

# MIR Research @ CMU

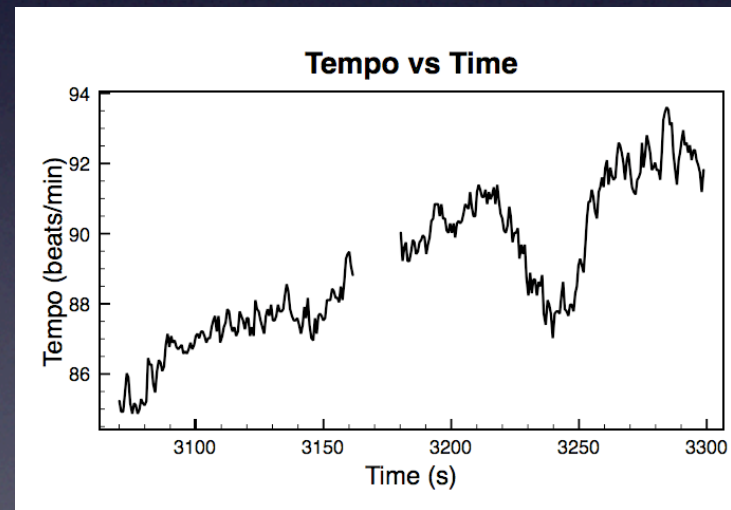
Edith Law  
Machine Learning Department

# Popular Music Augmentation

- Computer Accompaniment for Jazz, Rock etc
- Key Issues:
  - Tempo is steadier (many implications)
  - More improvisation (notes and structure)
- Many New Research Topics
  - Tempo estimation, beat tracking
  - Cueing musical entrances / landmarks
  - User interfaces for live performance
  - Sound synthesis / signal processing

# Some Recent Work

- Tapped on beats during several hours of jazz big band and jazz octet rehearsals
- Goal: characterize real-life tempo changes
- Tempo models based on real data may inform future beat-tracking algorithms.



# Tagatune

- A game for collecting data about music
- Questions:
  - what to collect?
  - how to collect?
    - lack of copyright free music
    - how to design a game that is fun
    - how to avoid sparsity of data

# New Design

Score 100  
Timer 1:42  
Bonus

**Tag a Tune**  
Hear Here

Describe the tune ... Listening to the same tune?

0:27

same different

| your descriptions | You        | Partner | your partner's descriptions |
|-------------------|------------|---------|-----------------------------|
| jazz              | Same       |         | jazzy                       |
| singing           | ✓          | ✓       | saxophone                   |
|                   | 100 points |         |                             |
|                   |            |         |                             |
|                   |            |         |                             |
|                   |            |         |                             |

+ submit → pass

Your partner has voted.

Score 800  
Timer 0:12  
Bonus

**Tag a Tune**  
Hear Here

Which tune is most different from the others?

|   |   |   |
|---|---|---|
|   |   |   |
|   |   |   |
| A | B | C |