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//+-----+
//|                                     | EA_MaxSpreadStopAndFreeze.mq4 |
//|                                     | Copyright 2017, M Wilson. |
//|                                     | https://www.algotrader.blog |
//+-----+
#property copyright "Copyright 2017, M Wilson."
#property link      "https://www.algotrader.blog"
#property version   "1.00"
#property strict

//+-----+
//| Inputs |
//+-----+

//+-----+
//| Global Variables |
//+-----+
datetime g_dtLastCheck;
double g_dblMaxSpread;
datetime g_dtMaxSpread;
double g_dblMaxStopLevel;
datetime g_dtMaxStopLevel;
double g_dblMaxFreezeLevel;
datetime g_dtMaxFreezeLevel;

//+-----+
//| Expert initialization function |
//+-----+
int OnInit()
{
    //Input Validation - This EA must be run in timeframe from 1 mins to under 1 hour.
    if(PeriodSeconds()<60 || PeriodSeconds()>=3600)
    {
        Print(__FILE__+" : "+__FUNCTION__, " ", Symbol(),
" EA Must be run in a timeframe greater than or equal to 1 minute, but less than 1 hour"
);
        return(INIT_FAILED);
    }

    //Reset/Initaite the Global Variables
    ResetGlobalVariables();

    return(INIT_SUCCEEDED);
}

//+-----+
//| Expert deinitialization function |
//+-----+
void OnDeinit(const int reason)
{
    //---
}

//+-----+
//| Expert tick function |
//+-----+
void OnTick()
{
    //Get the Spread, Stop and Freeze Level and update them if we exceed the current global vari
    if(Bid>0 && Ask>0)
    {
        double dblSpread=Ask-Bid;
        double dblStopLevel=MarketInfo(Symbol(),MODE_STOPLEVEL);
        double dblFreezeLevel=MarketInfo(Symbol(),MODE_FREEZELEVEL);

        datetime dtTime=TimeCurrent();

        if(dblSpread>g_dblMaxSpread)
        {
            g_dblMaxSpread=dblSpread;
            g_dtMaxSpread=dtTime;

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    }
    if(dblStopLevel>g_dblMaxStopLevel)
    {
        g_dblMaxStopLevel=dblStopLevel;
        g_dtMaxStopLevel=dtTime;
    }
    if(dblFreezeLevel>g_dblMaxFreezeLevel)
    {
        g_dblMaxFreezeLevel=dblFreezeLevel;
        g_dtMaxFreezeLevel=dtTime;
    }
}

//ONLY PROCESS FUNCTIONS FOLLOWING THIS STATEMENT ONCE PER CANDLE.
if(g_dtLastCheck>=iTime(Symbol(),0,1))    return;

//If we get a switchover in days, then reset everything and report the results
datetime dtT=iTime(Symbol(),0,0);
datetime dtTm1=iTime(Symbol(),0,1);
if(TimeDayOfWeek(dtT)!=TimeDayOfWeek(dtTm1))
{
    //Create the title of the report
    string strTitle="Max Spread/StopLevel/FreezeLevel: "+DoubleToString(g_dblMaxSpread
)+"/"+DoubleToString(g_dblMaxStopLevel)+"/"+DoubleToString(g_dblMaxFreezeLevel);

    //Create the body of the report
    string strReport="Maximum Spread:\nTime: "+TimeToString(g_dtMaxSpread)+
"\nSpread: "+DoubleToString(g_dblMaxSpread)+"\n\n";
    strReport+="Maximum StopLevel:\nTime: "+TimeToString(g_dtMaxStopLevel)+
"\nStopLevel: "+DoubleToString(g_dblMaxStopLevel)+"\n\n";
    strReport+="Maximum FreezeLevel:\nTime: "+TimeToString(g_dtMaxFreezeLevel)+
"\nFreezeLevel: "+DoubleToString(g_dblMaxFreezeLevel)+"\n\n";
    strReport+="Point: "+DoubleToString(MarketInfo(Symbol(),MODE_POINT))+"\n\n";
    strReport+="TickSize: "+DoubleToString(MarketInfo(Symbol(),MODE_TICKSIZE));

    //Send the Email
    SendMail(strTitle,strReport);

    //Send the Notification
    SendNotification(strTitle);

    //Reset the global variables.
    ResetGlobalVariables();
}

//Update the global variable so that we do not need to check again.
g_dtLastCheck=iTime(Symbol(),0,1);
}
//+-----+
void ResetGlobalVariables()
{
    g_dblMaxSpread=-1;
    g_dblMaxStopLevel=-1;
    g_dblMaxFreezeLevel=-1;
}

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