Karaoke Scoring Machine
Status Report #4
Team #13
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Hardware implementation of a karaoke scoring machine.
Design Objective

To create a concrete method of judging karaoke competitions without the need of judges which may be bias against the singer or the type of music being mimicked.

Design Milestones

- Opal Kelly Board Familiarity: completed
- High Level Behavioral Model: completed
- Hardware Interface Design: 02/26
- User Interface Design: 02/26
- Hardware Design Development: 03/26
Recent Tasks Completed!

- Design Program that will send samples to FIFO at Audio Data Rate
- Create Test Vectors in MatLab
- High level behavioral model design
Ongoing/Pending Tasks...

- Microphone Data Grab Program
- Simulation of Individual Blocks - Matlab
- Building of Individual Blocks - VHDL
  (FFT, Cross-correlation, Envelope Detector)
Upcoming Tasks

- Create User Feedback Display Program
- Create FIFO Data Grab Program
- User Interface Test
## Design Progress

<table>
<thead>
<tr>
<th>Task Name</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Phase 3: User Interface Design - C++</strong></td>
<td>Create FIFO Data Grab Program, Create User Feedback Display Program, Create Microphone Data Grab Program, Separate Two Channels of Audio Data in OpenAL to Divert to FPGA</td>
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<tr>
<td><strong>User Interface Test</strong></td>
<td>Completion of Phase 3</td>
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<td><strong>Phase 4: High Level Behavioral Model Design - Simulink</strong></td>
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<td><strong>Phase 5: Hardware Design Development - VHDL</strong></td>
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<td><strong>Build Individual Blocks</strong></td>
<td>Envelope Detector, FFT, Cross-Correlation</td>
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<tr>
<td><strong>Test Individual Blocks</strong></td>
<td>Envelope Detector, FFT, Cross-Correlation</td>
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<td><strong>Integrate Individual Blocks</strong></td>
<td>Integrate Blocks, Integration Test</td>
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