Interviewing for Engineering

1. Phone Screening

Goal: Get a feel for high level technical background and culture fit

- Introduce self
  - Role
  - Time at Revver
  - Family
  - Hobbies

- Get to know them
  - tell me about you (family, hobbies, etc)
  - tell me about your education
  - tell me about your work history

- Describe Revver
  - Document Management Software
    - History
      - desktop, EFCO, SD, Utopia
    - Have some legacy systems
    - Utopia Architecture
    - Atlantis Architecture
    - Challenges
      - Delivering new features while maintaining and migrating architecture
    - Great Team
      - Executive Team cares about you
        - 4 day work week
      - Really fun team
      - Great people across entire product group

- Describe the Role
  - Senior Engineer
    - Tackle Complex Work
    - Help Architect and Drive Technical Direction
    - Mentor Other engineers
    - Technical owner of functionality, elements, or processes
    - Take on leadership roles

- Experience with Technology
  - Git
    - Pull Requests
  - Back end web development
    - C# and .NET

- Front End Web Development
  - React and Typescript
- Azure and AWS
  - Serverless (Azure Functions)
  - App Service
  - Other Cloud Services
- SQL and No SQL (Database)
  - Postgresql and Cosmos
- Testing
  - Unit, Integration, Load
- CI / CD
  - Azure Dev Ops
  - Daily Releases
- Clean Code
  - are they passionate about it
- Architecture
  - How involved have you been?
  - Documentation?
- How do you stay up to date w/ Technology?
- Any other experience?
  - IT / Dev Ops / Testing / Project Management / Design

- Experience w/ Process
  - Agile and Scrum
    - ADO, JIRA
    - PO / Scrum Master Experience
    - Story Points
  - Code Review
    - What is it?
    - Why is it important?
    - Last time you saw bad code?
  - Collaboration
  - Working w/ PM's and Design
    - Designing and collaborating on features
  - Working w/ QA
  - Mentoring

- Culture Fit
  - Remote vs In Office
  - Gauge if they have fun and enjoy software engineering?
    - What is your passion and what do you enjoy working on the most?
  - Team Player?
    - What has you team interactions been like in previous roles?

Leave time for candidate to ask questions at the end

2. Technical Interview

General

- "What is your passion, what do you enjoy working on the most?"
- "What does your current/previous work-day like?"
- "Describe the project you've worked on that you're most proud of. What did you do that worked out particularly well?" (Tells us a lot about what they know, value, and have done on teams)
- "Describe the project you've worked on that you're least proud of. What would you do differently?" (Tells us a lot about how good they are at learning from their mistakes and how difficult it is for them to admit they made a mistake)

Pair Programming

White Board

reference: https://www.tryexponent.com/blog/how-to-whiteboard-for-system-design-interviews (in particular video on facebook messenger app design)

Text Messaging App (like Facebook Messenger)

- ## Requirements

  - Two users need to be able to send messages to each other back and forth

- ## Other details

  - date and time of each message
  - who sent each message

How would you design the database to store required data?

- in Postgres / relational database?
- would it look and different in CosmosDB / NoSql db?

Requirements to add and see how db design changes (perhaps design it out in sql with all requirements and then see difference in design for no sql)

- Name a conversation

- show if a user is online or not
- add more than 2 users to a conversation

Architecture and Technical Goals - Interviewers can draw a simple architecture of users => load balancer => api servers => db - they can add to the architecture if needed

Low Latency - what are some strategies you could use to make sure users get new messages quickly? - try and get them to give pros and cons of each strategy - short polling (pulling data periodically) - long polling (server holds request until response is available) - web sockets (signal r, for server to client communication)

- High Volume
  - What are some strategies you could implement to handle really high volume? and how will each help with handling that high volume?
    - db?
      - no sql, how?
        - partitioning data correctly so load is distributed across many partitions
      - caching?
        - less traffic to the db
    - api
      - serverless functions
        - better scalibility

- Reliability
  - What could you do to make the system more reliable / robust?
    - queueing system (azure storage queues, rabbit mq)
      - more responsive api server
      - throttle database load
    - publisher / subcriber
      - push model to allow services / users recieve updates in real time and not add load to system to see if anything is available
      - event grid

3. Collaborative / Team Interview

Goal:

- Will this person fit into our team culturally
- Do they seem to have the skills you would hope for in a senior engineer

Who is in this interview?

- 3 or 4 people
- Brock and / or Logan
- Bryan, Rachel, Josh
- Eric

Introductions

- Introduce each person interviewing
- Have Interviewee introduce themselves

Feature walkthrough

- Show a mock up of {insert here} and walk through design
- Explain high level architecture
  - Web app (react), App Server (c# asp.net backend), Postgres DB / relational db
- Questions to ask after design walkthrough
  - What pieces of work need to be completed to implement this design?
  - What challenges do you anticipate with implementing this design?
  - and others

General Questions

- In you experience working w/ component library, what has gone well what hasn't?

4. Follow Up

- Follow Up Questions for Candiate

- Questions from Candidate

- If you like them sell Revver
  - Great Management
  - 4 day work week
  - IL sprints
  - autonomous teams
  - stay up to date on tech
  - very collaboritive
  - perhaps share your own experience

  - How they would be a good fit

  - if early on in process
    - may not move super quickly on an offer
    - that doesn't mean it didn't go well or we're not interested
    - I'll keep in touch and try to be transparent with where we're at on our end
    - it would be awesome if you could also keep us in the loop as far as like other substantial opportunities developing