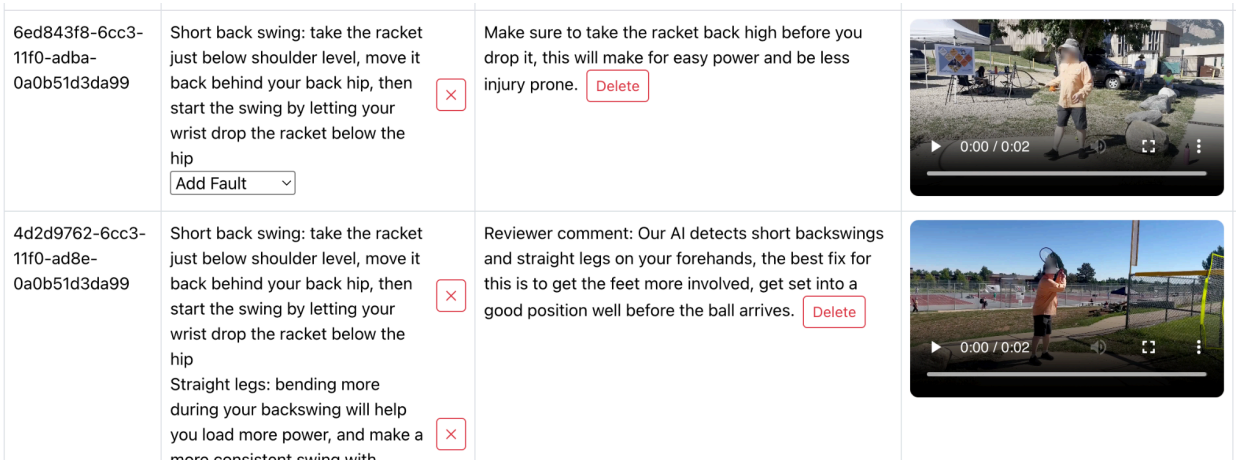
SwingPigeon Tennis Coaching Mobile App

SwingLens LLC

SwingPigeon

SwingPigeon is an upcoming mobile app product that will help aspiring tennis players improve their tennis swing. The AI technology for swing analysis was developed by two Summer Field Session teams starting in May 2025 and continued through August 2025. We sponsored a tennis tournament in Boulder in July 2025 and tested our system with good results. The July launch used a web application for users to review their swings. A user facing mobile application is in development.

With SwingPigeon, each user receives swing feedback from our AI generated swing analysis. In addition, they may receive additional feedback from human tennis coaches. This summer, we developed a web application for coaches to review the AI swing analysis for correctness, and provide additional hand written feedback.



Field Session Project

Tennis coaches are on the move. During the day they aren't at a desk - they are on court. They do have breaks in between lessons. They operate their coaching businesses from their mobile phones.

We need a mobile application on which they can provide coaching feedback to players that have uploaded videos to our system. The coaches will be incentivized to do these reviews.

The main flow of the mobile application follows this methodology:

- Authenticate with the application
- Viewing a ranked list of athletes that are awaiting feedback.
    - This is both a mix of new athletes that they haven't seen, and athletes with which they have an ongoing relationship
- Selecting an athlete from the list
- Viewing a subset of swings uploaded to the system by the athlete. The AI prioritizes the best 10 swings of the athlete for review.
- The coach will provide feedback:
    - Overall critique of the user's swing
    - For each swing
    - Input techniques:
        - Text
        - Voice to text
        - Voice recording
- The feedback is submitted. The coach will return to the list of athletes awaiting feedback and can review more swings.

Before they can perform swing analysis, the coach will register on the app and fill out a profile. In that profile, we will capture:

- Name
- Headshot photo of the coach
- Years of experience
- Club affiliations
- Zipcode
- Contact info
- Etc.

The coach will set filters for which new athletes they are willing to review:

- Location
    - Set of zipcodes
    - Range (in miles/km) from a specific zip code
- Level of ability
    - UTR, NTRP, etc (these are tennis specific ranking systems)
    - User described level (beginner, advanced beginner, intermediate, advanced)
- Etc

The coach will enable notification preferences:

- Use cases:
    - When a new athlete match is found with the filters
    - For new uploads/questions from athletes they have already reviewed.
- Channel: in-app notification, SMS, email
- Frequency: each athlete match, once every X hours, once a day

The coach can also review the list of historical reviews they have provided, and follow up with additional contact requests.

Implementation

The primary work for this field session will be the mobile application. It is desirable to have both Android and iOS versions of the mobile application. Therefore we are asking the team to use React Native to build a cross platform application. As development progresses, we will engage a designer to provide graphic elements for the application.

The summer SwingLens teams built server infrastructure (APIs, database, blob stores, compute) in AWS that are a solid foundation for the backend. Some backend development will be necessary to implement new APIs for this mobile application. We use Python (Flask, FastAPI), RDS, S3, EC2 and other technologies.

Organization

SwingLens is a private startup with leaders with decades of experience in industry. Members of the summer teams will be available to consult as needed.

Throughout the summer, we met daily for standup and had weekly sprint retros. We expect to have two standups a week with the fall field session. In the early days, we will hold design sessions and technical deep dives into the world of SwingPigeon.