

The Big Leap: From Academic to Industry

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Backend Engineer at Kata.ai



Before We Start

- Goal
 - Getting insight of academic environment
 - Getting insight of industry environment
 - Getting ideas to overcome difficulties (if any)
- Non Goal
 - Sparking flame wars between academic and industry

But I love war anyway :)

Academic

- Non profit?
- Theoretical
- Process Oriented

Industry

- Profit oriented
- Practical
- Product Oriented

Academic

Teaching – Research - Service

What Lecturers Do

- Teaching: Obviously
- Research: Published Paper
- Service: Contributing to Society

The Regulator



It Should be Good,
Right?

But Why...

Pemrogram Komputer

Bahasa Pemrograman

Pemrograman



Mengapa banyak mahasiswa jurusan TI yang tidak suka memrogram?



Jawab



Ikuti · 3



Minta



Sistem Informasi

Lulusan Baru

Teknik Informatika

+2



Mengapa banyak lulusan informatika yang tidak bisa pemrograman?



Jawab



Ikuti · 16



Minta



Because...

- Student Factor

- No clear purpose
- School != Work
- Tech Job == Low Level



Budi Rahardjo, Dosen di Institut Teknologi Bandung
Dijawab 9 Jun 2018

- Teacher Factor

- Lack of skill
(Technical/Communication)
- Wrong Metrics

- Society Factor

- Socio Cultural (Especially for Female)



Radita Liem, tinggal di Tallinn, Estonia

Dijawab 5 Maret · Didukung Naik oleh Veni Johanna, eks-Software Engineer, Engineering Manager

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 - **Lack of skill**
(Technical/Communication)
 - Wrong Metrics
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Likely True

Requirements

▶ YES PASSION IS MANDATORY

- Strong passion in software engineering and technology.
- Familiarity with Javascript and standard JavaScript asynchronous pattern (Promise, async/await, callback, closures).
- Strong CS fundamentals and OOP Knowledge.
- Experience in Unit Testing or TDD.
- Experience in SQL or NoSQL database.
- Experience in designing and developing RESTful API.
- Familiarity with SOA / Microservice architecture.
- Familiarity with Git.
- Agile coding experience is a plus.

WHAT THEY NEED

WHAT YOU LEARN



So, If You are a

Teacher

- Improve your skillset
 - Do projects
 - Join Industry
- Let DIKTI do their job
- But please, do your job

Student

- Find your **goal**
 - Stick with it
- Improve your skillset
 - Learn how to learn
 - Why before how

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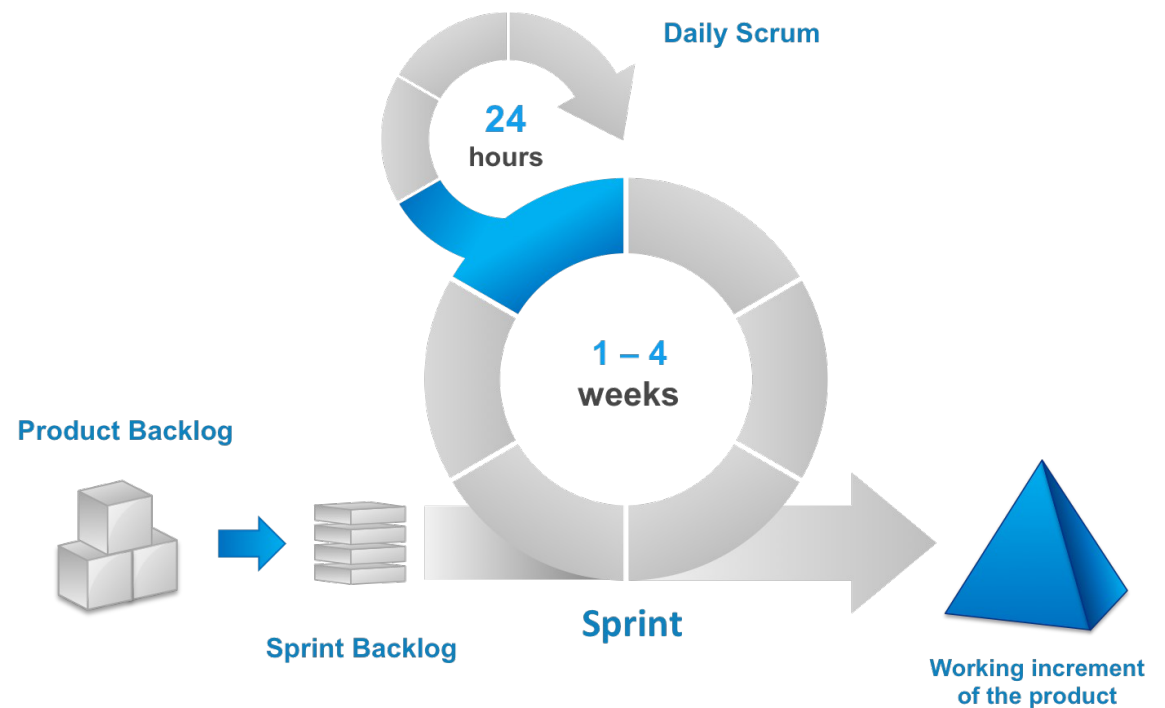
**JOIN FACEBOOK
DEVELOPER CIRCLE
And other communities :)**

Industry

Whatever – Problem Solving - Money

What Engineers Do

- Meeting
- Planning
- Coding
- Reviewing
- Discussing



What Engineers Do

- Meeting
- Planning
- Coding
- Reviewing
- Discussing
- **Rediscovering Vitas**
- **Taking Screenshots**



Our Achievements



Go Frendi



9:38 PM



NOOB



JENIUS

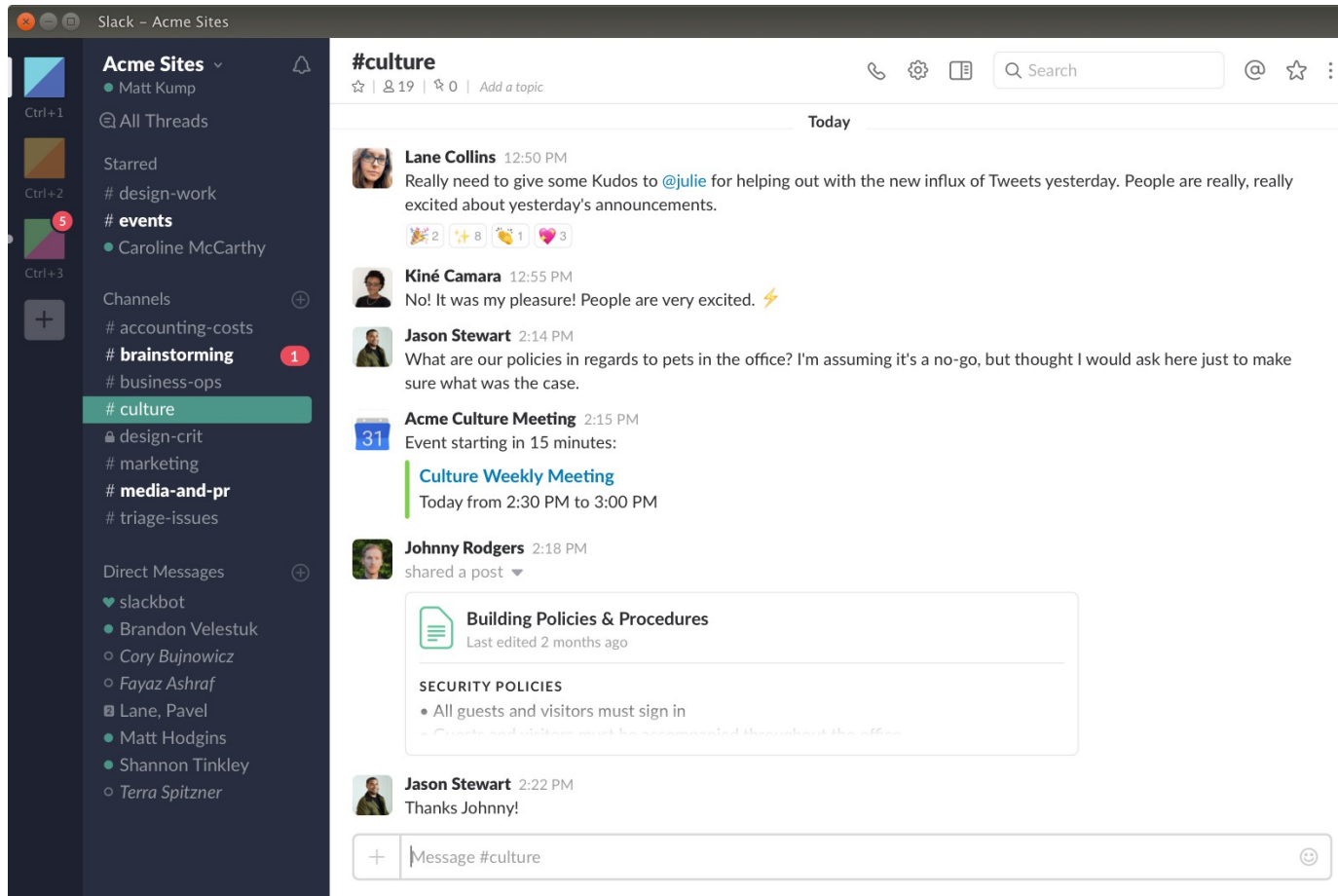


Technology We Use

- Slack
- Sleekr
- Quip
- Jira
- Bitbucket
- Microsoft Azure











Slack



Sleekr

Central Perk Café

Hallo, Wilcome Brownlock Owner 

- Home 
- Team 
- Performance 
- Time Off 
- Payroll 
- Company 
- Settings 

Home

TASK TO COMPLETE Add new task

Add a new task...

Due on: [No due date](#) Assigned to: [Erling Hogpen](#) × Cancel Add this task

- ☐ Define [Time Off Policy](#)
Posted on Mar 12, 2014 Edit ✕
- ☐ Check [Sleekr's Knowledge Base](#)
Posted on Mar 12, 2014
- ☐ Define [Central Perk Café Profile](#)
Posted on Mar 12, 2014
- ☐ Define or Upload [Company Policies](#)
Posted on Mar 12, 2014
- ☐ Check [Onboarding Plan for new hires](#)
Posted on Mar 12, 2014

Quip

Office Move Plan

The official office move date is **March 20th**.

Tasks:

- ☐ Test internet in new office
- ☒ Publish seating chart - **Bret**
- ☐ Give employees moving boxes - **Rafael**
- ☐ Schedule moving company - **Matthew**

Seating Chart

	Person	Old Seat	New Seat
1	Ken Way	2A	112-23-A
2	Macy Lynwood	2B	112-25-C
3	Kate Whittle	2C	112-23-B
4	Shi Liao	2D	115-20-B
5	Jia Hou	3A	112-25-B

Chat: Deanne Gray, Ken Way, Sean Norman, Marisa Acuna, Victor Salas

Comments: Jia Hou: I added a seating spreadsheet. Does it look ok, Rohan?

Jira

The screenshot shows the Jira Scrum board for the project 'Teams in Space'. The board is organized into columns: '4 To Do', '4 In Progress' (with sub-columns 'Min 3' and 'Max 5'), '1 Code Review', and '4 Done'. Issues are represented as cards with titles, descriptions, and assignee avatars. A blue circle highlights issue TIS-67, 'Developer Toolbox does not display by', which is in the 'In Progress' column. A green arrow points from this issue to the right-hand sidebar. The sidebar shows the 'Development' environment with the following statistics: 5 branches, 3 commits, 1 pull request (labeled 'OPEN'), and 1 build (with a green checkmark icon). The top navigation bar includes links for Dashboards, Projects, Issues, Agile, Capture, and a 'Create issue' button. A 'Quick Search' bar is also present.

Scrum: Teams in Space

SPRINT: Sprint 1 QUICK FILTERS: Product UI Server Only My Issues Recently Updated

4 To Do 4 In Progress Min 3 Max 5 1 Code Review 4 Done

▼ TIS Developer Love 4 Issues

- TIS-46 Update LocalTransportC to handle 6
- TIS-40 Update FlightController to handle 6
- TIS-8 Requesting available flights is now taking >
- TIS-68 Add a String anonymizer to TextUtils

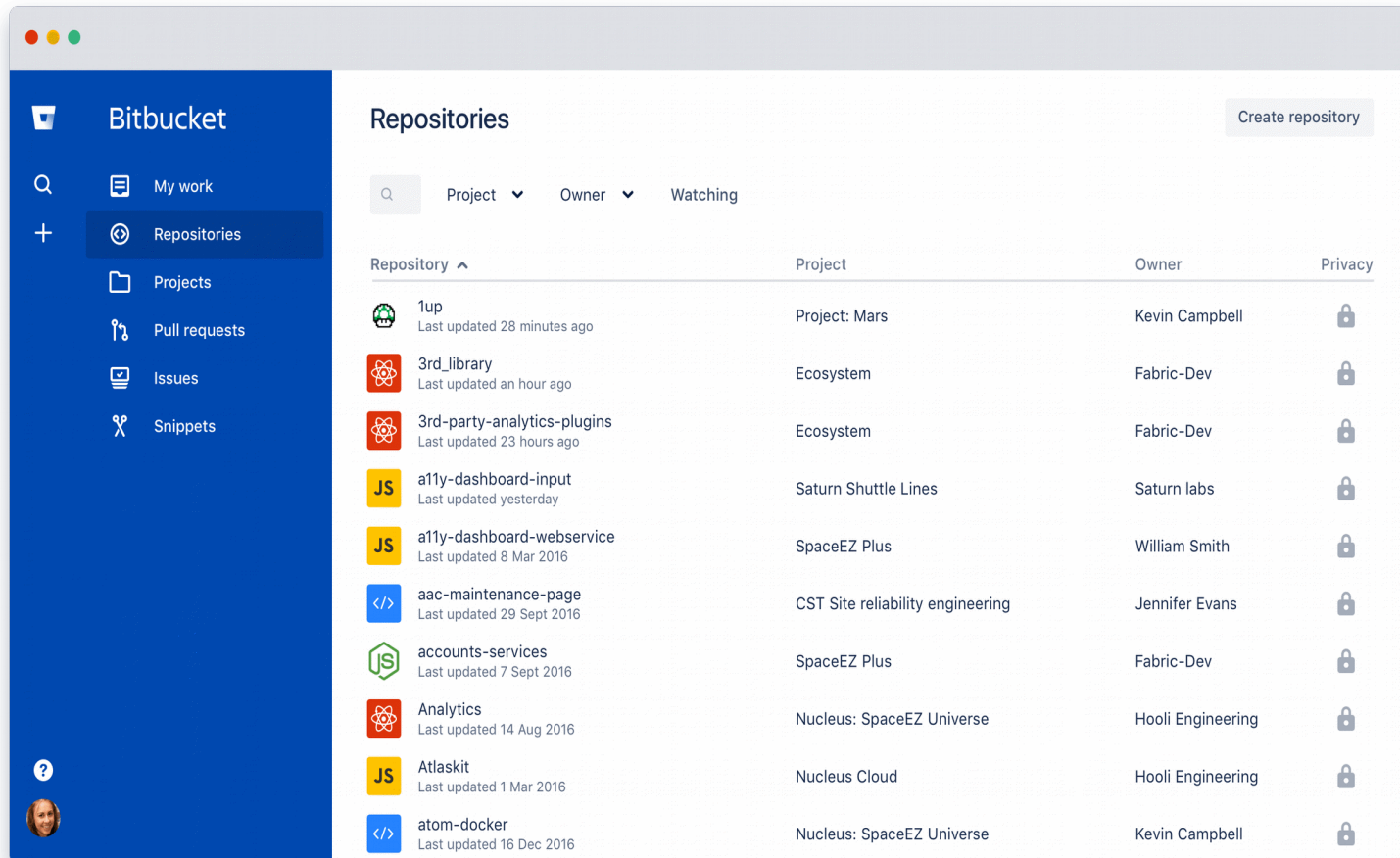
▼ Everything Else 9 Issues

- TIS-45 Email non registered users to sign 2
- TIS-49 Draft network plan for Mars Office
- TIS-43 Extend booking experience in UI to include 9
- TIS-68 Homepage footer uses an inline style -
- TIS-44 Reward Customers an extra 5-10% 3
- TIS-42 Extend booking experience in UI to include 9





















Development

- 5 branches
- 3 commits
- 1 pull request OPEN
- 1 build ✓

Bitbucket



The screenshot displays the Bitbucket web interface. On the left is a blue sidebar with navigation links: My work, Repositories (selected), Projects, Pull requests, Issues, and Snippets. The main content area is titled 'Repositories' and includes a search bar and filters for Project, Owner, and Watching. A 'Create repository' button is in the top right. Below the filters is a table listing repositories with columns for Repository, Project, Owner, and Privacy.

Repository	Project	Owner	Privacy
 1up Last updated 28 minutes ago	Project: Mars	Kevin Campbell	
 3rd_library Last updated an hour ago	Ecosystem	Fabric-Dev	
 3rd-party-analytics-plugins Last updated 23 hours ago	Ecosystem	Fabric-Dev	
 a11y-dashboard-input Last updated yesterday	Saturn Shuttle Lines	Saturn labs	
 a11y-dashboard-webservice Last updated 8 Mar 2016	SpaceEZ Plus	William Smith	
 aac-maintenance-page Last updated 29 Sept 2016	CST Site reliability engineering	Jennifer Evans	
 accounts-services Last updated 7 Sept 2016	SpaceEZ Plus	Fabric-Dev	
 Analytics Last updated 14 Aug 2016	Nucleus: SpaceEZ Universe	Hooli Engineering	
 Atlassian Last updated 1 Mar 2016	Nucleus Cloud	Hooli Engineering	
 atom-docker Last updated 16 Dec 2016	Nucleus: SpaceEZ Universe	Kevin Campbell	

Our Architecture

- Microservices
 - Mostly Node.Js
 - Some Python
 - Soon Golang
- RDBMS
 - MySQL
- No-SQL
 - MongoDB
 - Cassandra
 - ElasticSearch
- CI/CD
 - Bitbucket Pipeline
 - Kubernetes
 - Docker
 - SSH + VM :(



My Contribution

- Moleculer-X: Moleculer + Merapi
 - POC
 - Not a good idea
- Nightwatch: Slack-bot for NLU Training Job Monitoring
- Merapi-plugin-service-rabbit
- Katabatic: On-premise Runner
- Split NLU Service (on progress)
- Cultural influences: memes, slack stickers



What I Learn

- Typescript
- Golang
- Docker
 - I use docker in my machine :)
 - I build my own docker image :)
- Bitbucket pipeline
- Kubernetes
 - I have deploy a service :)
 - In the wrong cluster :(
 - Dependency Injection
 - No, it is not the holy grail of everything
 - Clean(er) Code
 - Most problem can be solved by adding abstractin layer
 - Or ditch it out

So, If You are an Engineer

- Yes, you are awesome
- Okay, sometime you are sucks
- But you are still awesome
- Share your experience
 - Write articles
 - Be speaker
 - Teach :)



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DEVELOPER CIRCLE
And other communities :)**

Finally
How do I Survive?

Full time lecturer

Full time engineer

- 8 hours + 8 hours = 16 hours
 - No, not that extreme
 - Well, sometime it is
- Prioritize your goals
 - Be very clear about what you want
 - Ticktick.com
- Delegate tasks
- Ask for help

