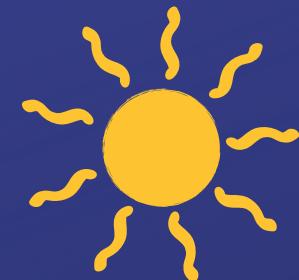


Pattern for Public Understanding

1. Comfort is Key:

The public prefers conditions that minimize discomfort. High humidity and windy rainy days are clear deterrents.

Overcast days and calm, low-humidity conditions are universally preferred.



2. Behavioral Trends:

Outdoor activity is more likely on overcast days.

Rainy conditions deter activity unless paired with no wind.

Sunny conditions require low humidity to be favorable.



3. Decision Hierarchy:

Outlook is the most critical factor influencing decisions.

Secondary factors like humidity and windy refine the decision for specific outlook conditions.

Key factors :

1. Outlook: Primary factor (Sunny, Overcast, Rainy).

Overcast always leads to "play = yes."

Sunny and Rainy require further checks.

2. Humidity: Affects sunny weather.

Low humidity (≤ 75): Play = Yes.

High humidity (> 75): Play = No.



3. Windy: Affects rainy weather.

Windy = TRUE: Play = No.

Windy
= FALSE: Play = Yes.



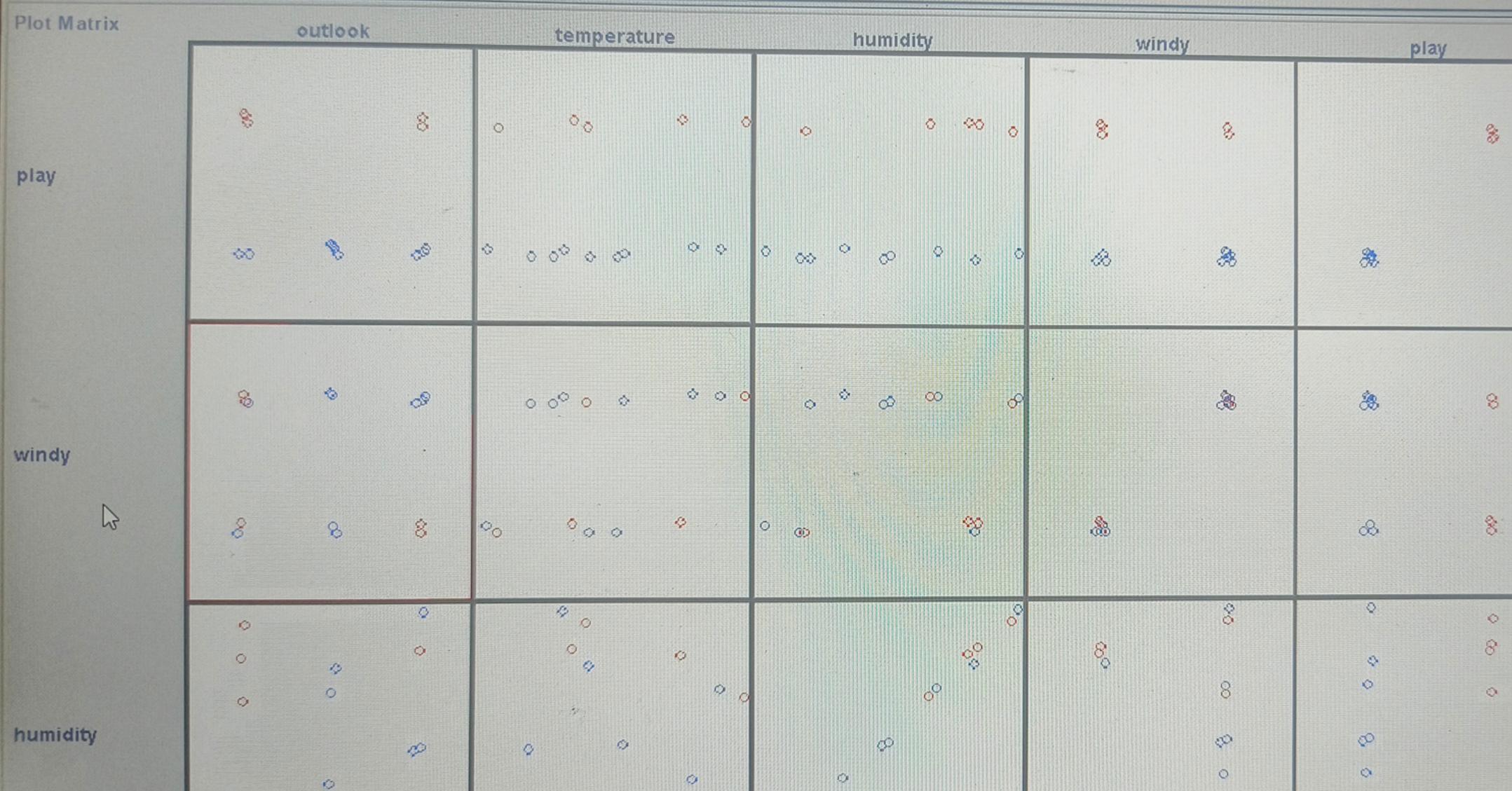


CONCLUSION :

This decision tree highlights how weather factors influence public behavior and attitudes towards outdoor activities. Overcast days are perceived as ideal, while high humidity and wind deter outdoor play. The model reflects common-sense preferences, aligning well with how people plan activities in varying weather conditions.

For better public understanding, the patterns can be visualized in a flowchart or infographics to clearly communicate these insights, showing how combinations of factors lead to different decisions.





Practical visuals

Clusterer output

==== Run information ====

Scheme: weka.clusterers.SimpleKMeans -init 0 -max-candidates 10
Relation: weather
Instances: 14
Attributes: 5
 outlook
 temperature
 humidity
 windy
 play
Test mode: evaluate on training data

==== Clustering model (full training set) ====

kMeans

=====

Number of iterations: 3

Within cluster sum of squared errors: 16.237456311387238

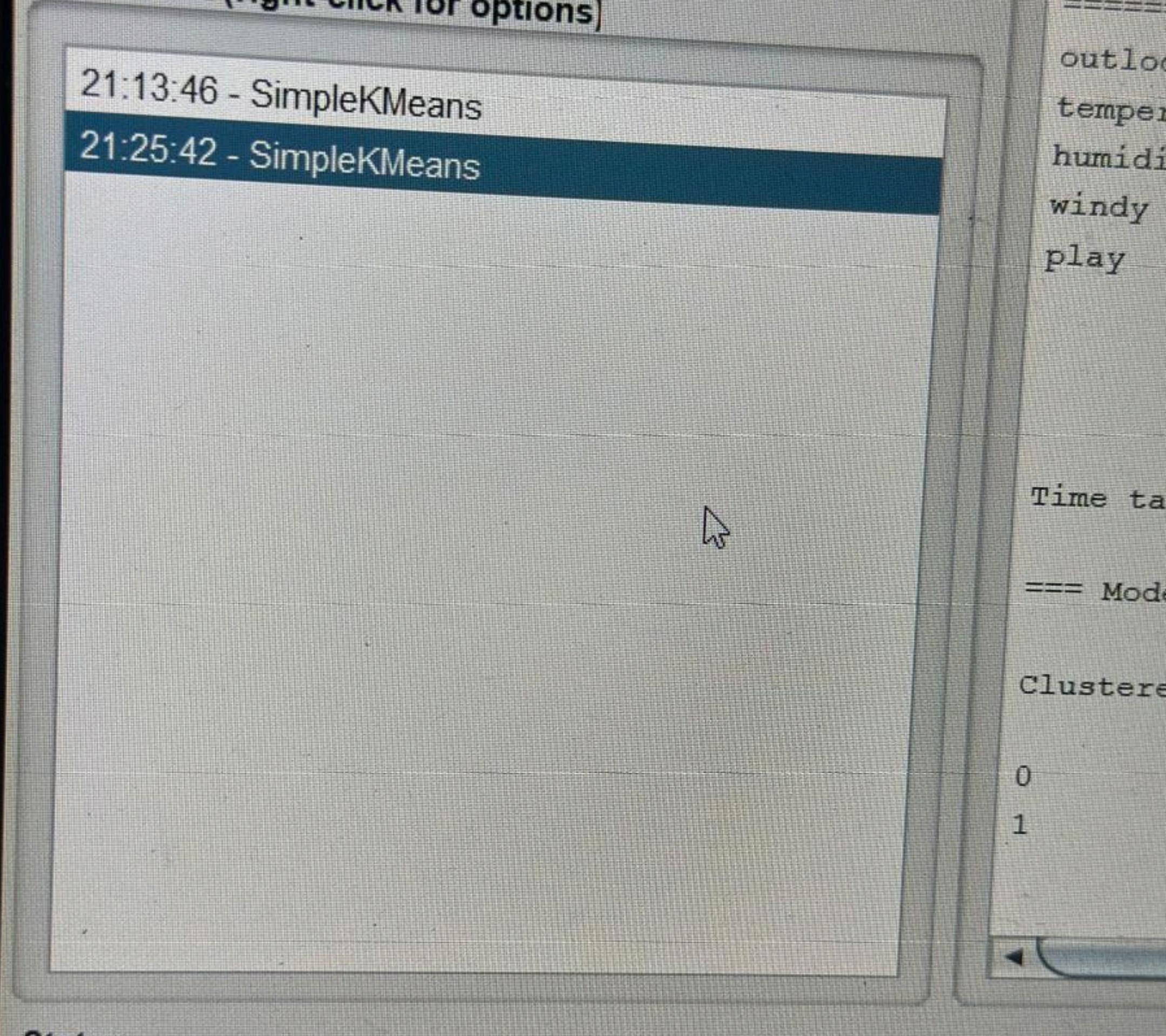
Initial starting points (random):

Cluster 0: rainy, 75, 80, FALSE, yes

Cluster 1: overcast, 64, 65, TRUE, yes

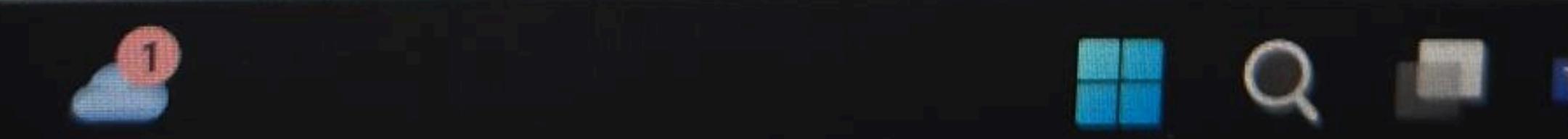
Missing values globally replaced with mean/mode

Final cluster centroids:



Status

OK



Practical visuals

The screenshot shows the Weka interface with the 'J48' classifier selected. The status bar at the bottom left indicates 'OK'. The main window displays the classifier's configuration and results. The configuration section includes parameters like 'Process' (set to 1), 'Classify' (selected), 'Cluster' (set to 0), 'Associate' (set to 0), 'Select attributes' (set to 0), and 'Visualize' (set to 0). The results section shows the model's performance on the training set, including accuracy metrics and a confusion matrix.

	Classified Instances	Percentage
positive	500	65.1042 %
negative	268	34.8958 %

	error	absolute error	squared error
positive	0.4545	0.4766	100 %
negative	0.4766	100 %	100 %

	of Instances
positive	768

Accuracy By Class ===

TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
1.000	1.000	0.651	1.000	0.789	?	0.500	0.651	tested_negative
0.000	0.000	?	0.000	?	?	0.500	0.349	tested_positive
0.651	0.651	?	0.651	?	?	0.500	0.546	