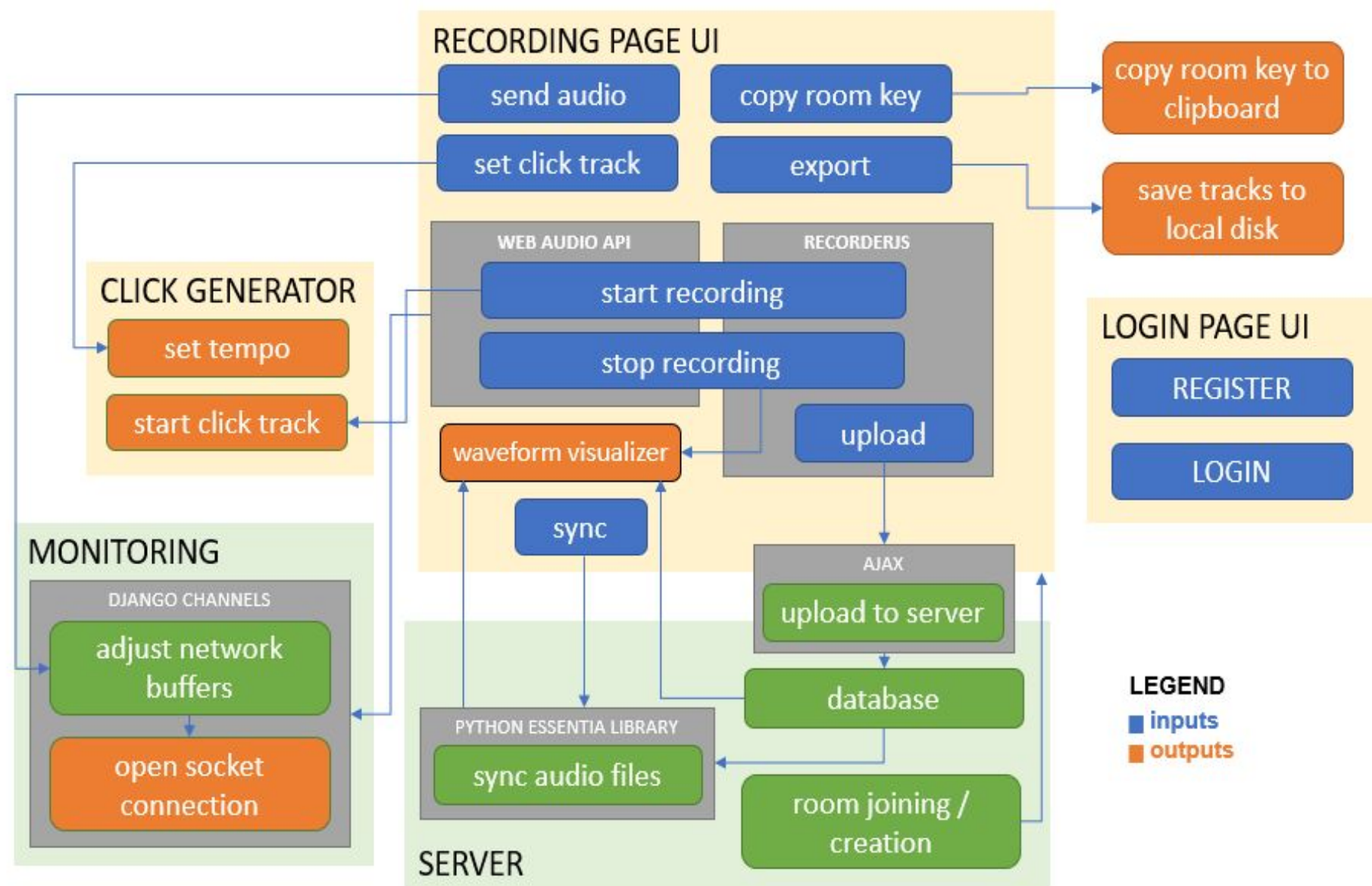


Product Pitch

Acapella is a free, collaborative digital audio workstation that works entirely in your browser. Think of it like a Google Docs for audio recording: supporting real-time monitoring with an **end-to-end latency under 100 milliseconds**, the web app empowers ensembles of **up to 4 musicians** to create **professional quality** multitrack audio recordings remotely. After the session, Acapella will automatically synchronize users' recorded tracks and allow for them to be downloaded off the web server.

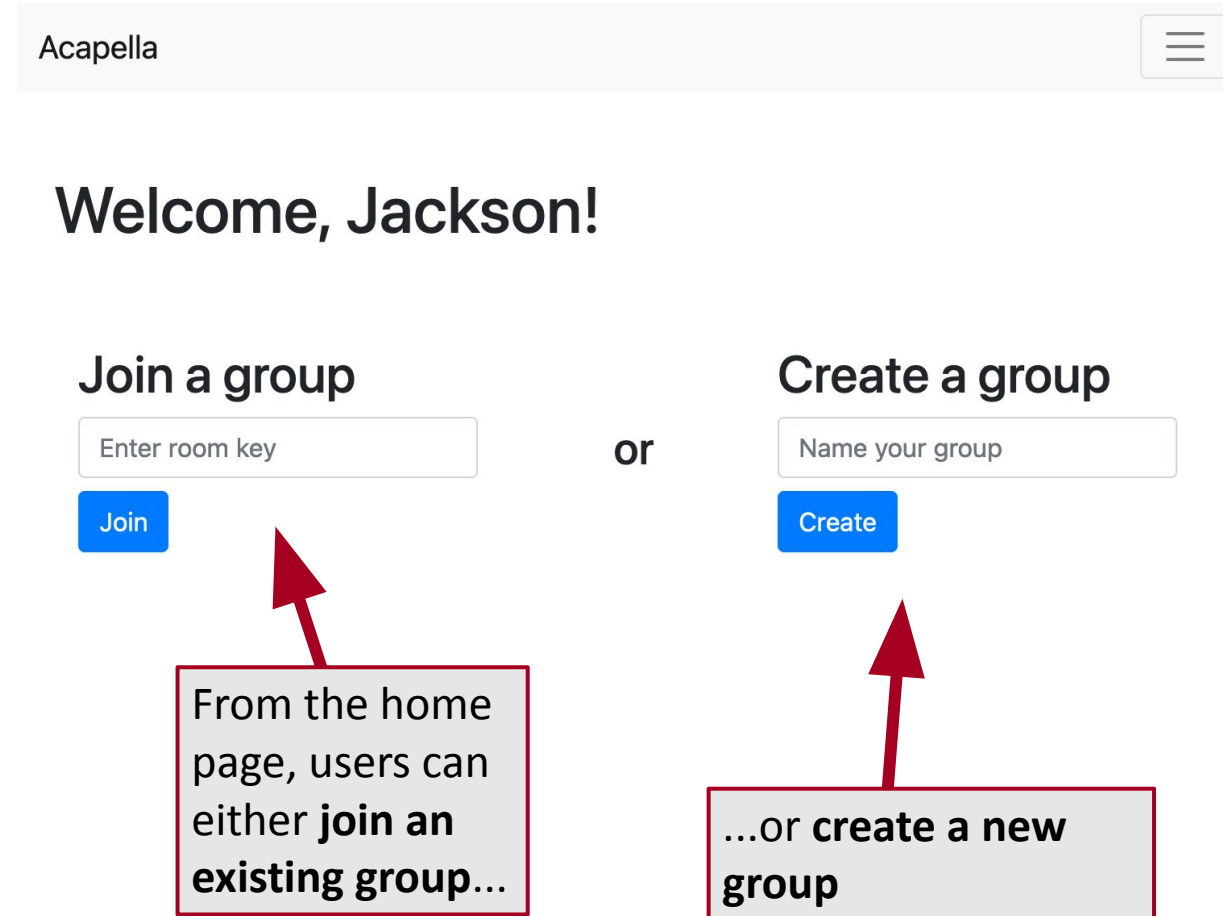
System Architecture

Software block diagram

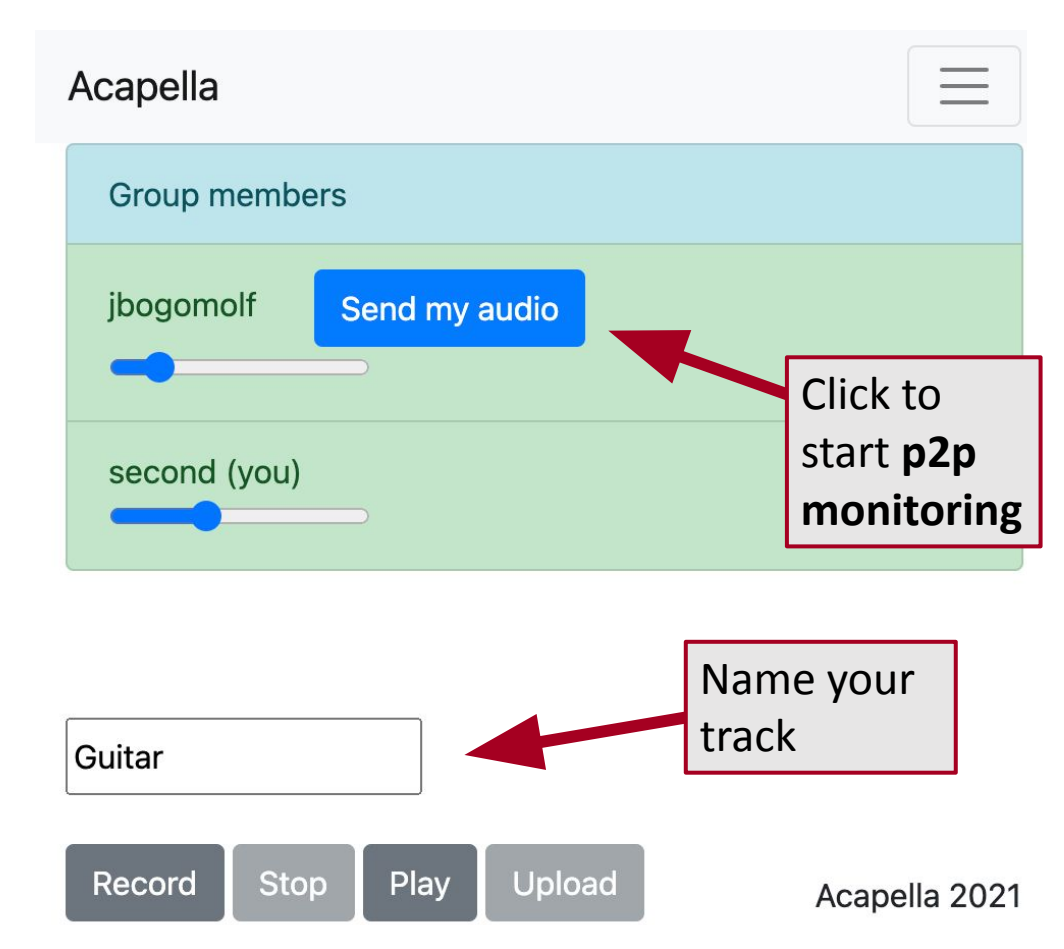


System Description

Home Page User Interface



Group Page User Interface



System Evaluation

Metrics & Validation Table

| | Validation Method | Requirement | Performance |
|---------------------------|---|-----------------------------|--|
| End-to-End Latency | Send UTC time with TX, compare to UTC time on RX | < 100 milliseconds (always) | < 5 ms locally, TBD after cloud deployment |
| Audio Quality | $\frac{\# \text{ lost packets}}{\# \text{ sent packets}}$ | < 5% (average) | Virtually 0% locally, TBD after cloud deployment |
| UI Intuitiveness | Ask users to perform basic tasks and time them | < 5 seconds (average) | TBD after cloud deployment |