



## Developer Take-Home Assignment: Senior MEAN Stack

### Company Overview

Next Sapien, a company innovating on all fronts including AI/ML and automation technologies, is seeking a Senior MEAN Stack Developer. Our interview process involves a take-home assignment. After we see how you interact with our QA's feedback on your assignment, you will have an interactive code review with our Technical Lead.

### Duration

Estimated 5-8 hours, based on the candidate's pace.

### Design

#### SWIPEABLE MESSENGER CHATBOX

<https://www.figma.com/file/kHQudUHLuLoctL5iR5edg/Messenger?type=design&node-id=1%3A459&mode=design&t=CP4byrlu7IMsq8JS-1>

### Task

- Access the Angular 17 project using the link: [Angular 17 Project](#).
- Please enhance the look and feel, as well as code quality of this existing code, show us your attention to detail
- Actions
  - Users should be given a glimpse of what they could see to entice them and let them know they can drag things, show them a glimpse of the other chat box like the design, even on desktop mode
  - Timestamps should appear after a message is sent
- Considerations
  - The skill of debugging is the single most important thing a coder must possess, let's see how many you can find
  - Neomorphism is a tough design to pull off so everything should be on theme, anything flat ruins the look. And as things are stretched to desktop things tend to look more flat, but this can all be offset

- Smooth realistic transitions help the user make sense of what's going on and create a sense of flow and familiarity instead of a sense of confusion
- Code quality
  - Make the two major parts of this design decoupled components:
    - Give the chat heads properties like progress number, image path string, and swipe position number. Allow the tester to easily test that it has this config and that it works.
    - Make the swipe lib that you use easily interchangeable with other lib using an interface like an array of numbers (easily composable with another lib)
  - Build it so that a configuration object could easily be given to this component to take care of front-end display settings and the backend could be easily connected to it
- Upon clicking down on a chat head for 1.5 seconds, an alert should appear saying 'you are holding my head!'
- Enhance attachment uploads by allowing them to add a message with the upload
- On clicking the send icon button the text area content will post in the chat box as a sender message aligned to the right, add an input below that allows the tester to reply as the responder
- Document your approach and decision-making process in a description.txt file.
- Complete the assignment, compress the project folder (excluding the node\_modules), and share the link for submission

## Evaluation Criteria

Your submission will be assessed based on the following criteria:

- **Code Quality:** Clean, readable, and well-organized code.
- **Responsiveness:** The application should be fully responsive across viewport sizes ranging from 320x560px to 1920x1180px.
- **Use of CSS Variables:** Effective use of CSS variables for styling.
- **Component Relationships:** Efficient management of parent and child components.
- **DRY Principle:** Avoid code duplication and promote code reusability.
- **Performance:** Optimization of the application for speed and efficiency.
- **RxJS Utilization:** Effective use of RxJS, particularly with hot observables.
- **Innovation:** Implementation of features that exceed the basic requirements of the assignment.
- **Best Practices:** Adherence to best practices in variable and constant declaration, and where necessary, inclusion of comments.
- **Subscription and Completion Practices:** Proper handling of subscriptions and completions in observables.

## Next Steps

If your submission is shortlisted, you will advance to the final technical round, involving a meeting with our Lead Developer.

## Timing

There is no fixed deadline, but remember, we operate on a first-come, first-serve basis. The sooner you submit, the higher your chances of progressing.

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*We look forward to seeing your innovative solutions and wish you the best of luck in this unique opportunity to join the Next Sapien team.*