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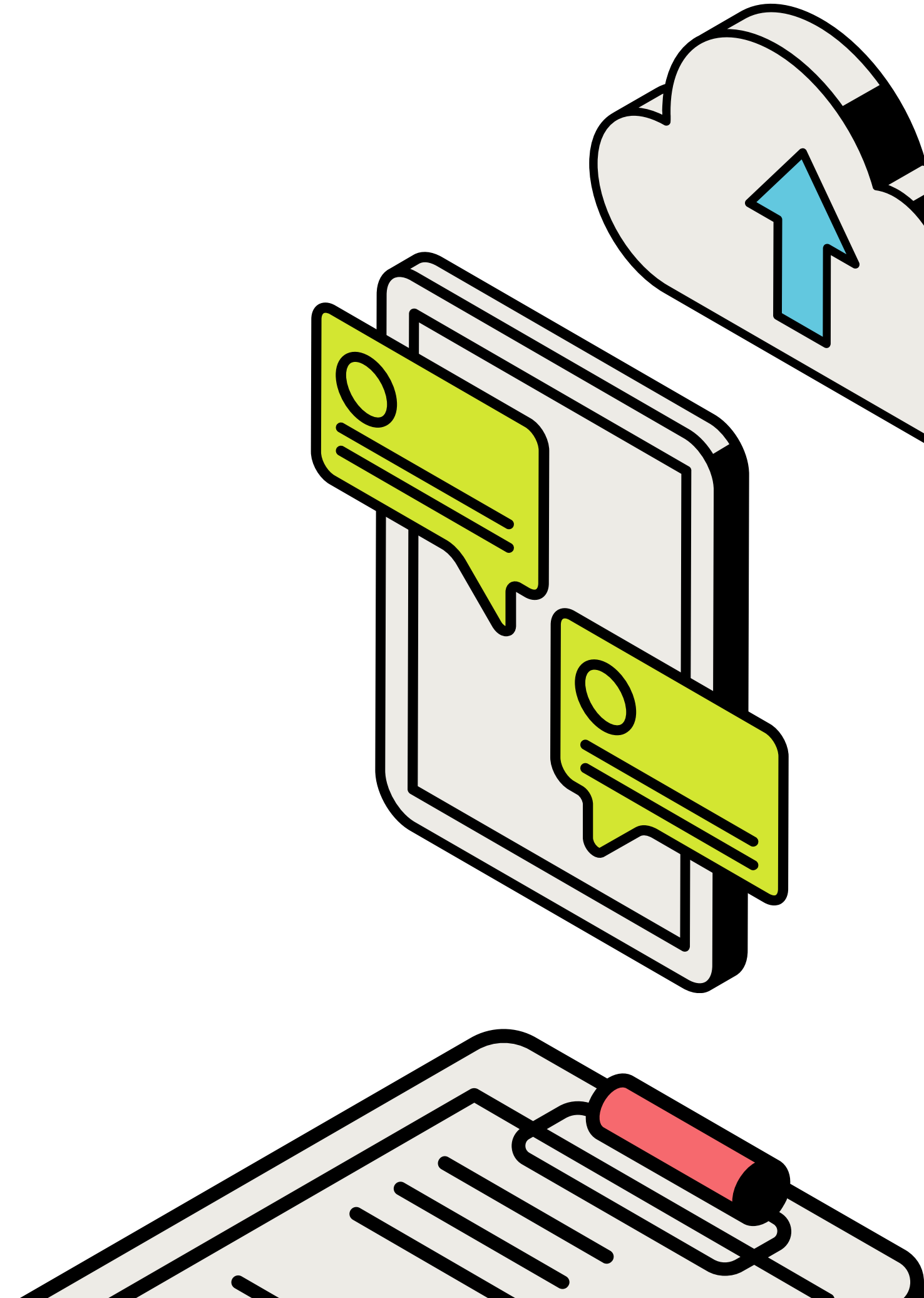
4Bar Application Simulation Modelling

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What is

4Bar?

What is 4Bar?

4BAR is a **short-format rap application** that challenges artists to convey their message **in just four bars.**

Details

- It's a simple concept, yet mastering it is formidable.
- With a focus on keeping lyrics at the forefront and catering to the dwindling attention spans of today's generation, **4BAR has fostered a vibrant and diverse community of artists.**
- The app's innovative approach has garnered recognition, earning it a spot in the "**5 Apps We Love Right Now**" segment on the US App Store.
- Notably, esteemed rap figures such as **Fred The Godson** and **Tech N9ne** have lauded 4BAR, cementing its reputation in the hip-hop scene.

The part we chose to

Simulate

The Part we chose to Simulate

There are multiple areas to work with on this application. The major areas that my team eyes to work on is **one of**:
- Making the model financially efficient
- Modeling the process and adding new parameters
- Modeling the process and adding new ideas

Requirements

- We are yet to receive details on how this service works.

- The area to work on will be chosen based on the lecture.

Verification and Validation

Verification

Model Verification: Below are the categories under model verification

- **Algorithm Verification**: Ensure that the algorithm of the model for scoring and turn-taking is implemented correctly and efficiently OR Ensure that the algorithm of the model that generates finance works correctly.
  - Simulation Runs: Run multiple simulations of rap battles OR finance model to identify inconsistencies.
  - Parameter Tuning: Adjust parameters based on validation feedback to better align with real-world outcomes.
- **Sensitivity Analysis**: Test the model's behavior at the extremes of input ranges, such as the highest and lowest possible scores
  - Behaviors of rap scores based on the algorithm OR financial outputs will be tested.

Validation

Model Validation: Below are the categories under model verification

- **Input / Output Data Validation**: Ensure the parameters defining the scores OR finance are accurate, complete and relevant
  - Test every parameter, enter different types of inputs, and run the model.
- **Historical Data Comparison**: Compare the model's outputs with historical data from actual real life rap scenarios OR profits / loss documents (Depends on if we are provided with this data).
- **Predictive Validation**: Test the model's ability to predict outcomes in new or hypothetical scenarios accurately.
- **Performance Validation**: Test the model under extreme conditions (extreme parameter values) and see how the model behaves.

Questions?

Thank You