

- HIGH-PERFORMING TEAMS  
ACT LIKE OWNERS

Katharina Probst  
Google

- THE CLASSIC INCIDENT



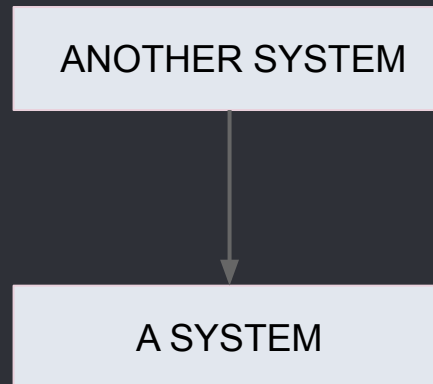
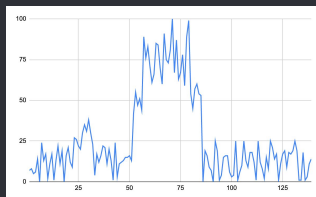
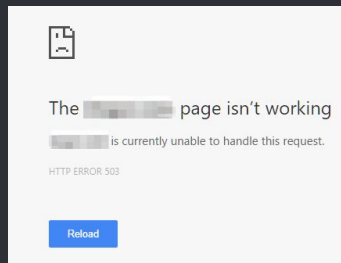
The [redacted] page isn't working

[redacted] is currently unable to handle this request.

HTTP ERROR 503

Reload

# • THE CLASSIC INCIDENT - IN THREE ACTS





# I AM KATHARINA PROBST

You can find me at  
[www.linkedin.com/in/katharinaprobst](https://www.linkedin.com/in/katharinaprobst)

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# OWNERSHIP IN DISTRIBUTED SYSTEMS

APIs, error codes, avoiding failure modes, and more

## ● APIs

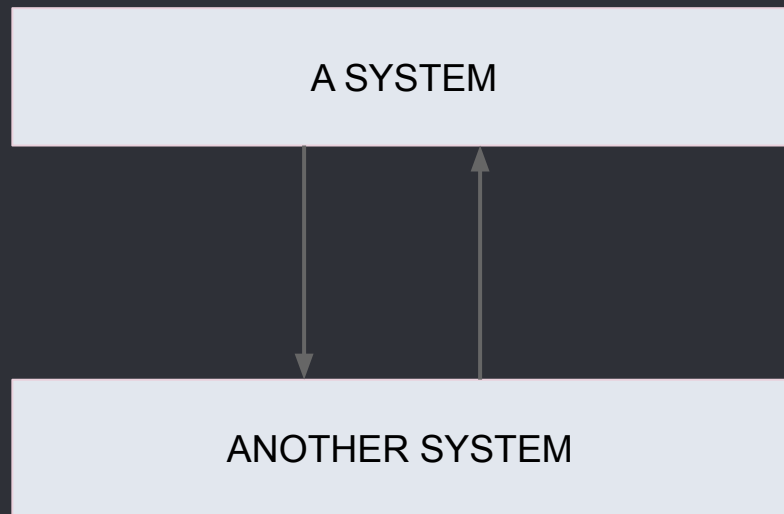
```
message PhoneNumber {  
    required string number = 1;  
    required string name = 2;  
}
```

```
public List<PhoneNumber> getPhonesList();
```

- STATUS CODE: 200 OK

```
message PhoneNumber {  
    required string number = 1;  
    required string name = 2;  
}
```

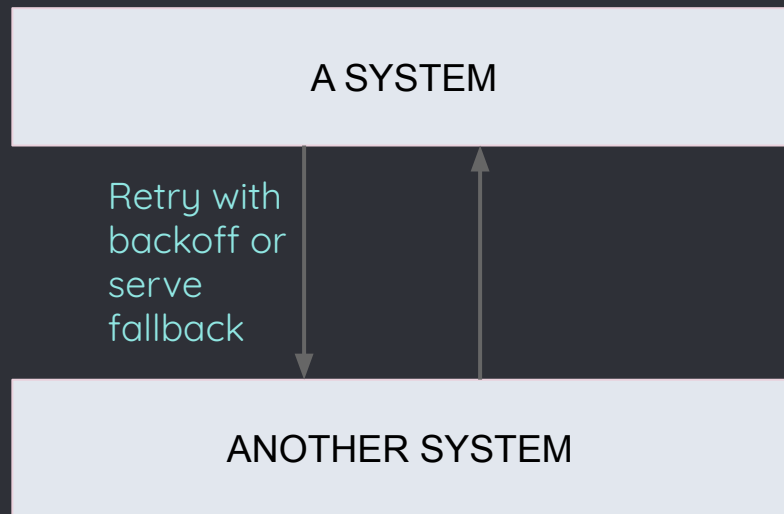
```
public List<PhoneNumber>  
getPhonesList();
```



- FAIL FAST: 503 - SERVICE UNAVAILABLE

```
message PhoneNumber {  
    required string number = 1;  
    required string name = 2;  
}
```

```
public List<PhoneNumber>  
getPhonesList();
```





## ● ONE SERVICE'S EXPECTATIONS FROM ANOTHER

### ○ **Clean APIs**

Articulate what you can do and what you can't do.

It's your responsibility to get what you need from your downstream systems.

### **Status codes**

Your responses should give me clear indication of what to do next.

### **Fail fast**

I don't want you to fail. But if you do, I want you to let me know instead of timing out.

## ● HOW TO AVOID FAILURE MODES

### ○ No SPOF

- There should not be only one server/zone/region who can handle this type of request.

### Don't always say yes

- Every request that comes in seems important.
- If everything's a P0, nothing is.

### Communicate

- Everybody should know my system's / their request's status.

# ● PROACTIVE WORK IN SYSTEMS

## ○ Thinking ahead

- How much traffic will my system need to handle in 1 or 2 years?
- What do I need to do to set myself up for success?

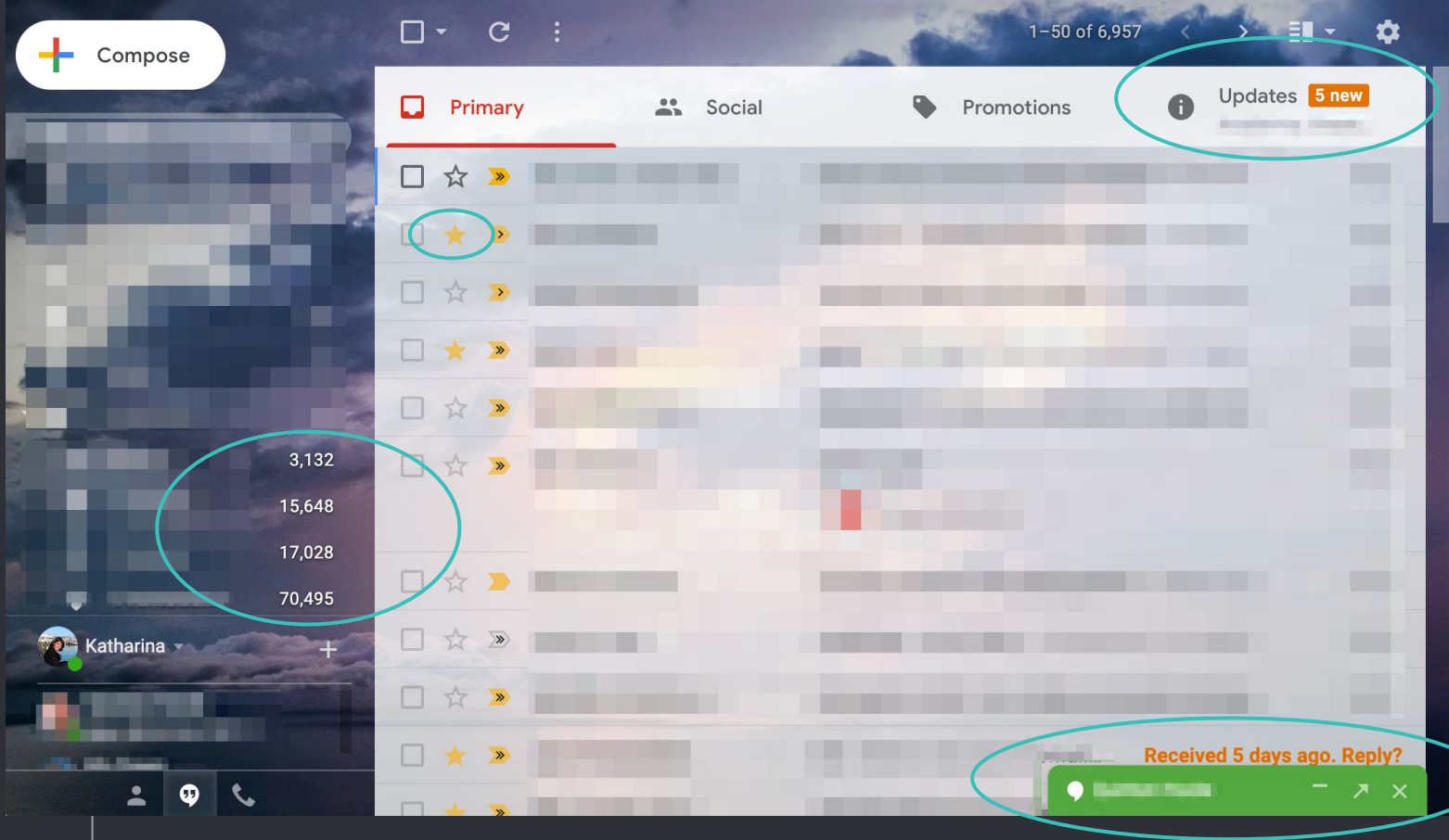
## More thinking ahead can mean less reactive work

- Precomputation
- Garbage collection / compaction

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## OWNERSHIP IN HUMAN SYSTEMS

It's not that different





- STATUS CODE: 418 I'm a teapot
- Some days, it feels like that's all I'm capable of saying.

## ● ONE PERSON'S EXPECTATIONS FROM ANOTHER

### ○ **Clean APIs**

Articulate what I can do and what I can't do.

It's my responsibility to get what I need from my teammates or downstream teams.

### **Status codes**

My responses should give you clear indication of what to do next.

### **Fail fast**

You don't want me to fail. But if I do, you want me to let you know quickly instead of timing out.



- EXPECTATIONS

- **Clean APIs**

- Status Codes

- Fail Fast

## ● CLEAN APIs



### **Focus areas**

- What are my focus areas?
- What are my projects this quarter?

### **Non-focus areas**

- What is it that you are not doing? Why?
- Why am I saying no to your request?

### **Updates**

- What is the status of my projects/work items?

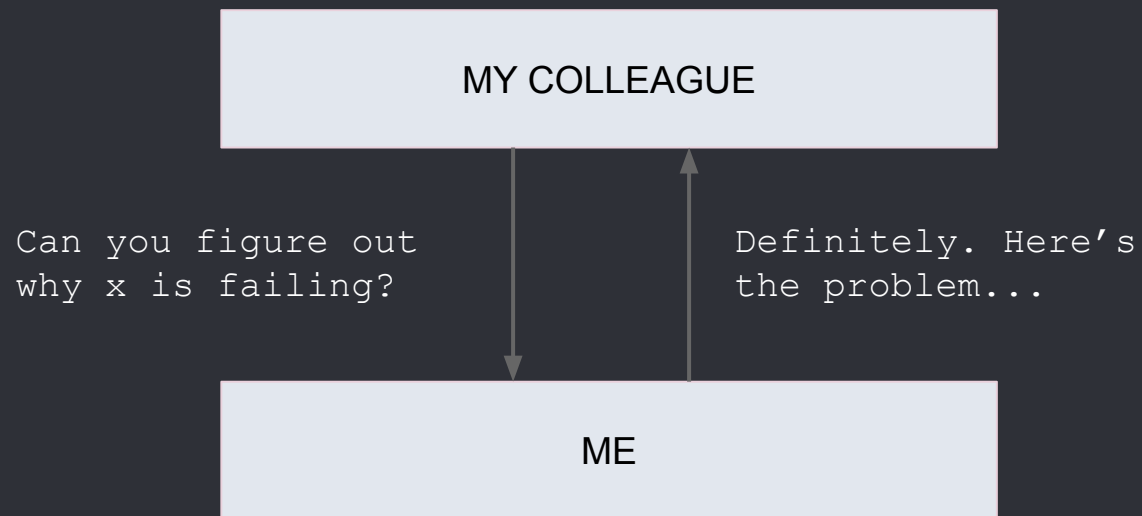
## ● EXPECTATIONS

- Clean APIs

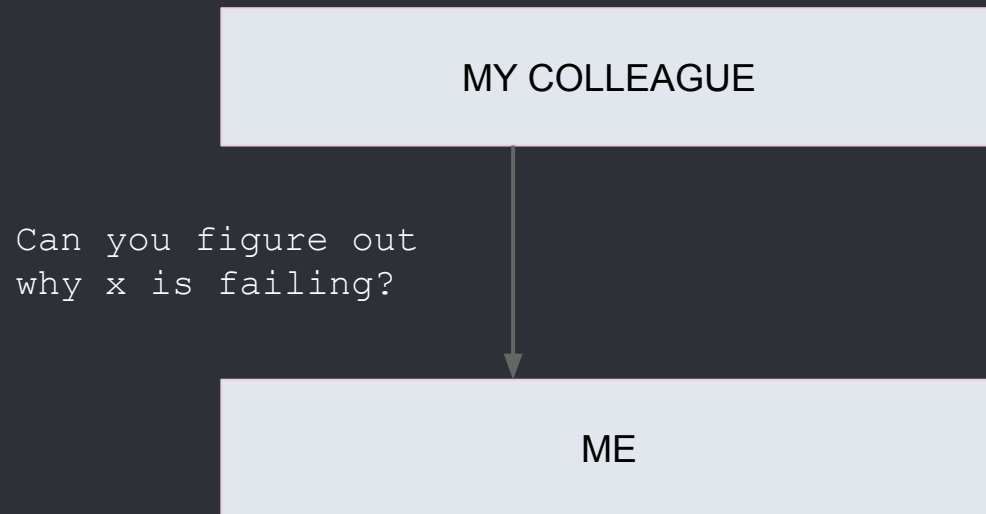
- **Status Codes**

- Fail Fast

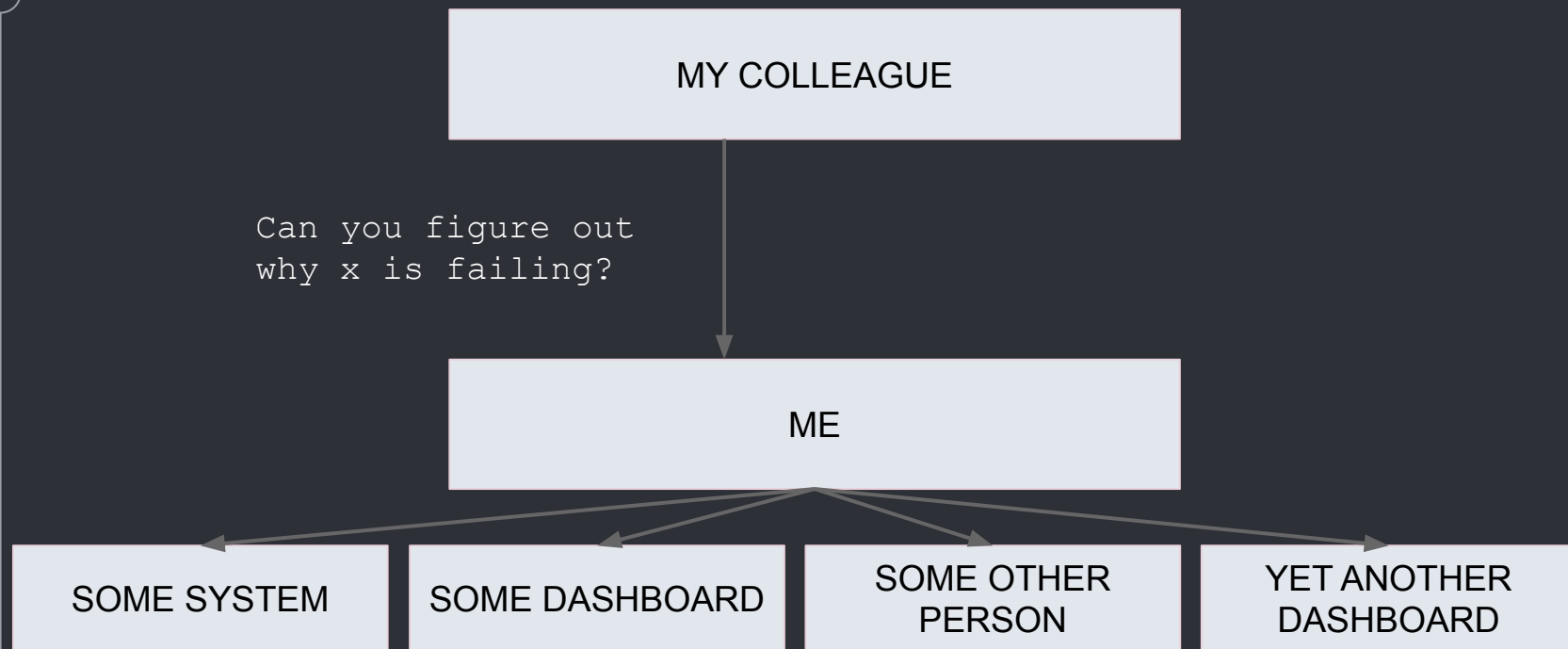
- STATUS CODE: 200 OK



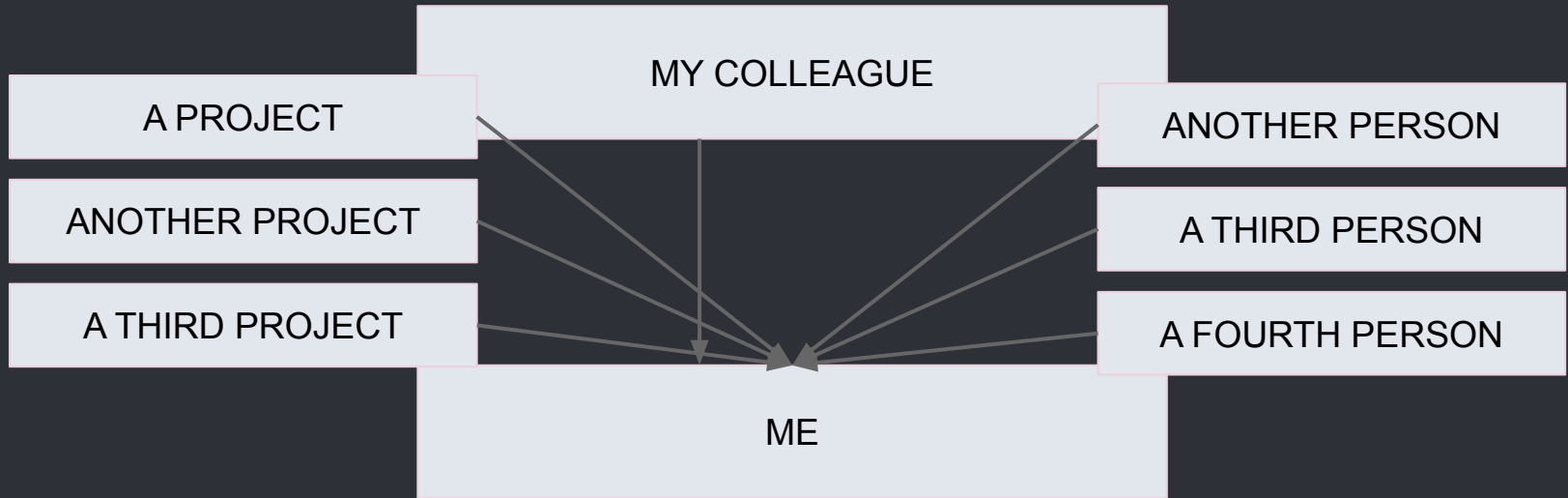
- STATUS CODE: ??



- SCENARIO 1: I'M WORKING ON IT



- SCENARIO 2: I'M NOT WORKING ON IT



# HOW DOES MY COLLEAGUE TELL THE DIFFERENCE? RETRY AFTER TIMEOUT OF COURSE!

**Ping?**

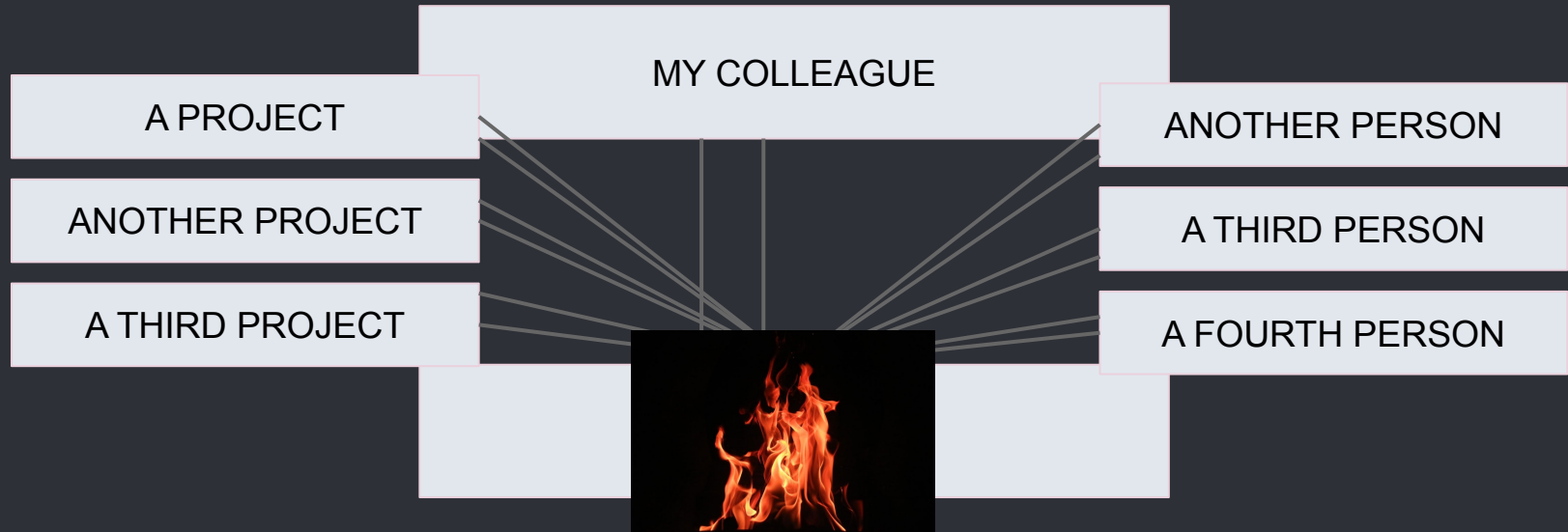
Can you figure out  
why x is failing?

MY COLLEAGUE

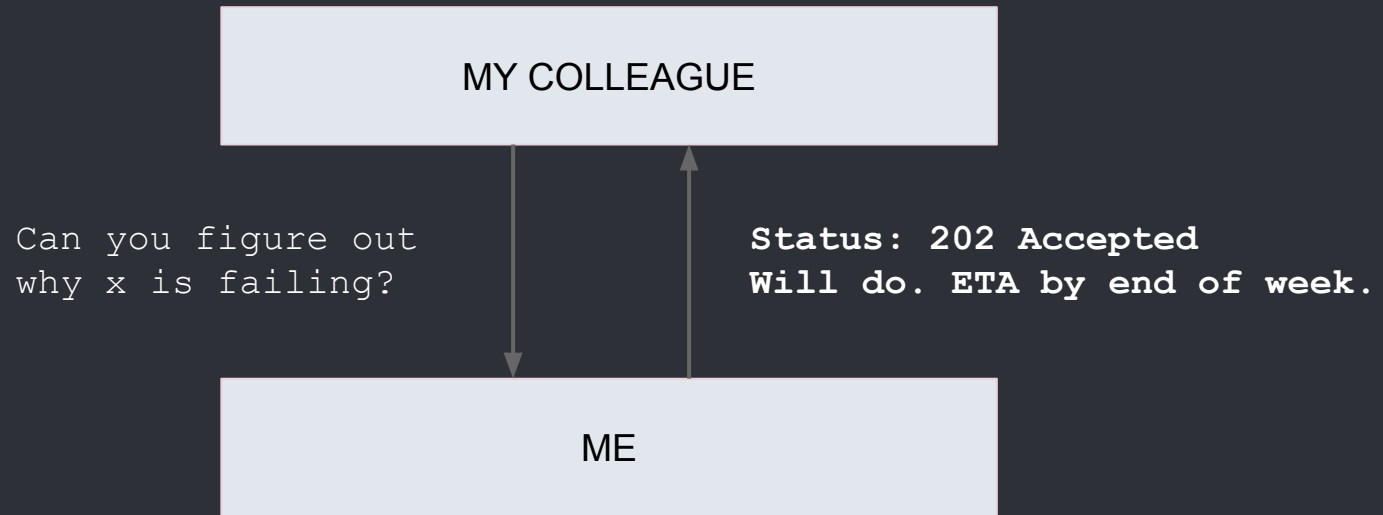
ME



- (EXCEPT, OF COURSE, EVERYBODY RETRIES)

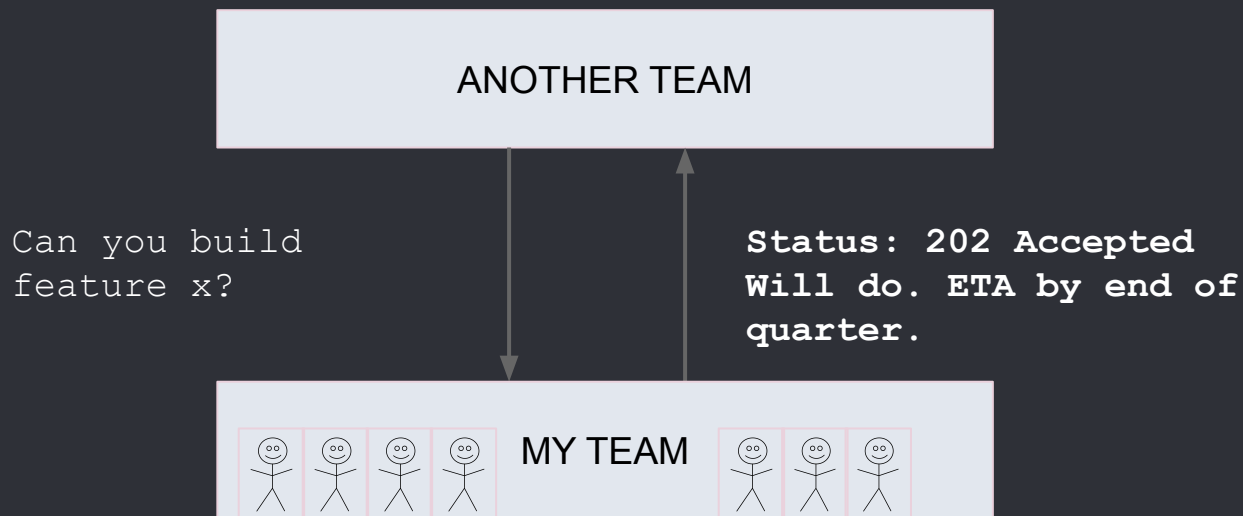


- GOAL #1: RETURN 202 ACCEPTED <sup>[1]</sup>



<sup>[1]</sup> This and subsequent slides are my **goals**. I'm nowhere near perfect on them. Continuous improvement, y'all.

- GOAL #1: RETURN 202 ACCEPTED



## ● EXPECTATIONS

- Clean APIs

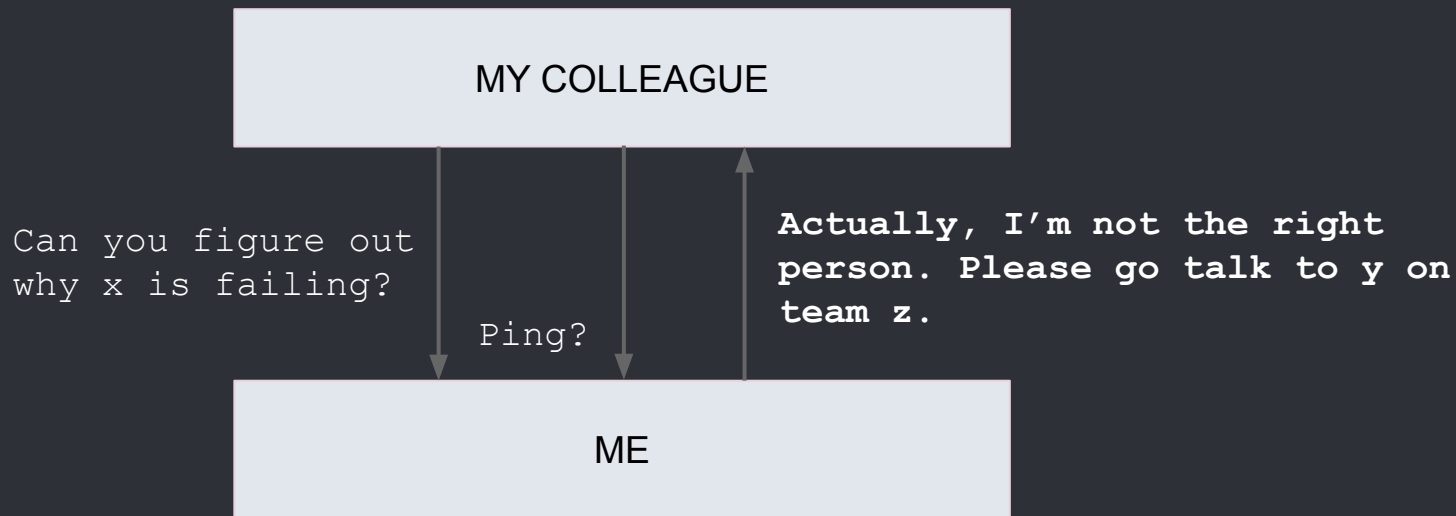
- Status Codes

- **Fail Fast**

- GOAL #2a: RETURN 503 Service Unavailable WHEN NECESSARY



- GOAL #2b: DON'T TIME OUT AND THEN RETURN 308 Permanent Redirect

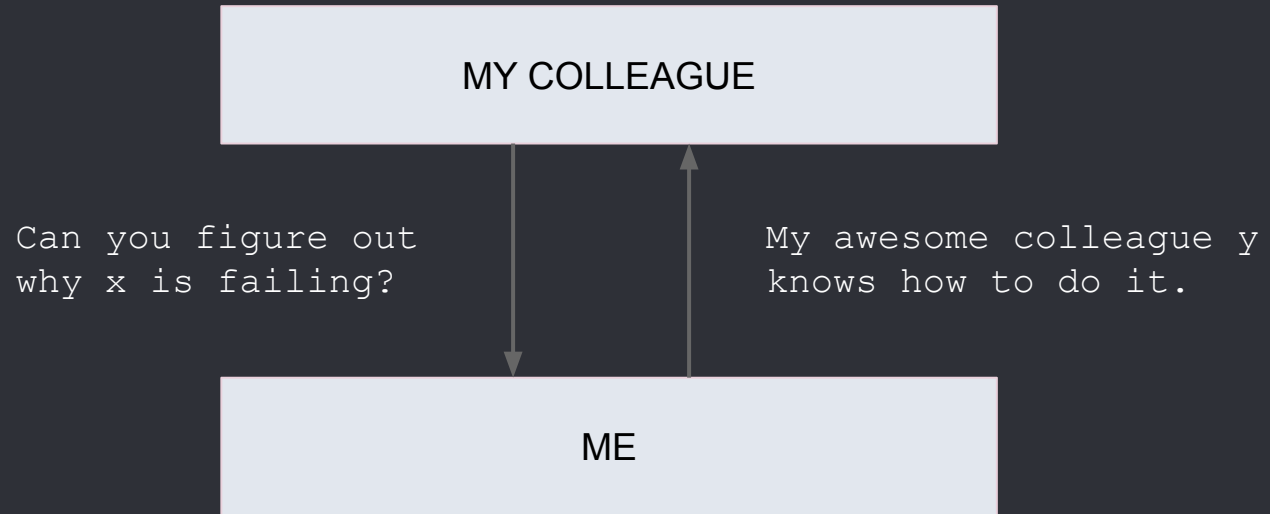


- AVOID FAILURE MODES

- **No SPOF**

- I am not the only one who can do this.

- GOAL #3: SCALE HORIZONTALLY





## ● AVOID FAILURE MODES

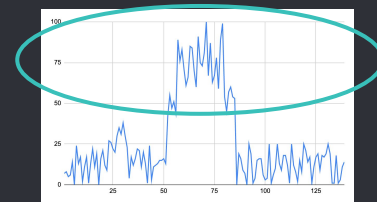
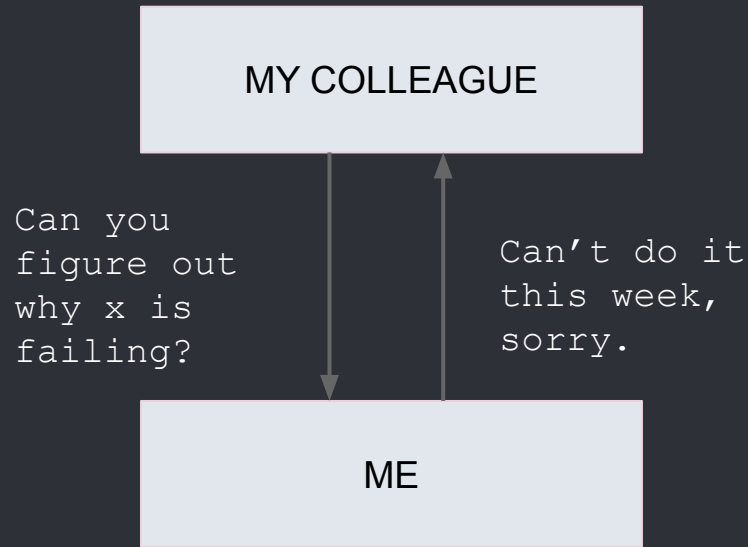
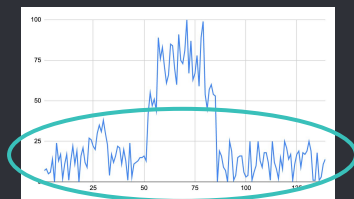
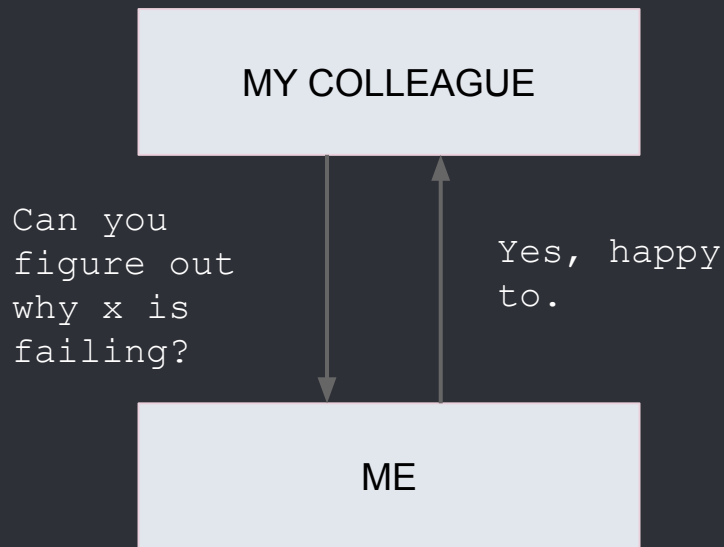
### ○ No SPOF

- I am not the only one who can do this.

### Don't always say yes

- Every request that comes in seems important.
- If everything's a P0, nothing is.

- GOAL #4: SAY YES WHEN I CAN DO IT



## ● AVOID FAILURE MODES



### No SPOF

- I am not the only one who can do this.

### Don't always say yes

- Every request that comes in seems important.
- If everything's a P0, nothing is.

### Communicate

- Others know whether I'm working on their request.

## GOAL #4: COMMUNICATE

### Status Report for Project Foo

Week ending November 1, 2019

Task	Update	Status
Task 1	Making good progress.	On track
Task 2	Waiting for dependency.	At risk
Task 3	Blocked on feature x.	Blocked
Task 4	On track to finish next week	On track

#### Update

Recipients

Update

Hi awesome colleague,


I am still working on figuring out why x is failing. So far I have learned that z service returns something unexpected, but don't yet know why or why our service does not handle the response well.

I've reached out to Tina to find out more about z service. Hopefully by tomorrow we should have an answer on what's going on here.

Thanks  
k

Send

- GOAL #4 COROLLARY: HAVE A SYSTEM

Task	Notes/latest
Task 1	Investigation doc <a href="#">here</a> .
Task 2	Need to reach out to Tina
Task 3	Need to respond to Jack by Friday 
Task 4	Done

## ● OWNERSHIP AND PROACTIVE WORK

### ○ Thinking ahead

- What will my area/system/project/org look like in 2 years?
- What do I need to do to set myself up for success?

### **More thinking ahead can mean less reactive work**

- If I have tools in place to answer questions or prevent issues
- If I have proactively scaled out my org

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## TAKE-AWAYS

What I have learned

## ● WHAT I LEARNED



### **Human systems ~ Distributed computer systems**

- Clear expectations help.
- Both will fail (eventually).

### **Do less, but do it well**

- Pick and choose, but then aim for a high SLO.
- Say no more often (but explain why).

### **Communication is key**

- Let others know what you can and cannot do (clean APIs).
- Minimize timeouts.



- WHAT I LEARNED - (SELF-)COMPASSION

- I can't do everything

Don't spread yourself too thin.

**I don't expect others to do everything**

Understand that others are under the same pressures.

**Thanks!**

**ANY QUESTIONS?**

You can find me at

[www.linkedin.com/in/katharinaprobst](https://www.linkedin.com/in/katharinaprobst)

A thin vertical white line runs down the left side of the slide, with a small white circle centered on it.

# BACKUP

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## HIGH-OWNERSHIP TEAMS

From individual to team

## ● WHAT I LEARNED

### ○ DO LESS, BUT DO IT WELL

Pick and choose, but then aim for perfection.

Say no more often (and more quickly).

### COMMUNICATION IS KEY

Let others know what you can and cannot do (clean APIs).

Minimize time-outs.

Understand that there will be disappointment.

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Hello!

**I AM JAYDEN SMITH**

I am here because I love to give presentations.

You can find me at @username

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# TRANSITION HEADLINE

Let's start with the first set of slides



“

*Quotations are commonly printed as a means of inspiration and to invoke philosophical thoughts from the reader.*

- THIS IS A SLIDE TITLE

- Here you have:

- A list of items
  - And some text
  - But remember not to overload your slides with content

Your audience will listen to you or read the content, but won't do both.



# BIG CONCEPT

Bring the attention of your audience over a key concept using icons or illustrations

- YOU CAN ALSO SPLIT YOUR CONTENT

- **White**

Is the color of milk and fresh snow, the color produced by the combination of all the colors of the visible spectrum.

- **Black**

Is the color of coal, ebony, and of outer space. It is the darkest color, the result of the absence of or complete absorption of light.

- IN TWO OR THREE COLUMNS

- **Yellow**

Is the color of gold, butter and ripe lemons. In the spectrum of visible light, yellow is found between green and orange.

- **Blue**

Is the colour of the clear sky and the deep sea. It is located between violet and green on the optical spectrum.

- **Red**

Is the color of blood, and because of this it has historically been associated with sacrifice, danger and courage.

- A PICTURE IS WORTH A THOUSAND WORDS



A complex idea can be conveyed with just a single still image, namely making it possible to absorb large amounts of data quickly.

A photograph of a white Apple laptop on a wooden table. To the left of the laptop is a ceramic vase with a black and red design. In front of the vase is a cup of coffee with latte art. The text 'WANT BIG IMPACT? Use big image.' is overlaid on the left side of the image, next to a teal circle.

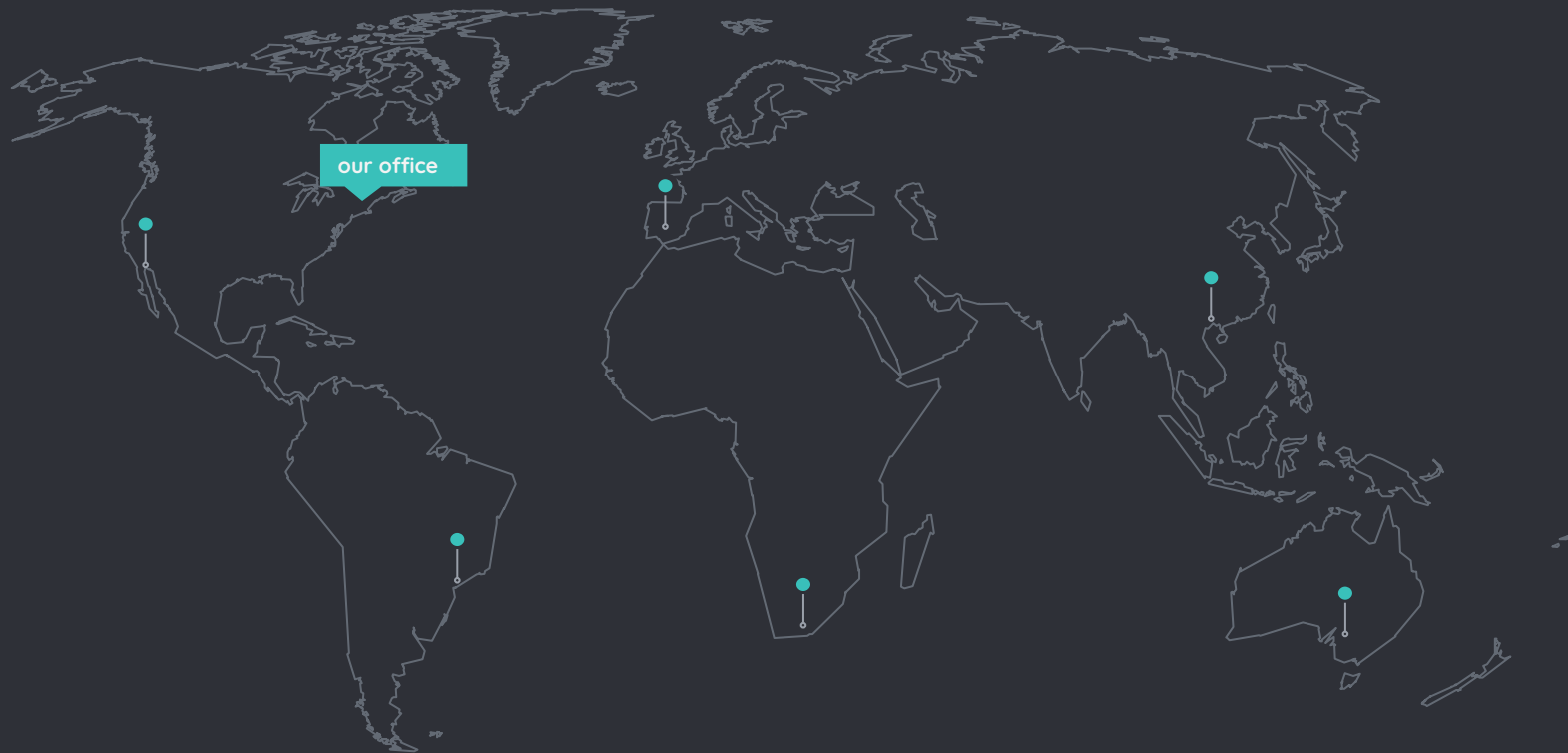
WANT BIG IMPACT?  
**Use big image.**







## MAPS





**89,526,124**

Whoa! That's a big number,  
aren't you proud?



89,526,124\$

That's a lot of money

185,244 users

And a lot of users

100%

Total success!



## LET'S REVIEW SOME CONCEPTS



### Yellow

Is the color of gold, butter and ripe lemons. In the spectrum of visible light, yellow is found between green and orange.



### Yellow

Is the color of gold, butter and ripe lemons. In the spectrum of visible light, yellow is found between green and orange.



### Blue

Is the colour of the clear sky and the deep sea. It is located between violet and green on the optical spectrum.



### Blue

Is the colour of the clear sky and the deep sea. It is located between violet and green on the optical spectrum.



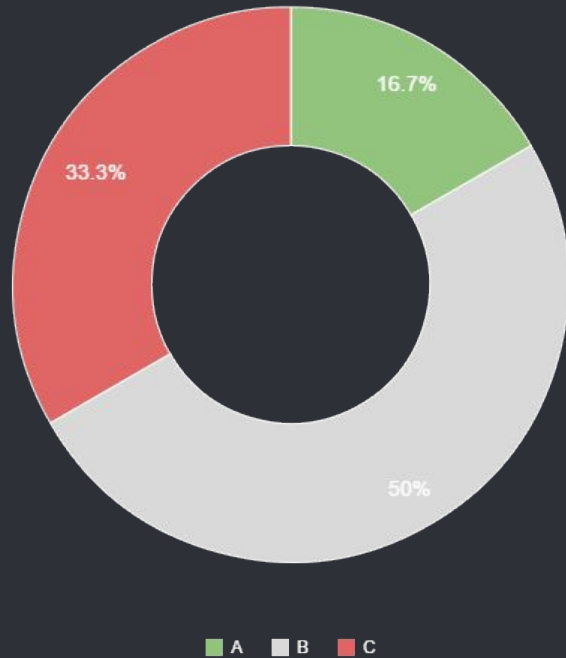
### Red

Is the color of blood, and because of this it has historically been associated with sacrifice, danger and courage.



### Red

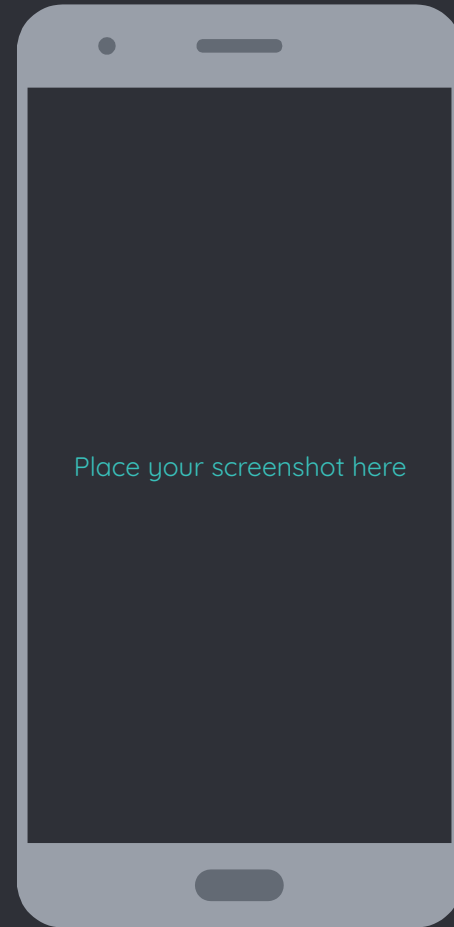
Is the color of blood, and because of this it has historically been associated with sacrifice, danger and courage.



○ You can copy&paste graphs from Google Sheets

## MOBILE PROJECT

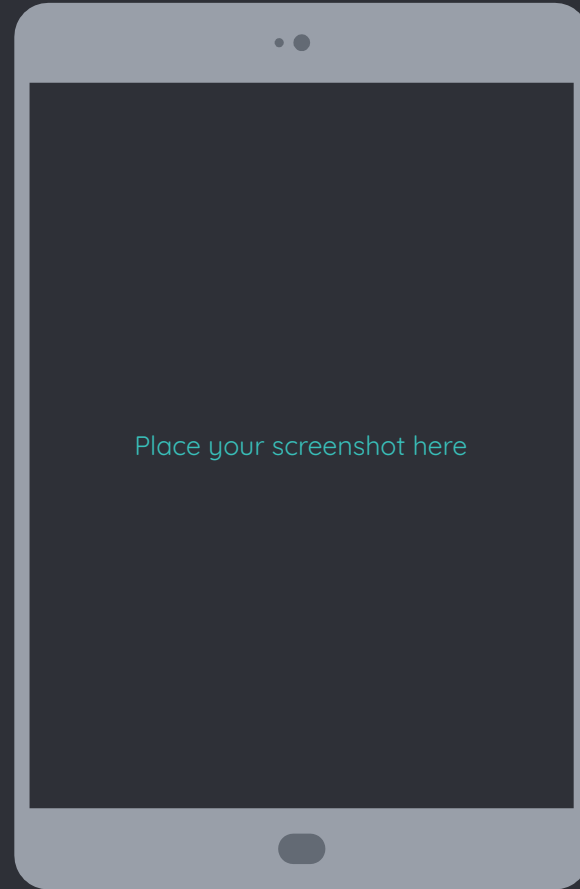
Show and explain your web, app or software projects using these gadget templates.





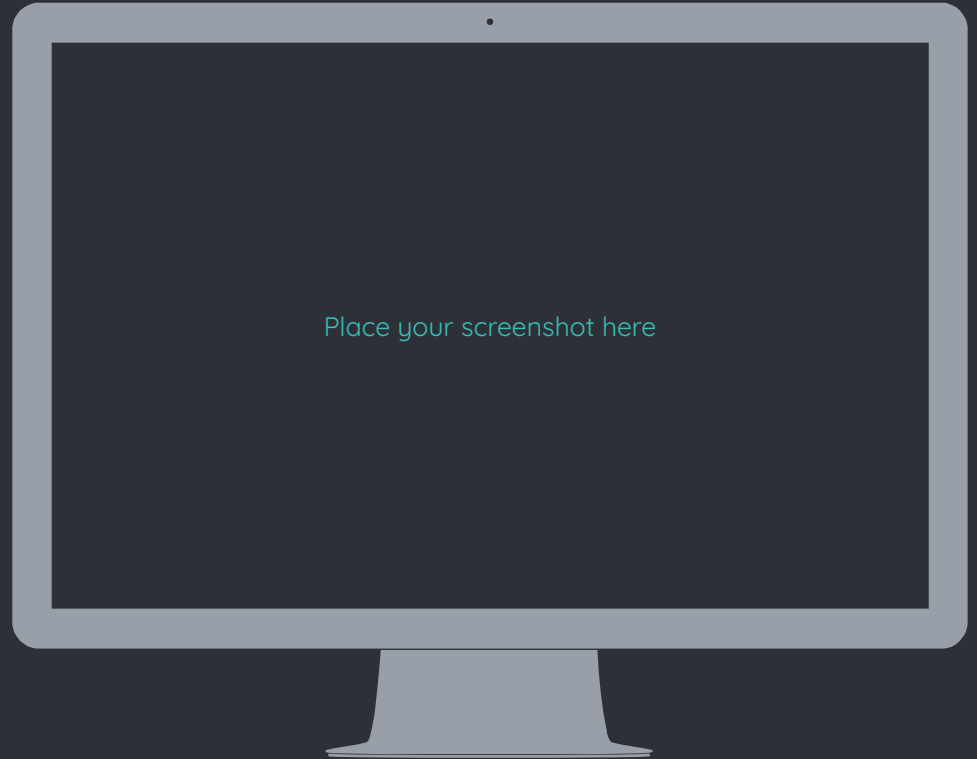
## TABLET PROJECT

Show and explain your web, app or software projects using these gadget templates.



## DESKTOP PROJECT

Show and explain your web, app or software projects using these gadget templates.



**Thanks!**

**ANY QUESTIONS?**

You can find me at

@username

user@mail.me

## ● CREDITS

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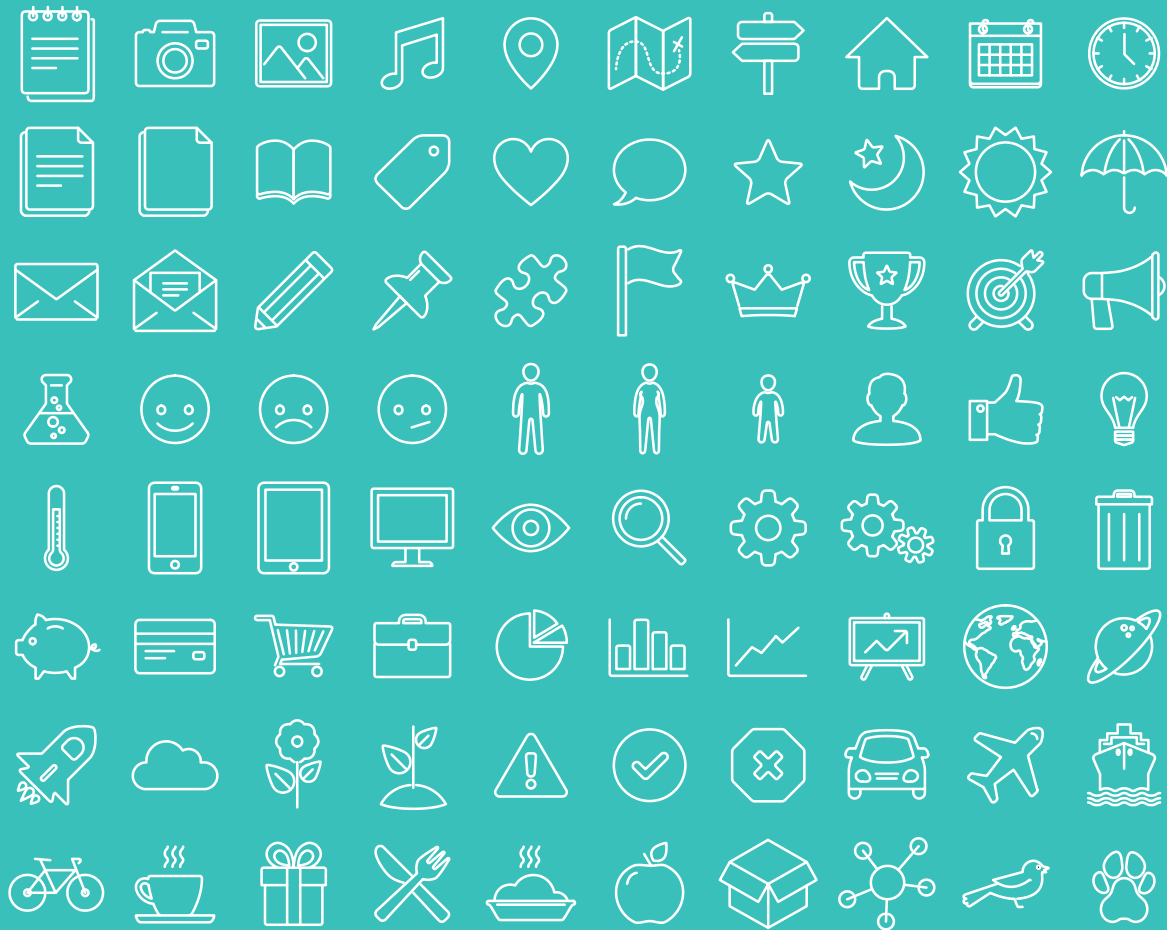
- Titles & body copy: **Quicksand**

You can download the fonts on this page:

<https://www.fontsquirrel.com/fonts/quicksand>

- Dark gray **#2e3037**
- Aqua **#39c0ba**
- Salmon **#f35b69**
- Blue **#6d9eeb**

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- Resize them without losing quality.
- Change line color, width and style.

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Examples:



## Now you can use any emoji as an icon!

And of course it resizes without losing quality and you can change the color.

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<https://twitter.com/googledocs/status/730087240156643328>



and many more...



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