

Práctica 4: Reconocimiento de voz usando pocketsphinx.

-Ejemplos de frases que se puedan reconocer de acuerdo con la gramática “restaurant.gram”

- JUSTINA YES
- JUSTINA START
- JUSTINA THIS IS THE ORDER
- I WANT A PASTA
- I WANT A COKE
- I WANT A BEER
- I WANT PASTA AND TUNA FISH
- I WANT A COOKIES AND PICKLES
- I WANT ROBO O'S AND M AND M
- I WANT PICKLES AND PASTA
- I WANT TUNA FISH AND TUNA FISH

-Significado de los 4 parámetros mencionados en el punto 5.

El primer parámetro es **gram**, el cuál nos dice la gramática a ser empleada en el reconocimiento de voz, donde se pasa de voice\_cmd a restaurant.

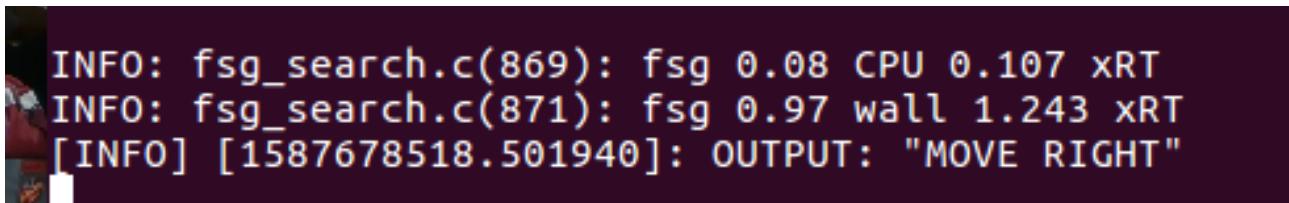
El segundo parámetro corresponde a **dict**, que hace referencia a una lista de palabras contenidas en un archivo tipo diccionario donde se encuentran las definiciones y pronunciaciones de la gramática.

El parámetro de **grammar** nos indica el nombre de la gramática a ser empleada en el reconocimiento de voz.

El parámetro **rule** hace referencia a las reglas gramaticales que se deberán cumplir.

-Captura de pantalla donde se observen las frases reconocidas.

Frases reconocidas antes de modificar el archivo “catkin ws/src/bring up/launch/pocketsphinx\_text.launch”.



```
INFO: fsg_search.c(869): fsg 0.08 CPU 0.107 xRT
INFO: fsg_search.c(871): fsg 0.97 wall 1.243 xRT
[INFO] [1587678518.501940]: OUTPUT: "MOVE RIGHT"
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```
INFO: fsg_search.c(869): fsg 0.43 CPU 0.413 xRT
INFO: fsg_search.c(871): fsg 33.28 wall 31.696 xRT
[INFO] [1587678731.493854]: OUTPUT: "MOVE FORWARD"
INFO: cmn_live.c(120): Update from < 96.12 -4.03 -6.92 -1.36 -4.71 -1.30 -4.50 -
1.58 -5.71 -2.61 -3.73 -0.34 -2.83 >
INFO: cmn_live.c(138): Update to < 96.16 -3.52 -6.38 -1.27 -4.52 -1.37 -4.41 -
1.51 -5.86 -3.00 -4.06 -0.39 -3.07 >
INFO: fsg_search.c(859): 112 frames, 2788 HMMs (24/fr), 7681 senones (68/fr), 70
8 history entries (6/fr)

INFO: fsg_search.c(869): fsg 0.22 CPU 0.193 xRT
INFO: fsg_search.c(871): fsg 12.20 wall 10.793 xRT
[INFO] [1587678743.692024]: OUTPUT: "MOVE RIGHT"
```

```
ica INFO: fsg_search.c(869): fsg 0.27 CPU 0.205 xRT
INFO: fsg_search.c(871): fsg 17.50 wall 13.157 xRT
[INFO] [1587678787.519257]: OUTPUT: "MOVE BACK"
INFO: cmn_live.c(120): Update from < 96.91 -2.90 -5.39 -0.97 -4.19 -1.68 -4.29 -
1.46 -5.48 -2.41 -2.70 0.74 -2.09 >
INFO: cmn_live.c(138): Update to < 96.07 -1.59 -4.97 -0.71 -4.03 -1.54 -4.11 -
1.52 -5.57 -2.63 -3.13 -0.27 -3.36 >
INFO: fsg_search.c(859): 171 frames, 4113 HMMs (24/fr), 11243 senones (65/fr), 9
24 history entries (5/fr)
```

```
INFO: fsg_search.c(869): fsg 0.30 CPU 0.158 xRT
INFO: fsg_search.c(871): fsg 2.18 wall 1.146 xRT
[INFO] [1587687520.226920]: OUTPUT: "MOVE LEFT"
```

```
INFO: fsg_search.c(869): fsg 1.33 CPU 0.165 xRT
INFO: fsg_search.c(871): fsg 8.27 wall 1.025 xRT
[INFO] [1587687632.101727]: OUTPUT: "MOVE BACK HALF SPEED"
INFO: cmn_live.c(88): Update from < 87.91 -6.31 -4.93 -3.26 -6.65 -2.09 -4.94 -1
```

Frases reconocidas después de modificar el archivo “catkin ws/src/bring up/launch/pocketsphinx\_text.launch”.

```
INFO: fsg_search.c(869): fsg 0.43 CPU 0.191 xRT
INFO: fsg_search.c(871): fsg 5.15 wall 2.307 xRT
[INFO] [1587688186.561938]: OUTPUT: "I WANT PASTA AND PICKLES"
INFO: cmn_live.c(120): Update from < 86.65 -1.27 0.90 -1.21 -4.56 -1.92 -4.74 -
2.01 -3.69 -0.10 0.70 3.04 -0.23 >
```

```
INFO: fsg_search.c(869): fsg 0.47 CPU 0.145 xRT
INFO: fsg_search.c(871): fsg 5.51 wall 1.706 xRT
[INFO] [1587688209.114718]: OUTPUT: "I WANT PASTA AND TUNA FISH"
INFO: cmn_live.c(120): Update from < 88.39 -4.87 -0.81 -0.62 -4.20 -2.41 -5.35 -
0.73 -2.55 -0.60 -0.72 3.14 1.02 >
INFO: cmn_live.c(138): Update to < 88.43 -5.69 -1.10 -0.56 -3.65 -2.04 -5.83 -
0.14 -1.49 0.52 0.26 3.03 0.45 >
INFO: fsg_search.c(859): 145 frames, 15105 HMMs (104/fr), 32430 senones (223/fr),
, 2834 history entries (19/fr)
```

```
INFO: fsg_search.c(869): fsg 0.50 CPU 0.217 xRT
INFO: fsg_search.c(871): fsg 7.83 wall 3.376 xRT
[INFO] [1587688258.044424]: OUTPUT: "JUSTINA YES"
INFO: cmn_live.c(120): Update from < 93.16 -5.07 -6.00 -1.54 -7.78 -0.45 -7.02 -
3.14 -2.10 -0.69 -2.03 0.29 -0.13 >
INFO: cmn_live.c(138): Update to < 94.03 -6.11 -9.37 -4.45 -9.27 -0.38 -5.97 -
1.91 -1.54 1.36 -3.58 -1.39 0.01 >
INFO: fsg_search.c(859): 149 frames, 3308 HMMs (22/fr), 8054 senones (54/fr), 77
0 history entries (5/fr)
```

```
INFO: fsg_search.c(869): fsg 0.27 CPU 0.202 xRT
INFO: fsg_search.c(871): fsg 3.15 wall 2.330 xRT
[INFO] [1587688406.576514]: OUTPUT: "I WANT A BEER"
INFO: cmn_live.c(120): Update from < 90.34 -6.11 -4.31 -4.06 -11.71 -0.88 -6.36
-2.32 -5.14 -1.60 -3.54 2.91 1.08 >
INFO: cmn_live.c(138): Update to < 89.64 -6.15 -3.92 -3.73 -10.78 -0.39 -5.47
-1.61 -4.69 -1.04 -3.32 2.74 1.04 >
INFO: fsg_search.c(859): 79 frames, 6508 HMMs (82/fr), 14631 senones (185/fr), 1
553 history entries (19/fr)
```

```
INFO: fsg_search.c(869): fsg 0.93 CPU 0.186 xRT
INFO: fsg_search.c(871): fsg 5.19 wall 1.033 xRT
[INFO] [1587688369.382579]: OUTPUT: "I WANT A COOKIES AND PICKLES"
INFO: cmn_live.c(120): Update from < 89.48 -6.03 -3.03 -4.54 -12.42 -1.95 -9.21
-1.89 -5.03 0.03 -2.70 1.21 1.44 >
INFO: cmn_live.c(138): Update to < 89.54 -6.49 -2.81 -3.59 -12.90 -3.12 -8.29
-1.40 -5.85 -0.22 -2.20 1.53 1.25 >
INFO: fsg_search.c(859): 158 frames, 14859 HMMs (94/fr), 31360 senones (198/fr),
2913 history entries (18/fr)

INFO: fsg_search.c(869): fsg 0.32 CPU 0.199 xRT
INFO: fsg_search.c(871): fsg 6.53 wall 4.108 xRT
[INFO] [1587688375.918135]: OUTPUT: "I WANT A TEA"
INFO: cmn_live.c(88): Update from < 89.54 -6.49 -2.81 -3.59 -12.90 -3.12 -8.29 -
1.40 -5.85 -0.22 -2.20 1.53 1.25 >
```

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INFO: fsg_search.c(869): fsg 0.27 CPU 0.375 xRT
INFO: fsg_search.c(871): fsg 10.14 wall 14.082 xRT
[INFO] [1587688454.050618]: OUTPUT: "JUSTINA NO"
INFO: cmn_live.c(120): Update from < 89.70 -7.52 -6.89 -2.79 -12.33 0.37 -0.45
0.63 -3.91 -3.88 -4.12 4.93 1.61 >
INFO: cmn_live.c(138): Update to < 90.39 -8.05 -7.86 -3.00 -12.85 -0.41 -0.99
1.29 -2.87 -4.32 -4.61 4.67 1.11 >
INFO: fsg_search.c(859): 78 frames, 6839 HMMs (87/fr), 15091 senones (193/fr), 1
499 history entries (19/fr)
```

```
INFO: fsg_search.c(869): fsg 0.14 CPU 0.200 xRT
INFO: fsg_search.c(871): fsg 4.86 wall 7.051 xRT
[INFO] [1587688462.783193]: OUTPUT: "JUSTINA WAIT"
INFO: cmn_live.c(120): Update from < 89.77 -7.36 -7.45 -2.98 -13.32 -0.54 -2.04
-0.20 -3.09 -4.08 -4.14 4.22 0.91 >
INFO: cmn_live.c(138): Update to < 89.98 -6.83 -6.24 -2.83 -13.29 -1.18 -3.32
-2.02 -4.30 -3.64 -4.03 3.02 0.45 >
INFO: fsg_search.c(859): 189 frames, 23845 HMMs (126/fr), 49779 senones (263/fr)
, 4996 history entries (26/fr)

INFO: fsg_search.c(869): fsg 0.37 CPU 0.193 xRT
INFO: fsg_search.c(871): fsg 2.63 wall 1.387 xRT
[INFO] [1587688465.420182]: OUTPUT: "I WANT PICKLES AND PASTA"
INFO: cmn_live.c(88): Update from < 89.98 -6.83 -6.24 -2.83 -13.29 -1.18 -3.32 -
2.02 -4.30 -3.64 -4.03 3.02 0.45 >
```

```
INFO: fsg_search.c(869): fsg 1.18 CPU 0.178 xRT
INFO: fsg_search.c(871): fsg 8.29 wall 1.253 xRT
[INFO] [1587688496.524902]: OUTPUT: "I WANT ROBO O'S AND M AND M"
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INFO: fsg_search.c(869): fsg 1.33 CPU 0.180 xRT
INFO: fsg_search.c(871): fsg 10.80 wall 1.469 xRT
[INFO] [1587688717.257165]: OUTPUT: "I WANT M AND M AND M AND M"
INFO: cmn_live.c(88): Update from < 87.86 -3.52 -6.84 -4.89 -10.81 -5.58 -3.20
0.32 -4.56 5.12 -0.96 1.53 -1.96 >
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```
INFO: fsg_search.c(869): fsg 0.52 CPU 0.143 xRT
INFO: fsg_search.c(871): fsg 6.74 wall 1.871 xRT
[INFO] [1587688973.321272]: OUTPUT: "I WANT TUNA FISH AND TUNA FISH"
INFO: cmn_live.c(120): Update from < 92.12 -7.49 -5.20 -0.81 -2.86 -0.39 -1.62
1.00 0.71 0.52 2.19 2.36 -1.92 >
INFO: cmn_live.c(138): Update to < 91.38 -7.76 -4.92 -0.66 -3.15 -0.57 -1.43
1.39 0.64 0.01 2.01 2.48 -2.40 >
INFO: fsg_search.c(859): 76 frames, 2829 HMMs (37/fr), 6938 senones (91/fr), 878
history entries (11/fr)
```