

# Description

A mobile-first (tablet with stylus preferred over a phone) app for handwriting math solution. This will essentially be a clone of [Project Chiron](#).

# Requirements

- Primary user flow (“Training mode”)
  - Problem text shown at the top.
  - The child writes the solution **line by line** on a handwriting canvas. Visible guides are preferred to encourage a clear solution process.
  - Each line is automatically **split and recognized as a separate step**.
  - After each line, the app checks:
    - **Correctness** – whether the math is valid.
    - **Usefulness** – whether it moves the solution forward.
  - Correct & useful → accept and move to the next line.  
Correct but not useful → accept with a mild nudge.  
Incorrect → mark and provide a targeted hint.
- Handwriting support
  - Full handwriting input with multiple colors and erasing.
  - (**optional**) Undo in addition to erasing.
- Guidance
  - Show **tips** after inactivity or wrong input.
  - Hints escalate gradually — concept cue → directional hint → micro next step.
  - Never reveal the entire solution or full next step unless absolutely necessary.
  - (**optional**) Voice tutoring : short, useful verbal hints, not chatty.

- **Technology**
    - Build in **React Native** (tablet-focused). See comments.
    - Use an **external math solver** for checking (CameraMath preferred; Wolfram Alpha may be tried, Symbolab excluded). See comments.
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## Extras

1. **Cloud storage** of every attempt (problem, written lines, and outcomes).
2. **Guide/Teacher app** with bidirectional contact — guide can see live progress and write directly into the student's workspace.
3. Tutorial mode with Direct Instruction-based tutorials (before giving students the problems from the same skill).
4. Assessment mode - keep splitting the solution into lines, but check the entire thing only after clicking submit.

## Comments

- React native is a weak requirement, but I think it's better to converge onto as an org (iPads are not guaranteed so no Swift, and Flutter seems like a semi-dead tech). We'll be able to use components if not the entire app. React-native-skia seems promising.
- Choices of external math solver are described based on the actual experience. Wolfram has a weird API, and Symbolab is either a dead company or didn't even bother replying to me. CameraMath offers an initial free \$10 of credits which will be completely sufficient.
- **Practically, I'd be happier with a really nice and smooth tablet experience over implementation of extras so we can directly bring them into our (multiple) projects that need this**

## Point of contact

- Rafal Szulejko [rafal.szulejko@superbuilders.school](mailto:rafal.szulejko@superbuilders.school) (warning - UTC+1 timezone) - if urgent, msg on Gauntlet Slack
- Might need to add someone Austin-based