Goal
Study characteristic melodic patterns in Flamenco music. These patterns make given styles recognizable.

Approach
- **Stage 1:** Extract vocal pitch sequences from the audio recordings by means of a predominant f0 estimation technique [1].
- **Stage 2:** Detect instances of the patterns directly in the pitch sequences by means of a dynamic programming algorithm which is robust to pitch estimation errors (extension of Context Dependent Dynamic Time Warping – CDDTW, [2]).

Flamenco music
- Oral tradition. Voice is an essential element.
- Usually available as raw audio. Sporadic metadata.
- Uses intervals smaller than the half-tone. Not strict with tuning. Melismatic.

The fandango style
- Fandango is one of the most fundamental styles in flamenco music.
- Great number of variants but all fandangos have a common formal and harmonic structure.
- This study focuses on 30 Valverde fandangos and 30 Huelva capital fandangos.
- A number of characteristic patterns were defined in symbolic format by experts.
- These are heard in the initial representation of the thematic material and are fundamental to recognizing the style.

Evaluation of Results
- Experiments with varying similarity threshold.
- Reasonably good performance despite melodic variation, polyphonic sources, melismatic content and note-duration variation.
- Overall: good precision, relatively low recall.

Valverde fandangos (evaluation examples)

<table>
<thead>
<tr>
<th>Similarity</th>
<th>Total Detected</th>
<th>True Positives</th>
<th>False Positives</th>
<th>Precision</th>
<th>Recall</th>
<th>F-measure</th>
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