R3ND3R

(Automated Frontend Component Tester)
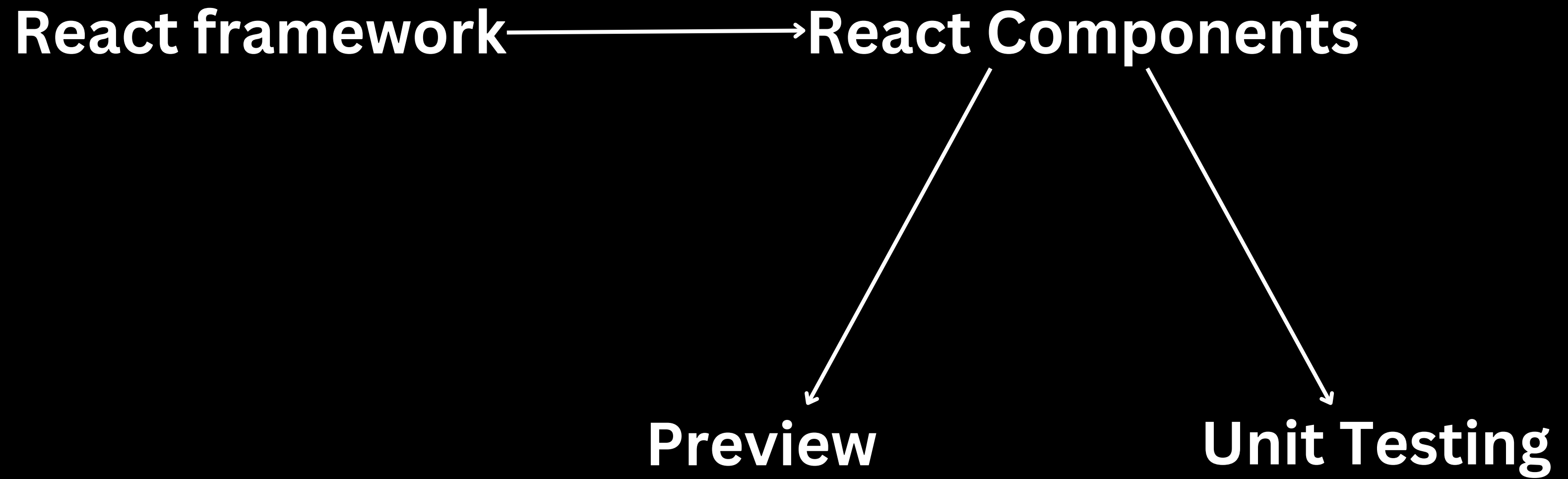
Team 16

Define:

As web applications become more complex, ensuring consistent and error-free user interfaces (UIs) is challenging. Dynamically rendering UI components for accurate previews is essential and manually creating ,maintaining test cases for interactions like clicks and forms is time-consuming and difficult to scale.
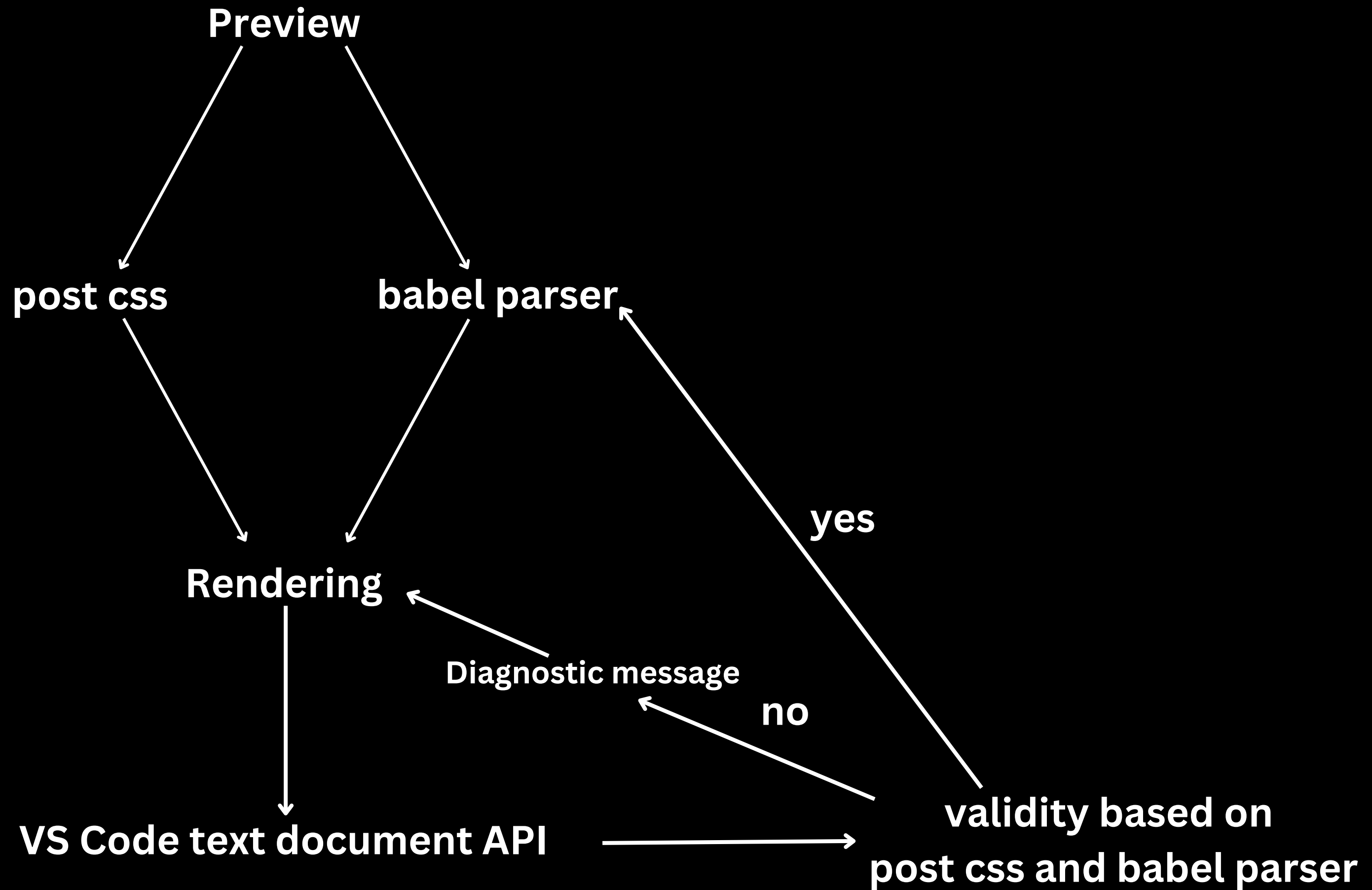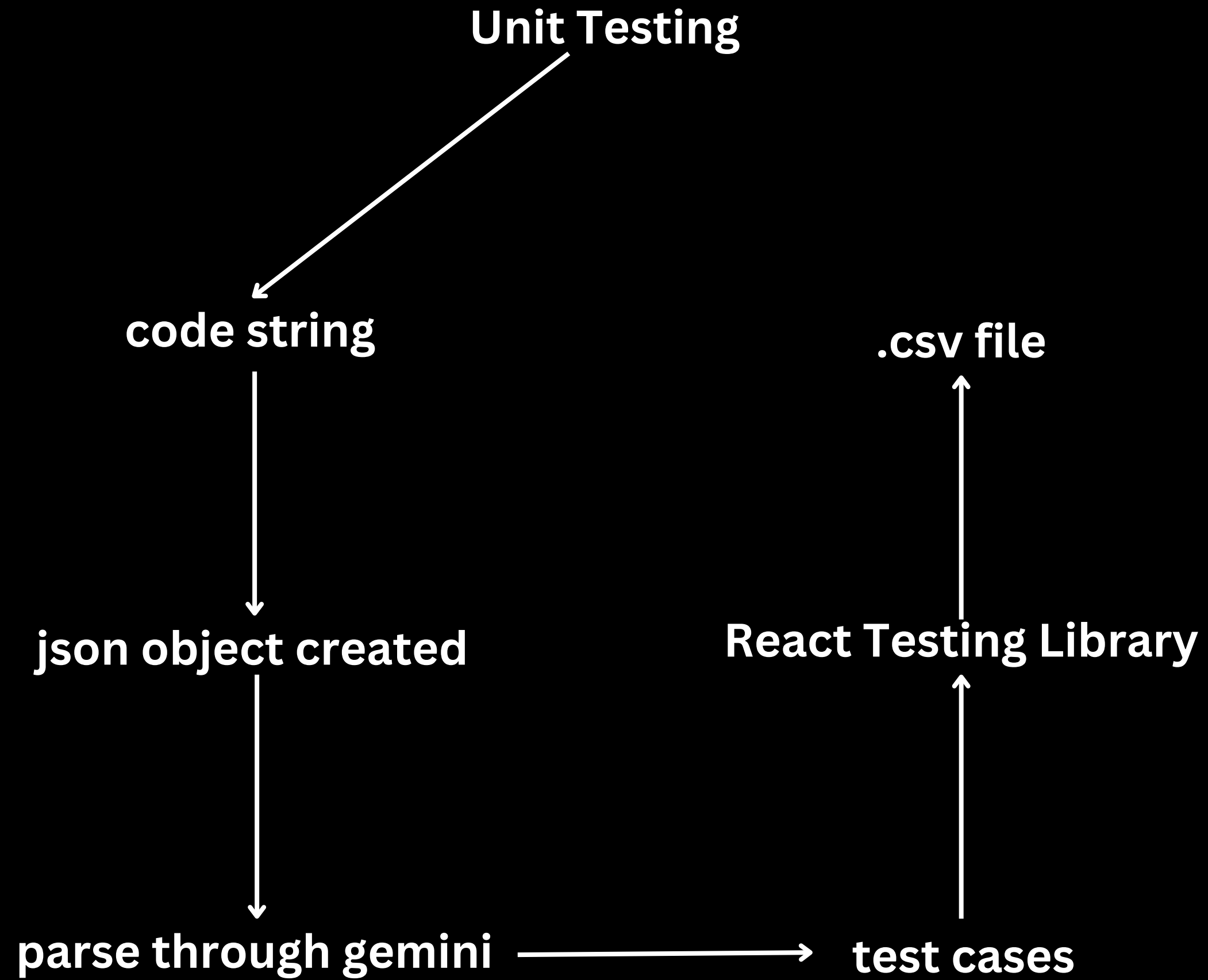
Measure:

Manual UI testing can take up to 30% of a developer's time and often misses regressions due to outdated tests, leading to undetected bugs, post-release fixes, and decreased user satisfaction.

Analyze:

The problem lies in the manual effort needed to render components and update tests with each UI change. This slows development and increases bugs. Automating rendering and testing ensures reliable outcomes, faster iterations, and fewer errors.

React framework ⟶ React Components

React Components ⟶ Preview

React Components ⟶ Unit Testing

Unit Testing

code string

.csv file

json object created

React Testing Library

parse through gemini → test cases

Bussiness Scope

Value to Organizations:

- **Increased Efficiency:** Automates rendering and testing, speeding up development.
- **Enhanced Quality:** Ensures comprehensive test coverage, reducing production bugs.
- **Better Collaboration:** Live previews promote communication among developers, QA, and designers.
- **Adaptable Solutions:** Suitable for various project sizes across teams.
- **Cost Savings:** Lowers manual testing efforts, reallocating resources effectively.

Revenue Generation Potential:

- **SaaS Model:** Recurring revenue through tiered subscription plans.
- **Marketplace for Add-ons:** Income from premium plugins and features developed by third parties.
- **Freemium Model:** Basic features available for free, with advanced functionalities offered as paid upgrades.
- **Enterprise Licensing:** Custom solutions for larger teams with one-time or annual fees.