In [10]:
```
import matplotlib.pyplot as plt
from matplotlib import pyplot
import pandas as pd
import seaborn as sns
import numpy as np
```

In [11]:
```
data1 = pd.read_csv("NVdecades.csv",encoding='latin-1')
data2 = pd.read_csv("features_dataset.csv",encoding='latin-1')
```

In [15]:
```
#inner joining the datasets
data1.rename(columns={'artist_name': 'artist'}, inplace=True)
data = pd.merge(data1,data2, on= ['artist'], how = 'inner')
data = data.drop_duplicates()
```

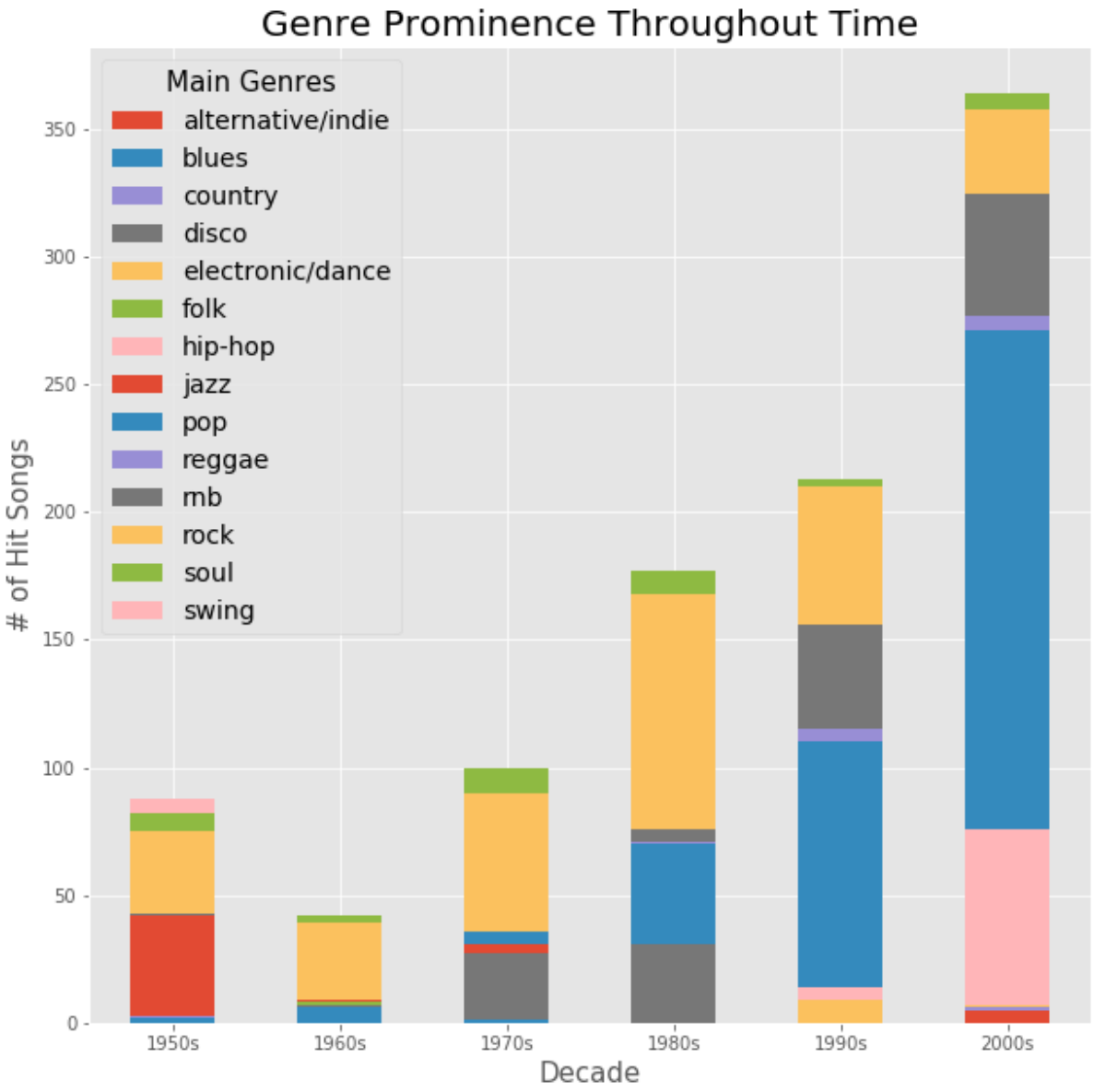
In [16]:
```
data.head()
```

Out[16]:

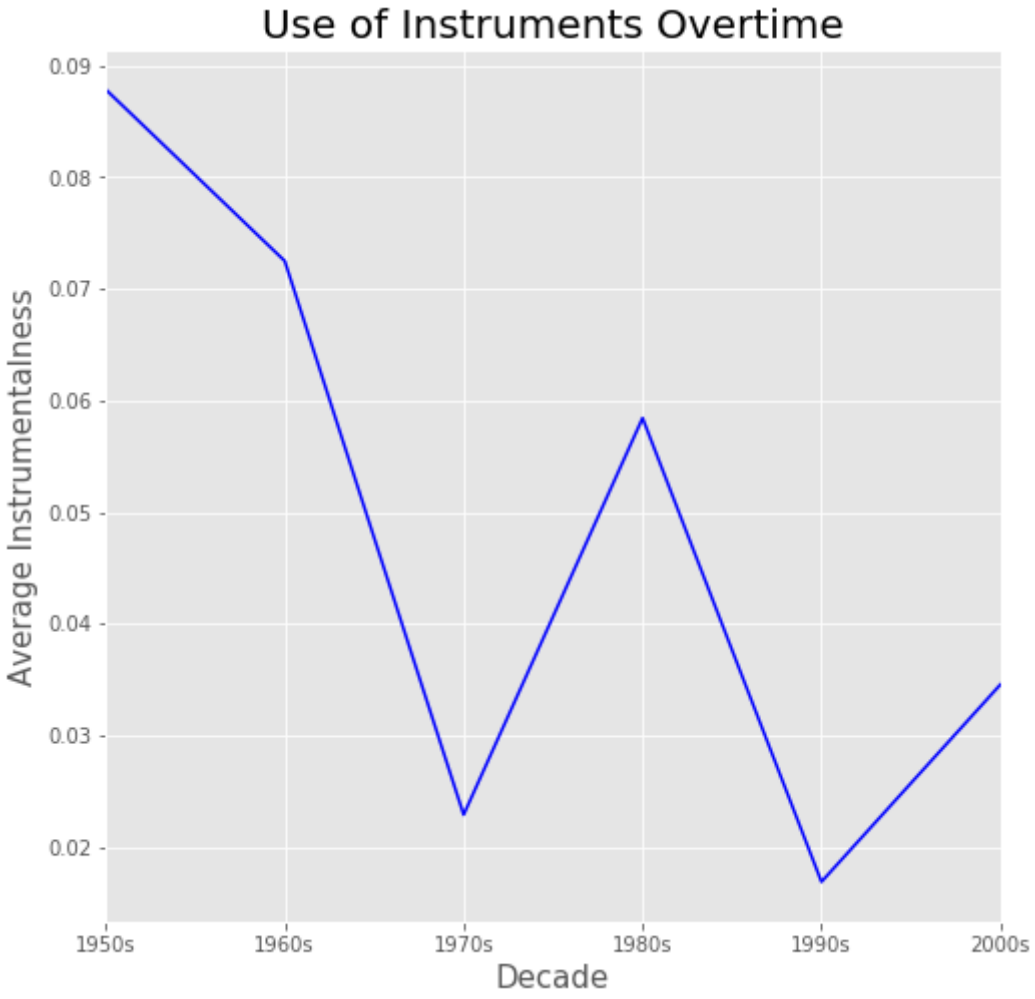
	Unnamed: 0	artist_id	artist	id	key	energy	liveness	ter
0	1	ARTH9041187FB43E1F	Eminem	SOTITAT144C281345F	2	0.478829	0.082686	
6	1	ARTH9041187FB43E1F	Eminem	SOTITAT144C281345F	2	0.478829	0.082686	
9	1	ARTH9041187FB43E1F	Eminem	SOTITAT144C281345F	2	0.478829	0.082686	
11	1	ARTH9041187FB43E1F	Eminem	SOTITAT144C281345F	2	0.478829	0.082686	
90	1	ARTH9041187FB43E1F	Eminem	SOTITAT144C281345F	2	0.478829	0.082686	

5 rows × 22 columns

In [17]:
```
#Visual 1
genre = data.groupby(['decade']).main_genre.value_counts()
fig1 = genre.unstack()
fig1.plot(kind='bar', figsize=(10, 10),stacked = True,rot='horizontal')
plt.ylabel("# of Hit Songs", size = 15)
plt.xlabel("Decade", size = 15)
plt.legend(title = "Main Genres",title_fontsize = 15,frameon=True, prop=
{'size': 14})
plt.style.use('ggplot')
plt.title("Genre Prominence Throughout Time", size = 20)
plt.savefig('GenreGraph.png')
plt.show()
```

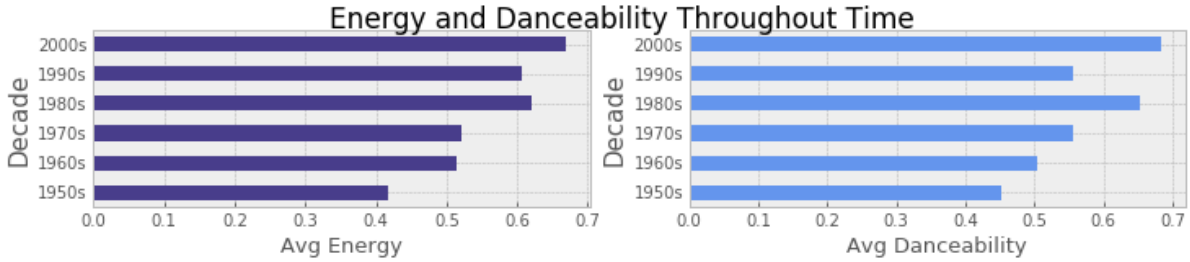


In [18]:
```
#Visual 2
instrument = data.groupby(['decade']).instrumentalness.mean()
fig2 = instrument
fig2.plot(kind='line', figsize=(8, 8), color = "blue")
plt.ylabel("Average Instrumentalness", size = 15)
plt.xlabel("Decade", size = 15)
plt.style.use('ggplot')
plt.title("Use of Instruments Overtime", size = 20)
plt.savefig('InstrumentGraph.png')
plt.show()
```

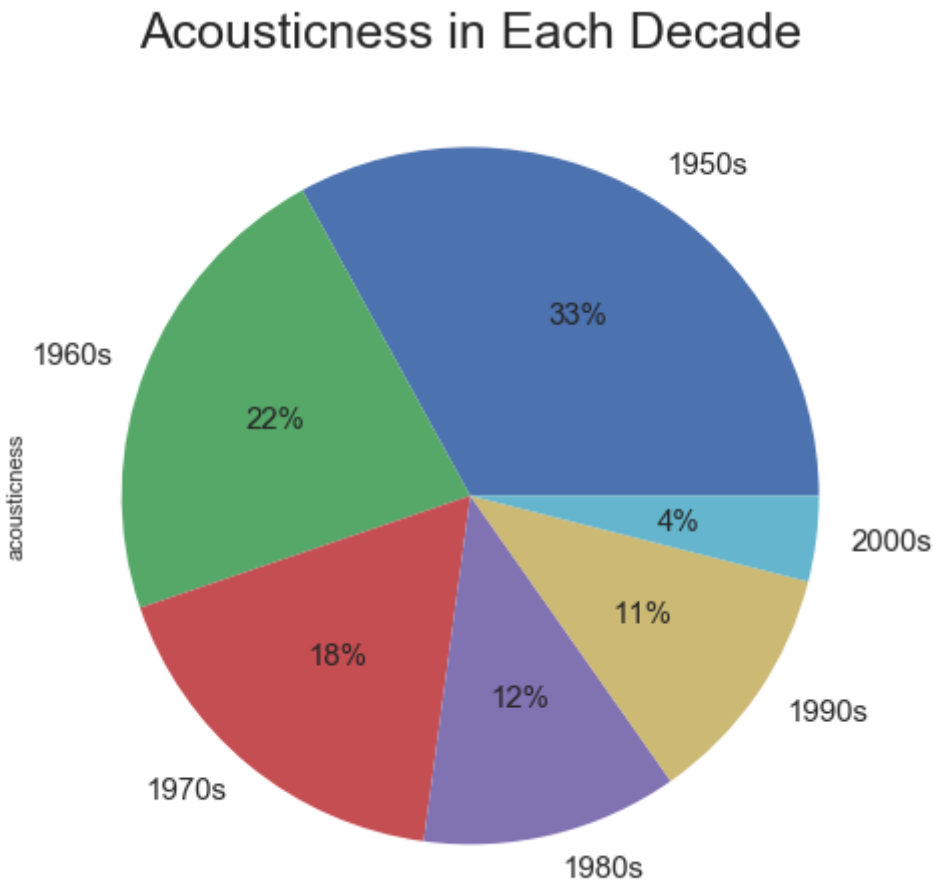


In [19]:
```
#Visual 3
plt.figure()
plt.style.use('bmh')
plt.subplot(1,2,1)
energy = data.groupby(['decade']).energy.mean()
fig3 = energy
fig3.plot(kind='barh', color = 'darkslateblue',figsize=(12, 2))
plt.xlabel("Avg Energy", size = 13)
plt.ylabel("Decade", size = 15)
plt.suptitle("Energy and Danceability Throughout Time", size = 17)


plt.subplot(1,2,2)
plt.style.use('bmh')
danceability = data.groupby(['decade']).danceability.mean()
fig4 = danceability
fig4.plot(kind='barh', color = 'cornflowerblue')
plt.xlabel("Avg Danceability", size = 13)
plt.ylabel("Decade", size = 15)
plt.savefig('EnergyDanceability.png')
plt.show()
```



In [20]:
```
#Visual 4
plt.style.use('seaborn')
acousticness = data.groupby(['decade']).acousticness.mean()
fig5 = acousticness
fig5.plot(kind='pie',figsize=(8, 8), autopct='%1.0f%%',textprops={'fontsize': 15})
plt.title("Acousticness in Each Decade", size = 25)
plt.savefig('AcousticnessGraph.png')
plt.show()
```



In [ ]: