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In [3]: ##Merge both##Final
'''Wyscout is the default of this setup and I dont want to learn the other ways to
Change the player positions in the files themselves then just save and refresh.
It will error out because of the positions so I saved a file of each possible posit
Mapping gk thru striker helps with organization
'''

import math
from urllib.request import urlopen
import matplotlib as mpl
import matplotlib.patheffects as path_effects
import matplotlib.pyplot as plt
import pandas as pd
from PIL import Image
from mplsoccer import VerticalPitch, Sboopen, FontManager, inset_image
from mplsoccer.pitch import Pitch

##
#Change formation and untick the print function for their formation for troublesho
#Can modify internal CSV to them if needed, offsets in the plotting are commente
##
#####
OurFormation = '433'
OppFormation = '343'
OurDF = pd.read_csv('F:/My Drive/Soccer Analytics Exports/StartingFormation/Formati
OppDF = pd.read_csv('F:/My Drive/Soccer Analytics Exports/StartingFormation/Formati

#####
parser = Sboopen()
roboto_bold = FontManager(
    'https://raw.githubusercontent.com/google/fonts/main/apache/robotoslab/RobotoSl
path_eff = [path_effects.Stroke(linewidth=3, foreground='white'),
            path_effects.Normal()]
#####Base Pitch#####
pitch = VerticalPitch(pitch_type='wyscout', goal_type='box', pitch_color='#53ac5c',
                    line_color='white', linewidth=3, corner_arcs=True)
fig, ax = pitch.draw(figsize=(8, 15))

##Our Dataframe
OurForm = pitch. formations_dataframe
OurForm = OurForm[OurForm['formation'] == OurFormation]
OurDF = {'player_name': OurDF['player_name'],
        'position_id': OurDF['position_id'],
        }
OurDF = pd.DataFrame(OurDF)
OurDF = pd.merge(OurDF,OurForm,left_on= 'position_id', right_on= 'name',how='left')
OurDF = OurDF[['player_name','position_id','wyscout']]
OurDF = OurDF.rename(columns={'position_id' : 'Position', 'wyscout' : 'position_id'})
#print(OurDF) #Troubleshooting only

##Opponent Dataframe
OppForm = pitch. formations_dataframe
OppForm = OppForm[OppForm['formation'] == OppFormation]

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OppDF = {'player_name': OppDF['player_name'],
        'position_id': OppDF['position_id'],
        }
OppDF = pd.DataFrame(OppDF)
OppDF = pd.merge(OppDF, OppForm, left_on= 'position_id', right_on= 'name', how='left')
OppDF = OppDF[['player_name', 'position_id', 'wyscout']]
OppDF = OppDF.rename(columns={'position_id' : 'Position', 'wyscout' : 'position_id'})
#print(OppDF) #Troubleshooting only

##Our Mapping
our_half = pitch.formation(OurFormation, positions=OurDF['position_id'],
                           ax=ax, c='#152238', ec='#D4AF37',
                           #xoffset=[-3, -3, -3, -3, -5, -3, -3, -5, -5, -3, -3]
                           #yoffset=[0, 0, 0, 0, -5, 0, 0, 5, 0, 0, 0],
                           lw=3, s=250, half = True)
our_text = pitch.formation(OurFormation, positions=OurDF['position_id'],
                           text=OurDF['player_name'].str.replace(' ', '\n').str.repl

                           #yoffset=[0, 0, 0, 0, -5, 0, 0, 5, 0, 0, 0],
                           kind='text', va='center', ha='center', xoffset=2.5,
                           fontsize=15, path_effects=path_eff, half = True,
                           ax=ax)

##Opponent Mapping
opp_half_flip = pitch.formation(OppFormation, positions=OppDF['position_id'],
                                ax=ax, c='#ff2701', ec='#000000',
                                #xoffset=[-3, -3, -3, -3, -5, -3, -3, -5, -5, -3, -3]
                                #yoffset=[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0],
                                lw=3, s=250, half = True, flip = True)
opp_text_half_flip = pitch.formation(OppFormation, positions=OppDF['position_id'],
                                     text=OppDF['player_name'].str.replace(' ', '\n').str.repl

                                     #yoffset=[0, 0, 0, 0, -5, 0, 0, 5, 0, 0, 0],
                                     kind='text', va='center', ha='center', xoffset=2.5,
                                     fontsize=15, path_effects=path_eff, half = True, flip = Tr
                                     ax=ax)

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