

FrontEnd Guideline

Interview Rounds & Patterns

Most FrontEnd Interviews are categorized in these 3 buckets - JavaScript Round, Machine Coding Round, UI Tech Round

A. JavaScript Round

There would be Conceptual Based, Output Based, Implementation Based (like Polyfills) Questions.

For Conceptual Based, oral discussion of core concepts. Important concepts to learn are,

- Execution Context
- Lexical Scoping
- Hoisting
- Closures
- Asynchronous - Promises, Callbacks (used in Web APIs like setTimeout & setInterval), Async/Await
- Event Loop, Callback Queue vs Microtask Queue
- 'this' keyword
- Prototypes, __proto__, Prototypal Chaining (Advanced, but good to know)

For conceptual questions, the way you answer matters a lot. For example, you need to know the subtle differences between Lexical Scope & Closures which also involves how better you understand Execution Context since these concepts behave with respect to it.

Simple things in ES6 syntax, like the difference between let vs var or the arrow functions with 'this' keyword can also confuse. You need to be aware of how hoisting works, understanding of scopes, Temporal Dead Zone, 'this' works.

For Output Based, Questions will be shared for which you've to think & dry-run & answer with the proper conceptual reasoning (this is expected by default).

If you're strong with the above concepts, you might not need to practice 100s of questions, you can just apply the concept & answer (It's that simple). Most Output Questions are subset of above concepts, although something to focus are,

- Closures
- Asynchronous based on SetTimeout SetInterval, Promises, Async/Await
- 'this' keyword

For Output questions, many concepts can overlap together in a single question. You need to have a sound understanding of concepts so that you can decode what's happening at each line of code execution.

For Implementation Based, Interviewer will ask you to implement a certain polyfill or a functionality or any JS task like Array, String, Object Manipulation. Some of the common implementation based questions could be,

- Polyfills of Promise.all, Promise.any, Promise.race, Promise.finally, Bind, setInterval,...
- Debouncing/Throttling
- Flatten Array/Flatten Object
- 'N' Async Tasks in Series, Parallel
- Traversing Nested Array/Objects

I call this a typical problem solving round in Frontend Interviews. Since those implementation utilities are no less than a problem. Here, the interviewer judges your javascript capabilities, how better you are with implementing in Javascript, how better you understand the language & its behavior.

There's no one solution to implementation based questions, it's all about whether your solution sticks to the expected output. When you're stuck try to keep discussing the approach with your Interviewer in each step. Mostly they would help you out guiding in the right direction or suggesting other approaches or point out where you would go wrong.

Again, this won't be a typical Leetcode style problem, so relax!! It's going to be purely Javascript oriented where you write some code to implement that working functionality. Neither would it be that complex in terms of thinking, you just need to give time on how to approach & implement using the concepts.

Most of the time the questions would involve asynchronous (Promises, callbacks, async/await), setTimeout, setInterval, closures, concepts heavily. Make sure you've good understanding of those concepts on how it works & implement it.

If you're still worried about DSA, and want to play safe. Then in the Frontend domain, Recursion & Trees are some important concepts you can focus on. Since the classical DFS/BFS would be common in object .

Resources for JavaScript Round -

[Resource 1](#)

[Resource 2](#)

[Resource 3](#)

[Resource 4](#)

[Resource 5](#)

[Resource 6](#)

[Resource 7](#)

[Resource 8](#)

[Resource 9](#)

- Resource 4 is paid but you can find great courses with amazing JavaScript Knowledge, yet you can access it completely **FREE** for 6 months, refer this [video](#) or this [Page](#).

- Resource 9 is Paid but a great resource for Implementation based questions 🔥

B. Machine Coding (UI) Round

Here, a Mid Senior Interviewer, will ask you to **Design a Small UI Component**.

You can't practice all Machine Coding Problems. Also it's not wise to do so. Machine Coding round is more of a discussion oriented, logical approach to what you think of the Problem statement.

Some Tips to focus on for Machine Coding Rounds,

- Have hands-on practice React before Interviews so that you can code faster in Interview. Hands-on of useState, useEffect, Fetch API, Basic CSS - Flexbox, Position.
- Take time to **think of your Component's State** roughly & how your State will flow between your Components before jumping to coding. This should be the most important, since you don't want to refactor everything and start from scratch. Time is a really important factor in Machine coding rounds.
- Don't focus more on CSS initially, just **focus more on the Implementation & Logical part of the Component**. Since the Interviewer expects a Working Model first more than the beautiful CSS. Believe me, else you'll waste a lot of your time.
- **Don't focus more on writing Clean Code & File Structure initially**. Your main aim should be to complete the Working Model of the Task first. I've seen in Interviews in companies like Flipkart, they focus more on Working model.
- Interviewer can check your React knowledge & ask questions in this Round or may be also in the JavaScript Round as well to some extent.

Some Common Patterns of Machine Coding Questions are,

Design a small UI Components like, (You can take more ideas for small UI components from this [site](#))

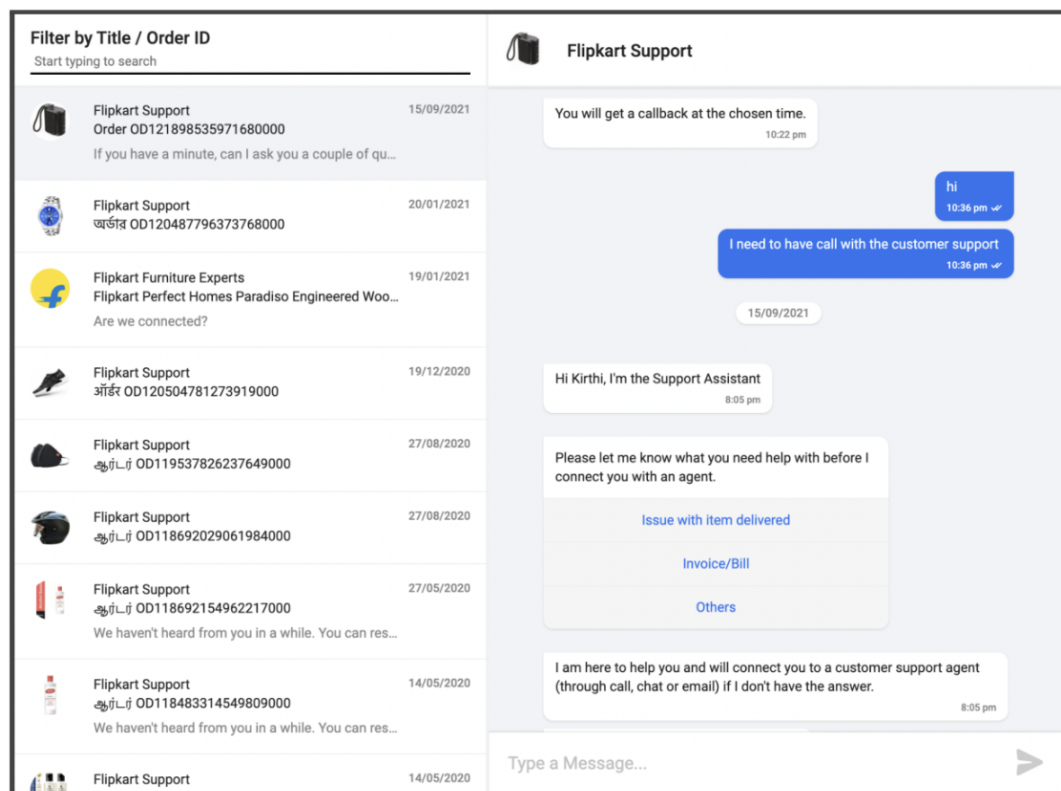
- Dropdown
- Accordion
- Pagination

- Carousel
- Autocomplete
- Star Ratings
- Poll Widget

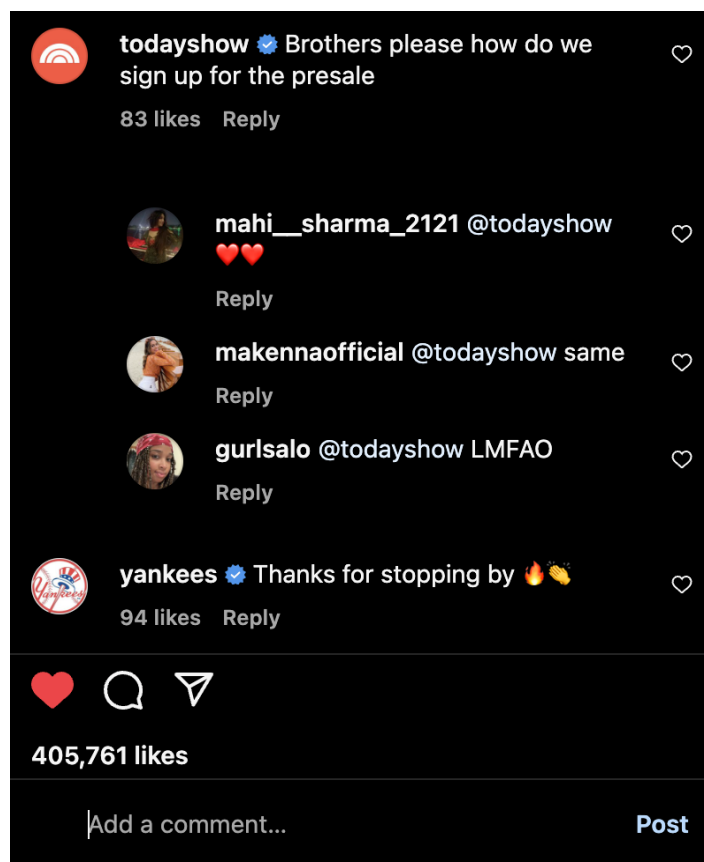
Components from Real-World Apps like,

- Timer App
- File Structure
- [ChatUI like WhatsApp Web](#) (asked in Flipkart)
- Instagram Comment Section (asked in Observe.ai)
- Movies App (asked in BrowserStack)
- [Web Pages for Media Company](#)

Design and Implement Flipkart WhatsApp Web Chat UI asked in Flipkart:



Design and Implement Instagram Comments Section asked in Observe.ai:



Movies App asked in BrowserStack:

Problem Statement

Create a movie dashboard which will have below functionalities:

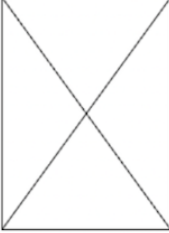
- A button to fetch movie data from API
- A view to list all movies along with its rating - default rating will be 0 for each movie
- User can increase or decrease a movie rating using + & - buttons
- Use emojis (★) to render stars for rating
- A button to add a particular movie to user's custom list - On click of this button movie along with it's rating will be added to user's list
- A button to remove movie from custom list.

The API to be used to get the movie data : <https://www.omdbapi.com/?s=action&apikey=4640ef30&page=1>

Use below wireframe as a reference to build UI :

Fetch Movies

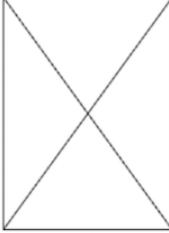
Movie Name



- ★☆☆☆☆ +

Add to queue

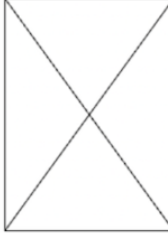
Movie Name



- ★★☆☆☆ +

Add to queue

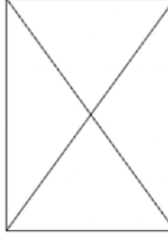
Movie Name



- ★★★☆☆ +

Add to queue

Movie Name

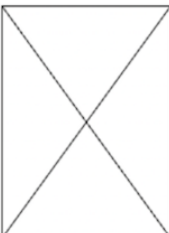


- ★★★★☆ +

Add to queue

My Queue

Movie Name



★☆☆☆☆

Remove

Resources for Machine Coding Round - [Resource 1](#), [Resource 2](#), [Resource 3](#), [Resource 4](#), [Resource 5](#)

C. Engineering Manager Round

Senior Interviewer of the Company will test your general FrontEnd skills, Fundamental Browser knowledge, JavaScript Conceptual Questions, Previous Projects Discussion. This round will focus on your overall FrontEnd knowledge, Team-fit, Questions from your Resume.

- Local Storage vs Session Storage vs Cookies, Async/Defer
- Is JavaScript Asynchronous Language?
- HTTP Methods & the differences between each methods
- How Browsers work when you search google.com or any Website
- How React works, Virtual DOM, Functional Components
- Some Performance Optimization techniques you know (Subjective)
- Projects Discussion, Challenges you faced in projects

Resources for Engineering Manager Round (Technical Preparation) - [MDN Docs](#), [React Docs](#),

Projects for Resume

- You don't have to build fancy projects. Keep it simple.
- Focus on applying the concepts you learned like Closures, Promises, Flexbox in your projects.
- Consider building projects of these categories,
 - 👉 **JS Based** Projects like Web Scraping, Web Automation, Web Files management.
 - 👉 **Vanilla JS Based** Projects like Algorithm Visualizer, Tree Visualizer, Snake Game, Sheets Clone.
 - 👉 **React Based** Projects like Medium Clone, YouTube Clone. Build your own small features on top of these Clone Projects.

Resources for Projects

- 👉 Ultimate CSS Skills - [Resource 1](#), [Resource 2](#)
- 👉 Vanilla JS Projects - [Resource](#), [One Stop Frontend Projects](#)
- 👉 React Projects - [Resource 1](#), [Resource 2](#), [Resource 3](#)

- If you're looking for the projects, then my [One Stop Frontend Projects](#) 🔥 is the only course you'll need to stand out from the crowd. Build 3 Frontend intensive capstone projects with me. The content you'll never see in any Youtube channel, or EdTech

courses charging even lakhs of rupees. (I can bet on this 😊). Checkout from the above link.

The Best Resource to Learn React (Hands-on Coding) for FREE 🔥

- | | |
|---|------------------------------------|
| 👉 React Fundamentals | - Github Code Link |
| 👉 React Hooks | - Github Code Link |
| 👉 Advanced React Hooks | - Github Code Link |
| 👉 Advanced React Patterns | - Github Code Link |
| 👉 React Performance | - Github Code Link |
| 👉 Testing React App | - Github Code Link |
| 👉 React Suspense | - Github Code Link |

Most Quality High Quality Resources on FrontEnd 🔥

👉 The **Best Video Courses on the Planet** 🚀 to learn literally anything on FrontEnd like React, CSS, Next.js Web Security, Webpack, GraphQL, TypeScript, Gatsby, Design Patterns,.. You name it, you have it - [FrontEnd Masters](#)
(This is PAID, but you can use this hack to use it completely **FREE** for 6 Months. Refer this [video](#) or this [page](#))

👉 JavaScript Interview Questions List - [Sudheer/JavaScript](#)

👉 React Interview Questions List - [Sudheer/React](#)

👉 Dive Deep into the Internals of React - [JSer.dev](#) (Trust me this is super deep & intense, walking you through the actual source code 🔥 🔥)

👉 Best Blogs for React for FREE - [KentCDodds](#), [EpicReact](#), [Overreacted](#)

👉 FrontEnd System Design for FREE - [FrontEnd Engineer](#), [FrontEnd Dev Tooling](#), [JSConf](#), [Chirag Goel](#)

👉 FrontEnd System Design PAID - [GreatFrontEnd](#)


👉 JS/React Interview Practice - Output, Implementation, Machine Coding, UI Tech - [Big FrontEnd Dev](#)

👉 Ultimate Resource for FrontEnd Performance for FREE - [Smashing Magazine](#)

👉 Learn more about Web Technologies & Fundamentals in FrontEnd for FREE - [JSConf](#), [Web.Dev](#), [Hussein Nasser](#)

👉 JS Design Patterns, React Rendering Patterns, Performance Patterns for FREE - [Patterns.dev](#)

👉 Learn Frontend Tech in structures tutorial format, any new Frontend Tech, build mini projects for hands on - [Dave Gray](#), [Jack Herrington](#)


Finally, attaching a link for all FrontEnd Resources so that you can access & learn anything onFrontEnd 

[Ultimate Collection for all FrontEnd Resource](#)

Resume & LinkedIn Guideline

Resume Preparation

My Actual Resume for reference -  [Arun_M_SDE1_Zoho.pdf](#)

1. Keep it **simple & professional**.
2. **Avoid** shiny colorful resume templates. Example:  [Arun's Resume.pdf](#)
3. Keep it **single page**.
4. Name your Resume Properly.
5. **Avoid two column** resume templates. Difficult for reading or parsing by ATS .
[Example](#)

6. Upload resume in Google drive, and share link. Shows a nice little preview wherever you share - LinkedIn, Email.



7. **Prefer LaTeX Template** based resumes from [Overleaf Website](#). [Preferred by most Software Engineers]. Personal suggestions - [Template 1](#), [Template 2](#) [ATS Friendly and Professional Looking]
8. Ordering of Sections for **Working Professional** - Work Experience, Projects, Technical Skills, Achievements, Education (Mention CGPA if good)
9. Ordering of Sections for **Students** - Internship (If any), Projects, Technical Skills, Achievements, Education (Mention CGPA if good)
10. Try to fill your resume, but **don't fill it with unwanted details** like Extra-Curricular, hobbies,.. Try to stick with Technical details.
11. Make it easier for Recruiter, ATS to read on with Keywords as in Job Description, Tech Stack, Bold highlights, Data Points (If any, a bit of fake also works because no one really checks, but keep it practical).
12. Make your resume **sound Technically Heavy**. Most HRs don't understand Technical things but the Technical words you use have a positive impact (even for Referrals). Resume is a game of **word play**.

LinkedIn Profile & Referral Strategies

1. Connect with **at least 50+ people** from a company. Example, If you want a referral for Swiggy, Flipkart then connect with 40+ people who work as Software

Engineers at those Companies so you can ask for Referrals & 10+ Tech Recruiters of those companies to be aware of opportunities.

2. Not everyone will accept Connection Requests. You need a strategy to increase your conversion rate for acceptance of Connection Requests. Basically have a **common Personalized Note which works for everyone.**

One strategy I follow is to **praise or appreciate the other person I want to connect with.** The point is, target the happy point of the other person, so that he also feels great to accept your connection request. This has worked like crazy for me.



Arun M • 2:50 PM

Love to engage with you and your community, Ayush :)

Also happy to consume your learnings, experiences, opinions via your content which would be worthwhile for sure.

Believe you will get the same (high-energy packed) experience from my content and learnings.

Good day, love to connect!

Response from people on this Personalized Note.



Aaditya Khetan • 4:26 PM

A nice note while sending a connection request. Loved the idea 💡!



Sahil Verma (He/Him) • 10:17 PM

Sure

This is a nice way to begin conversation

I'm already stealing this template

3. Now asking for a referral. You gotta ask each & everyone with whom you connected with that company, don't just stop with one. After all, you just need **one single positive referral**.
4. Need to have a Common Referral Template since it is hard to send everyone a personalized Referral Message. Better prefer a Common Template so you can just Copy+Paste.



Arun M · 7:42 PM

UI Engineer, Referral, Flipkart Health+

Hey Ankit :)

Came to know from your recent post your team is looking to hire for UI Engineers. Would be glad if you would like to refer me based on my skills.

Strong hands-on in React, JavaScript, and possess strong problem solving skills using Data Structures and Algorithms.

Besides I love to dig and explore into engineering concepts around Web listening to podcasts and reading articles over Internet.

This is just in short of me, you could get sound data points from my profile and my resume.

Awaiting your response. Have a good day, Ankit!

Resume -

https://drive.google.com/file/d/1IYEAEsv51UgfelceNS99dhAGWeOpX41R/view?usp=share_link

trips, and implementing minimal IO operations. A 450MB file transfer time reduced from 175secs to 70secs.

- Implemented **Asynchronous fetching of Render blocking non-critical resources** manipulating Browser's default resource based priority **reducing Wait Queue Time By 98.6%** with an impact from 300ms to 4ms.
- **Enhanced Image Streaming as seamless as Video Streaming** by rendering collective Image Frames chunks of Remote Device on OffScreen Canvas and then rendering it to MainScreen Canvas using **Canvas API**.
- Developed **Reusable Stateful Dynamic UI Components** using **React, Redux, TypeScript** listening for state changes on Web Socket via custom Protocol.

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- Developed Employee Management Dashboard with Reusable UI components using **React.js, Redux, JavaScript**.
- Mentored team of 20+ trainees on Frontend Technologies. Taught in Live batch of 100+ students on Web Development. Contributed 63+ Videos on Web Development with 4 Frontend projects of 36+ hours content.

PROJECTS

CODECHAT **REACT, REDUX, FIREBASE, MATERIAL UI, NOTIFICATIONS API**
Developed application with **Integrated Code Editor** to push, pull codes with collaborators with a **Realtime Chat** messaging. Used **Google OAuth API** for authentication of users.

TREEHOUSE **CANVAS, MEDIASTREAM, MEDIARECORDER, INDEXEDDB, HTML, CSS, JAVASCRIPT**
Implemented all kinds of **Tree Data Structure Visualizer** to perform all CRUD operations on the Tree. Applied **Breadth First Search Algorithm** to generate Tree structures. Integrated video recording features with Green screen chroma key.

EXCELBOOK **JAVASCRIPT, DOM API, WEB STORAGE API, HTML, CSS**
Developed features with Two-way binding properties for sheet's cells with CRUD operations sync across multiple sheets. Implemented **File Detection Algorithm** to Detect Google's data tables in spreadsheet. **Excel Book Clone**

Arun M_SDE1_Zoho_1YearExp
drive.google.com



Arun M · 8:38 PM

Referring straight away 🙌



Arun M • 12:47 PM

FrontEnd Engineer, Referral, BrowserStack, JR100624

Hey Him :)

Got to know that BrowserStack is hiring for this position of Job ID JR100624. Would be glad if you would like to refer me based on my skills.

Strong hands-on in React, JavaScript, and possess strong problem solving skills using Data Structures and Algorithms.

Besides I love to dig and explore into engineering concepts around Web listening to podcasts and reading articles over Internet.

This is just in short of me, you could get sound data points from my profile and my resume.

Awaiting you response. Have a nice day!

Resume - https://drive.google.com/file/d/1-ZUOTInt6vysJPTL6poTDmpQhnaQmdD9/view?usp=share_link

- Unicode Character Standards compatible with Universal Keyboard Layouts.
- Increased File Transfer Rate by 60% by increasing files chunk size delivered over Web Socket decreasing round trips, and implementing minimal IO operations. A 450MB file transfer time reduced from 175secs to 70secs.
- Implemented Asynchronous fetching of Render blocking non-critical resources manipulating Browser's default resource based priority reducing Wait Queue Time By 98.6% with an impact from 300ms to 4ms.
- Developed Autocomplete Chat and Rephrase Chat features in the Session Chat Menu UI using React, TypeScript. Leveraged Prompt Engineering patterns to generate the suggestive responses from the OpenAI APIs Integration.
- Enhanced Image Streaming as seamless as Video Streaming by rendering collective Image Frames chunks of Remote Device on OffScreen Canvas and then rendering it to MainScreen Canvas using Canvas API.
- Developed Reusable Stateful Dynamic UI Components using React, Redux, TypeScript listening for state changes on Web Socket via custom Protocol.

PROJECTS

CODECHAT

REACT, REDUX, FIREBASE, MATERIAL UI, NOTIFICATIONS API
Developed application with Integrated Code Editor to push, pull codes with collaborators with a Realtime Chat messaging. Used Google OAuth API for authentication of users.

TREEHOUSE

CANVAS, MEDIASTREAM, MEDIARECORDER, INDEXEDDB, HTML, CSS, JAVASCRIPT
Implemented all kinds of Tree Data Structure Visualizer to perform all CRUD operations on the Tree. Applied Breadth First Search Algorithm to generate Tree structures. Integrated video recording features with Green screen chroma key.

EXCELBOOK

JAVASCRIPT, DOM API, WEB STORAGE API, HTML, CSS
Developed features with Two-way binding properties for sheet's cells with CRUD operations sync across multiple sheets. Implemented Circle Detection Algorithm in Directed Graph to detect cycles in cell formulas. Annotated Depth First

Arun_M_SDE1_Zoho.pdf

drive.google.com



Him (He/Him) • 12:51 PM

Hey, referred you. Best of luck.



Arun M • 9:34 AM

UI Engineer I, Referral, Flipkart Health+, #61726

Hey ~~Ankit~~ :)

Got to know that Flipkart is hiring for this position of Job ID #61726. Would be glad if you would like to refer me based on my skills.

Strong hands-on in React, JavaScript, and possess strong problem solving skills using Data Structures and Algorithms.

Besides I love to dig and explore into engineering concepts around Web listening to podcasts 🎧 and reading articles over Internet.

This is just in short of me, you could get sound data points from my profile and my resume.

Awaiting your response. Have a good day, Ankit!

Resume - https://drive.google.com/file/d/1-ZUOTInt6vysJPTL6poTDmpQhnaQmdD9/view?usp=share_link



5. People won't spend more time, so make sure your message is **short, to the point, and readable** for your Referrer.
6. Make sure your Referral message Headline describes what you're up to. Since the headline decides whether the Referrer would be interested to open & read your message. **The Initial 4-5 words of your message are so critical to get you referred.**



Direct Message

Mar 14

FrontEnd Engineer, Referral,
Razorpay, #4065823005

- Also, if there is no reply don't just leave. Instead make a follow up to the Referrer again in 2 days with a soft note of your referral process. They're working professionals, they might forget, and have some personal work. So, don't forget to make up a follow up process.



Arun M • 10:18 AM

[REDACTED] just a gentle reminder if you could have a word of referral for UI Engineer I with your Team Manager while grabbing a cup of coffee ☕



[REDACTED] • 7:21 PM

Hi Arun really sorry I missed discussing your candidature
On Thursday will discuss tomorrow he is on leave



Arun M • 7:22 PM

Sure, [REDACTED]. Thanks :)

- You also need to update your profile professionally, to give the Referrers the confidence to refer you. Remember, on LinkedIn, your **LinkedIn Profile is the first resume**. You can refer to [mine](#) or some others of your field as well whom you admire.
- Build credibility, **make yourself visible on LinkedIn**. Basically post short content on LinkedIn of what you know, you learn. Don't fear posting, good or bad just start, because people refer to your LinkedIn Profile first. Likes don't matter, but what matters is people will recognize your activity. Engage with some valuable comments on other's posts. Posting content should not be that difficult in this era ChatGPT 😊
- Most important, maintain a **soft note** everywhere, whether in DM messages or comments or posts. Don't get involved in negative tone talks, because people never forget such actions.

Your Good to go, my friend !! Good Luck :)