFrameSlider_ValueChanged(object sender, RoutedPropertyChangedEventArgs<double> e)
properties:
+ PlaybackControlsViewModel GivenPlaybackViewModel
<<IViewModel>>
void Initialize()
void StartAnimation()
VM_GraphsViewModel
-chosen: string
-string cor: string
-chosenVal: double[]
-corVal: double[]
-NumOfFrames: int
-ListAttributesNames: List<string>
-model: IModel
-StartGraphics: bool
-AnomalyView: UserControl1
-FramesOfAnomaly: int[]
-UserViewSet: bool
+event PropertyChanged: PropertyChangedEventHandler
-double[] GetValuesOfAttribute(string attribute)
+int GetOfNumberRows()
-void InitNumOfFrames()
+double[] ZeroFillArray()
-double[] FromListToArray(List<float> list)
-double[] CorChange(List<float> list)
-void InitListAttributesNames()
Properties:
+VM_IndexFrame : int
+VM_ChosenAttributeName: string
+VM_CorrelativeAttributeName: string
+VM_ChosenAttributeValues: double[]
+VM_CorrelativeAttributeValues: double[]
+VM_StartGraphics: bool
+VM_AttributesNames: List<string>
+AnomalyViewProperty: UserControl1
+FramesAnomlayProperty: int[]
+UserViewSetProperty: bool
VM_Start
-model: Imodel
+event PropertyChanged: PropertyChangedEventHandler
-VMGroundRelativeView: VM_Mission5
-VMGraphs: GraphsViewModel
-VMJoystick: VM_Joystick
-VMPlaybackControls: VMPlaybackControls
-APIFileName: string
-CSVFileName: string
-UserViewGraph: UserControl1
+void LoadAPI(string fileAPI)
+void LoadCSV(string fileCSV)
Properties:
+VM_GroundRelativeView: VM_Mission5
+VM_Graphs: GraphsViewModel
+VMJoystickProperty: VM_Joystick
+VMPlaybackControlsProperty: PlaybackControlsViewModel
+VM_APIFileName: string
+VM_CSVFileName: string
+UserViewProperty: UserControl1
PlaybackControlsViewModel
-Model: IModel
+event PropertyChanged: PropertyChangedEventHandler
-VMSpeedList: List<float>
-MaxFrame: int
-CurrentFrame: int
-FlightRate: float
+void PlayFlight()
+void Pause()
+void Initialize()
+void StartAnimation()
Properties:
+VM_SpeedList: List<float>
+VM_MaxFrame: int
+VM_CurrentFrame: int
+VM_FlightRate: float
VM_Mission5
-model: Imodel
+event PropertyChanged: PropertyChangedEventHandler
Properties:
+VM_AltimeterIndicatedAltitudeFt: float
+VM_AirspeedKt: float
+VM_IndicatedHeadingDeg: float
+VM_PitchDeg: float
+VM_RollDeg: float
+VM_SideSlipDeg: float
VM_Joystick
-model: Imodel
+event PropertyChanged: PropertyChangedEventHandler
Properties:
+VM_Throttle1: double
+VM_Throttle2: double
+VM_Rudder: double
+VM_Aileron: double
+VM_Elevator:double
VM_AnomalyDetector
-model: Imodel
+event PropertyChanged: PropertyChangedEventHandler
+List<int> VM_AnomalyAd(string learnNormalCsv)
VM_ScrollBar
-model: Imodel
+event PropertyChanged: PropertyChangedEventHandler
-playbackSpeed: float
-indexFrame: int
Properties:
+VM_IndexFrame: int
+VM_PlaybackSpeed: float
+VM_GetNumberRows: int
<<Imodel>>
int LoadingAPI(string fileAPI);
int LoadingCSV(string fileAPI);
int GetNumberRows();
float GetRefreshRate();
void SetRefreshRate(float speed);
List<float> GetValuesSpecificAttribute(string attribute);
Line lineReg(string value1, string value2);
List<float> GetListOfspeeds();
float GetDetailNow(string attribute);
List<int> DetectAnomaly(string learnNormalCsv);
int Connect(string ip, int port);
void Disconnect();
void start();
void pause();
string GetMostCor(string givenIndex);
Properties:
IndexFrame: int
IP: string
Aileron: float
Elevator: float
Rudder: float
Flaps: float
Slats: float
Speedbrake: float
Throttle_1:float
Throttle_2: float
EnginePump_1: float
EnginePump_2: float
ElectrPump_1:float
ElectrPump_2: float
ExternalPower:float
APUGenerator: float
LatitudeDeg: float
RollDeg: float
PitchDeg: float
HeadingDeg: float
SideSlipDeg: float
AirspeedKt: float
VerticalSpeedFps:float
AirspeedIndicatorIndicatedSpeedKt:float
AltimeterIndicatedAltitudeFt: float
AltimeterPressureAltFt: float
AttitudeIndicatorIndicatedPitchDeg: float
AttitudeIndicatorIndicatedRollDeg: float
AttitudeIndicatorInternalPitchDeg: float
AttitudeIndicatorInternalRollDeg: float
EncoderIndicatedAltitudeFt: float
EncoderPressureAltFt: float
GpsIndicatedAltitudeFt: float
GpsIndicatedGroundSpeedKt: float
GpsIndicatedVerticalSpeed: float
IndicatedHeadingDeg: float
MagneticCompassIndicatedHeadingDeg: float
SlipSkidBallIndicatedSlipSkid: float
TurnIndicatorIndicatedTurnRate: float
VerticalSpeedIndicatorIndicatedSpeedFpm: float
EngineRpm: float
myModel
+ PropertyChanged: PropertyChangedEventHandler
- TfelnetClient
- speed:float
- millisecondsTimeout: int
- arrayRowNow: float[]
- speedToMillisecondAndRate: Dictionary<float, MiliSecondAndRate>
- DictValuesToNumInCsv:Dictionary<string, int>
+ void updateAllattributes(float[] arrayValue)
- ts:TimeSeriesModel
+ stop: Boolean
Properties:
MillisecondsTimeout: int
Stop: boolean
<<IAnomalAlgorithms>>
AnomalyAd
myDll:string
+ AnomalyAd()
+ List<int> Detect(TimeSeriesModel ts)
+ void LearnNormal(TimeSeriesModel ts)
+ void DestroyAnomaly()
<<ITimeSeries>>
TimeSeriesModel
- tsP:IntPtr
- rowNow: IntPtr
-amountAttribute:int
-amountLine:int
+ TimeSeriesModel(string path)
+ int AmountLines()
+ float[] TsGetRow(int indexFrame)
+ int AmountAttribute()
- List<float> vectorFromIntPtrToList(IntPtr p, int size)
+ List<float> GetValuesSpecificAttribute(int numberCol)
+ float TsGetInRow(int indexAttribute)
+ float varFromColIndex(int indexCol)
+ float avgFromColIndex(int indexCol)
+ float covFromColIndex(int indexCol1, int indexCol2)
+ Line lineReg(int x, int y)
+ pearsonFromColIndex(int indexCol1, int indexCol2)
+ IntPtr GetIntP()
+ void destroyTs()
PropertyChangedEventHandler
<<ITelnetClient>>
int Connect(string ip, int port);
void Write(string command);
string Read();
void Disconnect();
bool isConnected();
MyTelnetFlightGearClientTCP
- TcpClient client;
-NetworkStream stream;
- byte[] bytes
MyTelnetFlightGearClientUDP
- int port;
-UdpClient receiver;