

Take home exercise

Goal

Thank you for your interest in RoadForge! Congrats on making it to this phase of the process.

The intention behind this assessment is to highlight your strengths as a developer. This prompt will test for full stack skills, as well as systems design and architecture. **You don't need to attempt every section.** It's best to focus on the parts you are strongest in. We are looking for folks that love building and are proficient in their craft. There is no right answer! Feel free to get creative

Logistics

You will get this prompt on the morning of the day of your choosing and will have roughly 48 hours to submit your solution. You shouldn't invest more than 3-4 hours on this exercise. You can use whatever languages, frameworks, and tools you are comfortable with. We ask that:

- You design, organize, document, and test your code as if it were going into production
- The final submission is sufficiently documented for us to run the code you create
- You do not plagiarize or copy the work of others
- You do not discuss the details of the assignment with others, nor seek their assistance in completing it

Remember, **you don't need to attempt items you are not comfortable working with.** Invest your time in the sections that will best exhibit your strengths

Prompt

You're in charge of creating a SaaS solution for the local college's mobile device repair function. This shop rapidly fixes broken phones, tablets, and laptops for students who rely on their devices for their day to day work. As you work through this prompt, feel free to make assumptions about the product and how the business works. We will have a chance to discuss them and dig deeper into your work

Your submission:

- Create a set of MVP requirements
 - No more than 1 page - we'll have a chance to discuss decisions and tradeoffs in the followup discussion. A sample submission could contain simple bullet points and a short paragraph highlighting the key questions/thoughts that drove the approach
 - Consider what an MVP would look like. Who are the key stakeholders? What workflows does it need to support? What are the core user stories?
- Select a slice of the MVP to implement
 - Select 1 or 2 core business workflows highlighted in your MVP requirements

- It's better to avoid login/signup workflows. We prefer workflows that allow you to show off your creativity and problem solving skills
 - Define the data/object schemas needed
 - For schemas, you can simply note the fields and data types. Bonus points for digging in deeper
 - Define the API endpoints needed
 - Format: Request (URI + body if applicable) / response (JSON payload + response code) notation is enough here
 - E.g. (shortened for brevity)
Request: /api/v1/orders
Response: [200] { { "orderId": ..., "customerId": ... }, ... }
- Implementation
 - Implement a BE service in your language/framework of choice that serves the previously defined APIs
 - Consider dockerization and unit testing
 - Build a FE workflow for this API
 - Consider creating lightweight mocks and unit testing
 - If you skip the previous step, feel free to use something like mockAPI to enable this section of the prompt

We will walk through your submission in a followup interview. We will run your code locally and discuss your design and implementation, as well as entertain other scenarios (what ifs, edge cases, best practices, etc.)

Submission steps

You may submit your project either via GitHub or via a file archive:

- For GitHub, invite this user to your project: <https://github.com/amarb-roadforge>
- For file archives, use a standard compression pattern (.zip is fine) to package your work and send the final artifact to amar@getroadforge.com

If you're feeling ambitious, feel free to host your solution!