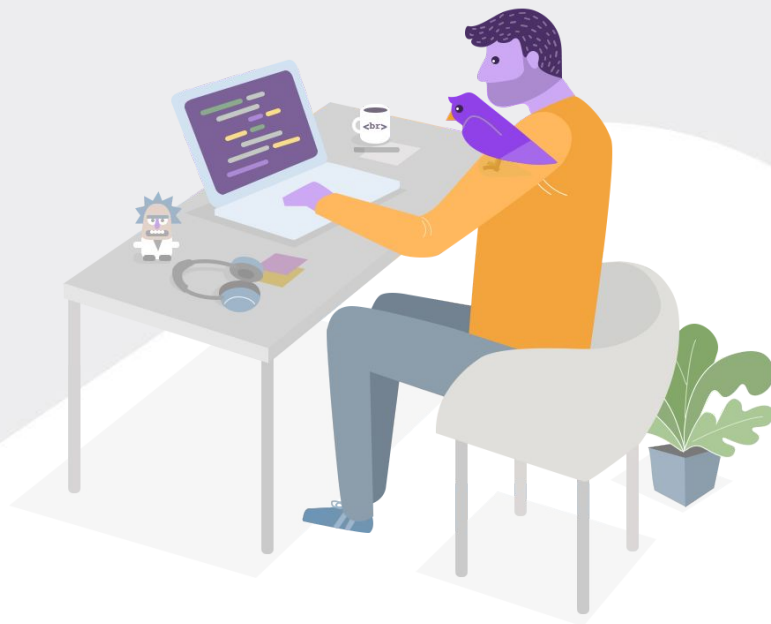




Take Your Monitoring to the Next Level

Liran Haimovitch, Mickael Alliel

Rookout



Who I am



- Co-Founder and CTO of Rookout
- Cyber security practitioner and writer
- Advocate of modern software methodologies
- Deep passion to understand how software actually works

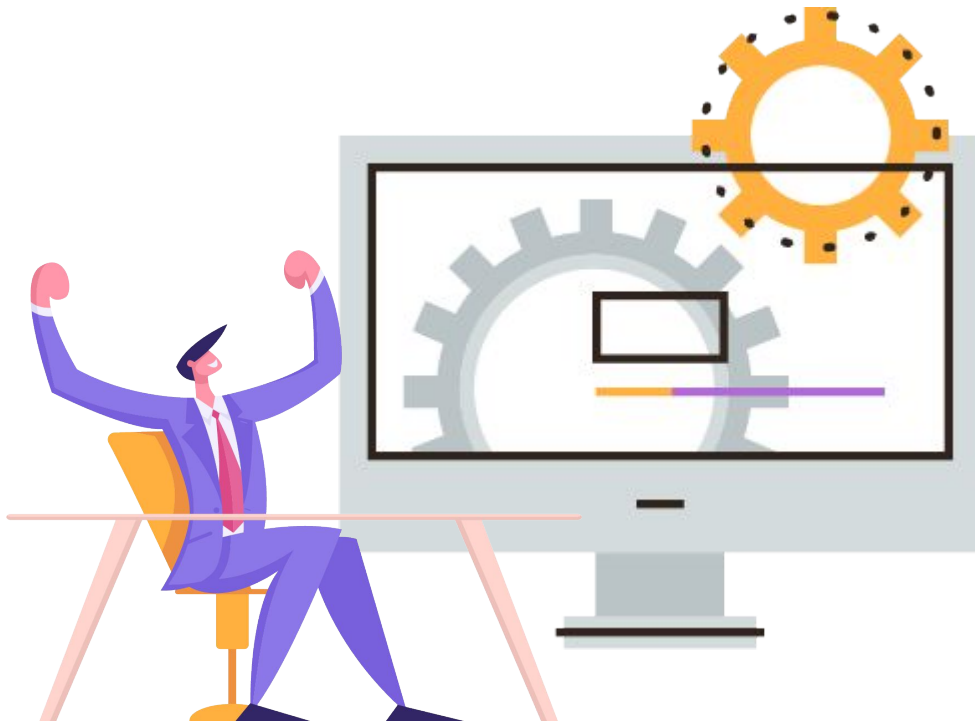
Who I am



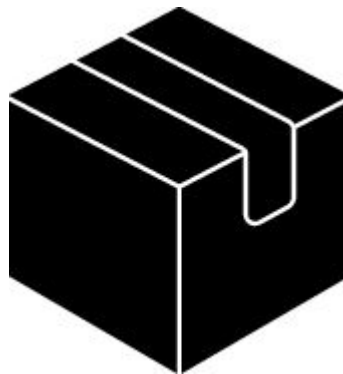
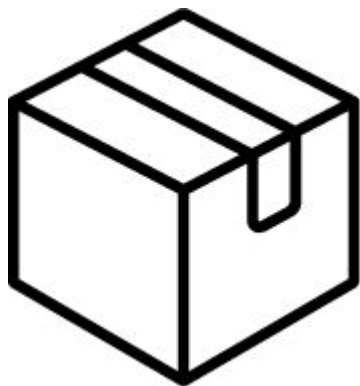
- DevOps @ Rookout
- Self-taught developer
- Work smarter, not harder
- Passionate about automation



Why should you care?



Types of Monitoring

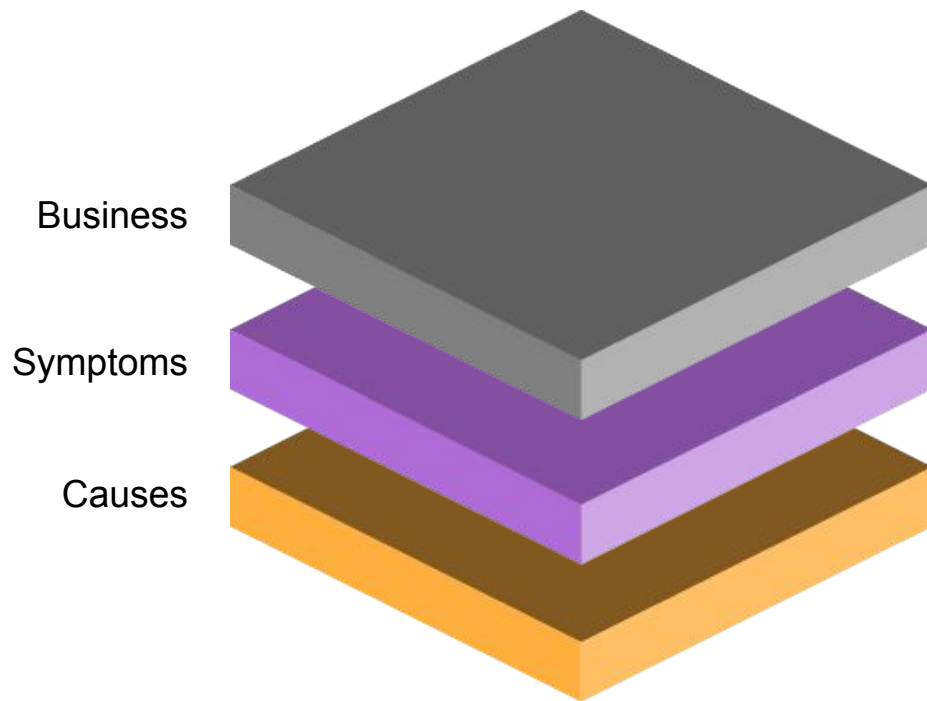


Blackbox Monitoring



- What is it? **Monitoring the system from the outside**
- How do you do it? **Access it as a customer**
- What tools exist?
 - **Pingdom, StatusCake**
 - **Datadog Synthetics**
 - **Selenium, Cypress, TestCafe**
- When should you use it? **When whitebox monitoring is not enough**

Whitebox Monitoring



Causes



- What is it? **Defect causing the system to misbehave**
- How do you monitor it? **Set metrics and thresholds - Infrastructure**
- What tools exist?
 - **AppDynamics, New Relic, Datadog**
 - **Prometheus, Elasticsearch**
- When should you use it? **When components are known to hurt reliability**

Symptoms



- What is it? **Whatever is broken in the system as a whole**
- How do you monitor it? **Set metrics and thresholds - Application**
- What tools exist?
 - **AppDynamics, New Relic, Datadog**
 - **Prometheus, Elasticsearch**
- When should you use it? **(Almost) Always**



System Metrics

Day | **Week** | Month

reddit.com request rate ?

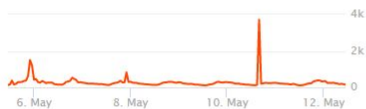


reddit.com error rate ?



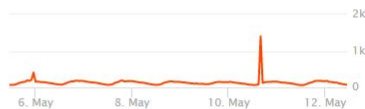
vote backlog (posts) ?

269 votes

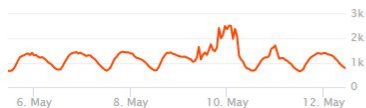


vote backlog (comments) ?

134 votes



comment tree backlog ? 1,212 comments



thumbnail and embed scraper backlog ?

37 posts



Business



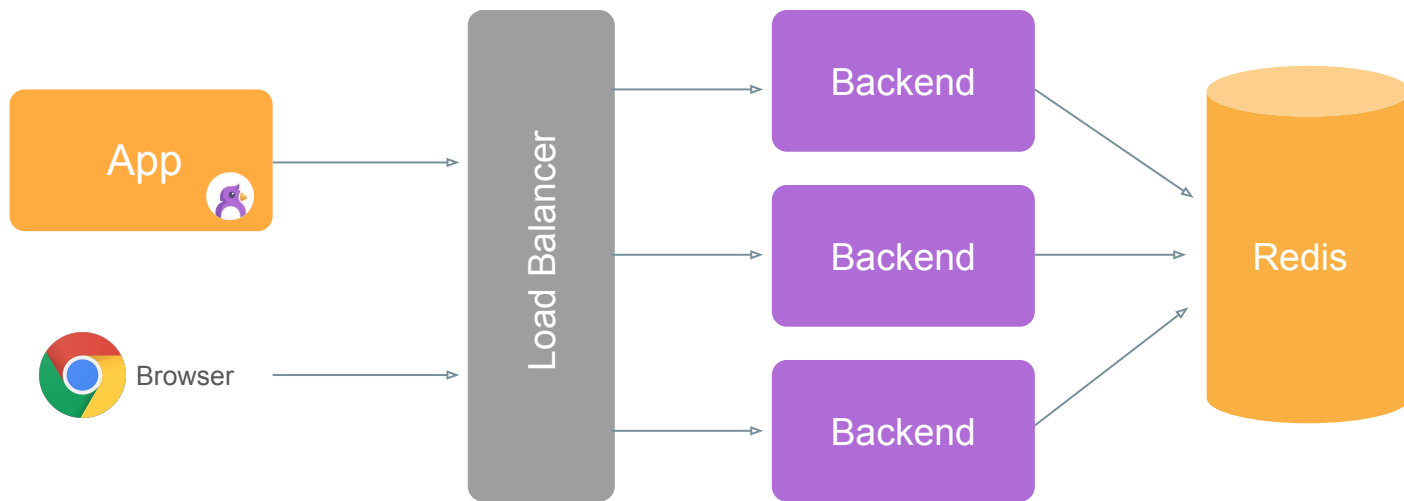
- What is it? **The value the system is creating for your users and business**
- How do you monitor it? **Set custom metrics and thresholds - Application**
- What tools exist?
 - **AppDynamics, New Relic, Datadog**
 - **Tableau, Chartio, Sisense**
- When should you use it? **When you have enough reliable transactions**

Examples of business monitoring

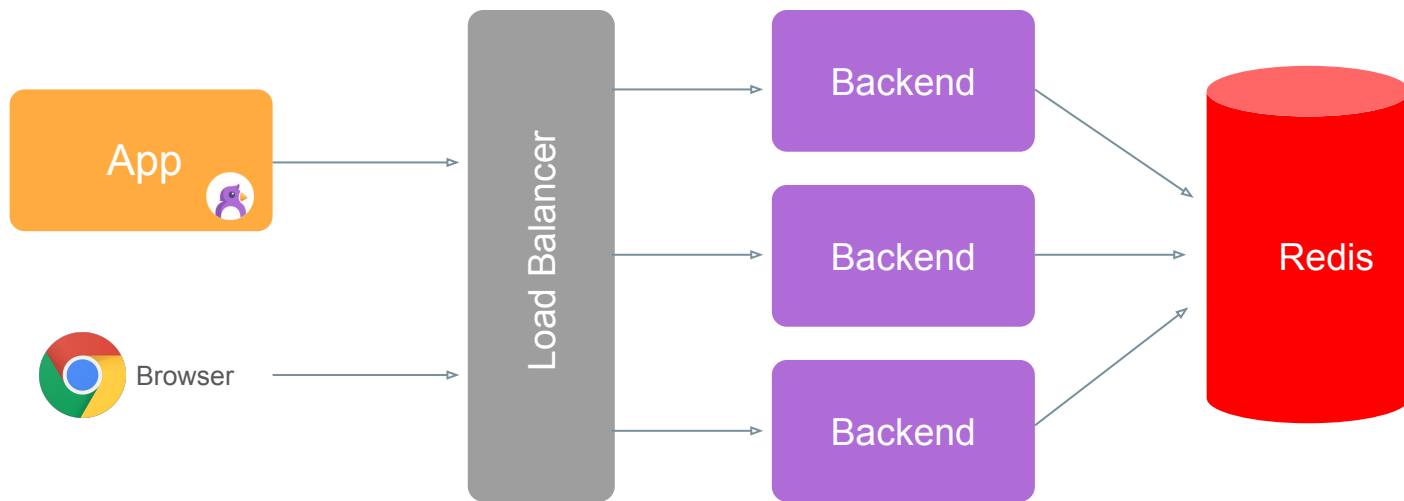


- Visitors - unique visitors, logins, signups
- Engagement - like, share, access content
- Value - schedule a meeting, send mail, create a document
- Revenue - purchasing, upgrading

Our very first downtime at Rookout



What happened?



Multi-layered monitoring



Blackbox	<ol style="list-style-type: none">1. HTTP endpoints are returning 5022. Can't run end-to-end flows
Business	<ol style="list-style-type: none">1. No activity in the system (duh!)
Symptoms	<ol style="list-style-type: none">1. Load balancer - no healthy instances2. Load balancer error rates are high (100% - 502)3. Load balancer health checks are failing4. Request-per-second is low (0)5. Servers are in restart loops
Causes	<ol style="list-style-type: none">1. Database memory consumption is high

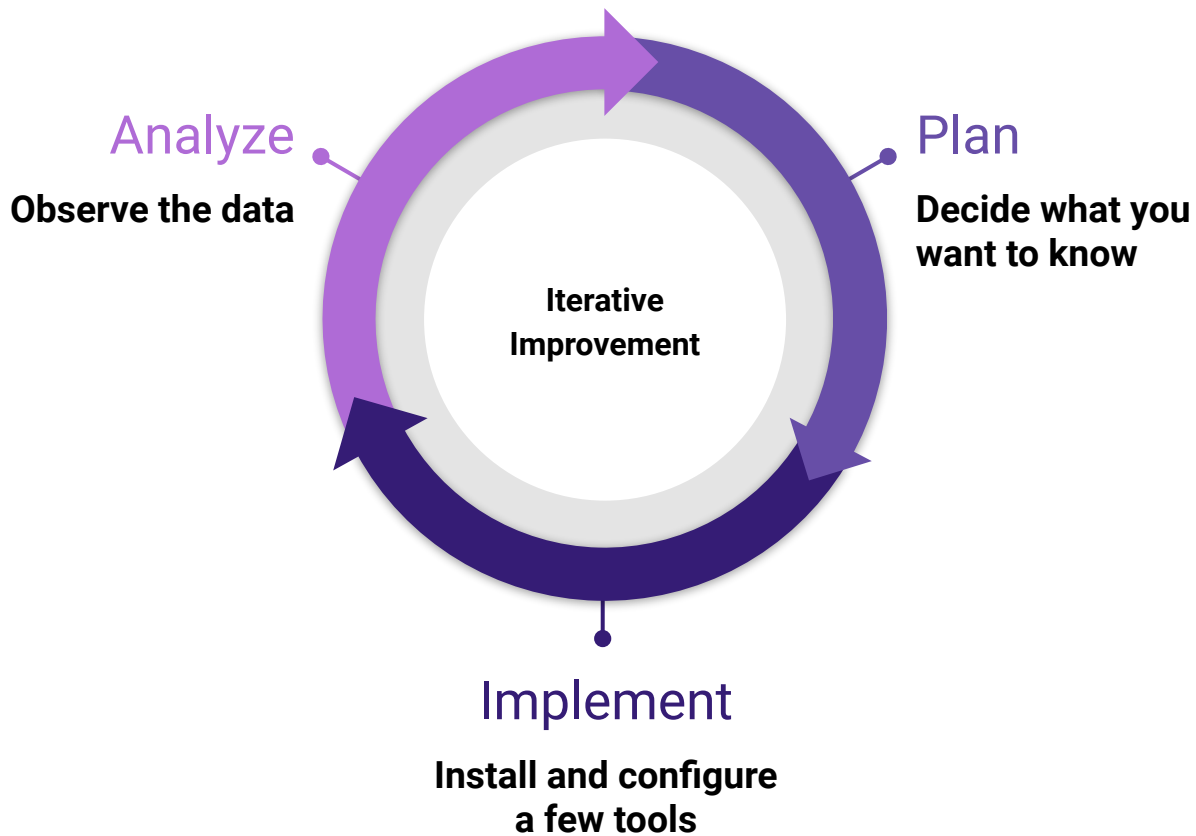
Where should you focus?



Multi-layered monitoring



Blackbox	<ol style="list-style-type: none">1. HTTP, DNS, TLS2. E2E Sanity
Business	<ol style="list-style-type: none">1. Value indicating activity2. Revenue
Symptoms	<ol style="list-style-type: none">1. Endpoint latency and error rate2. Queue item counts
Causes	<ol style="list-style-type: none">1. Database - memory and disk



Plan



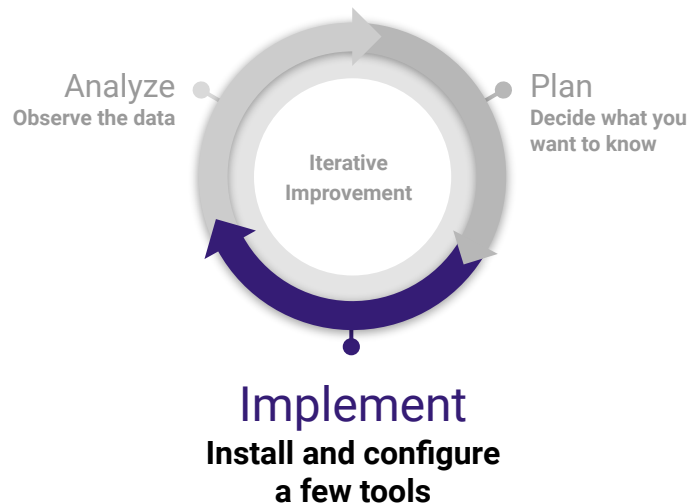
- What are you trying to achieve?
- What do you need to know?
- Which part of the system do you care about the most?



Implement



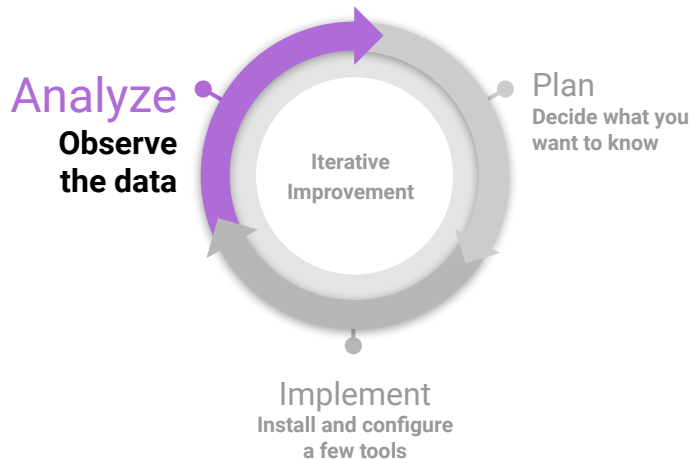
- Install the tools
- Instrument the application
- Pipeline the data



Analyze

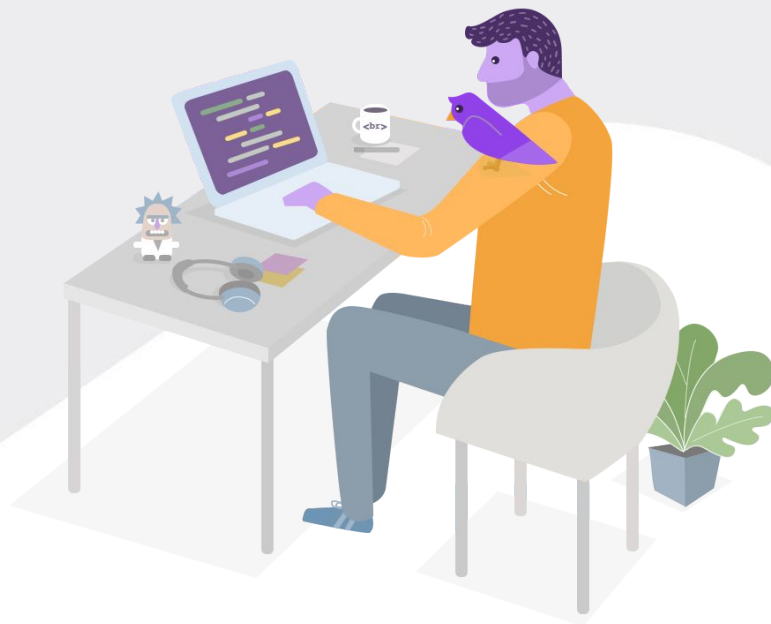


- What is the data showing?
- What would be useful dashboard?
- On what do you want to be alerted?
- Did you truly want to be alerted on that?
- What questions can't you answer?





Questions



Get in touch



Email: liran@rookout.com

LinkedIn: www.linkedin.com/in/liran-haimovitch-652bba95/

Twitter: https://twitter.com/Liran_Last



Email: mickael@rookout.com

LinkedIn: <https://www.linkedin.com/in/mickaelalliel/>

Twitter: https://twitter.com/mickael_alliel

Website: www.rookout.com