

# Research and Startup

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**Friedrich-Alexander University Erlangen-Nürnberg**

**COSS D02**

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# Agenda

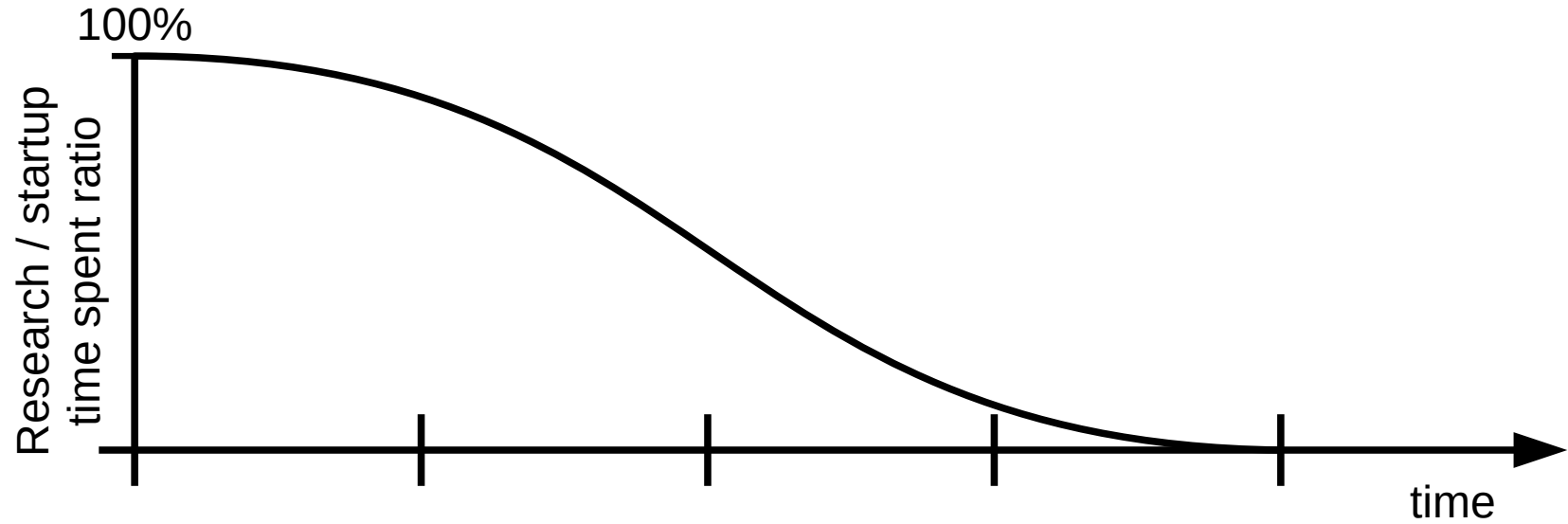
1. Research vs. startup
2. Project management
3. Lead programming
4. Open source strategy
5. Getting users
6. Getting contributions

# 1. Research vs. Startup

# Goal Conflict

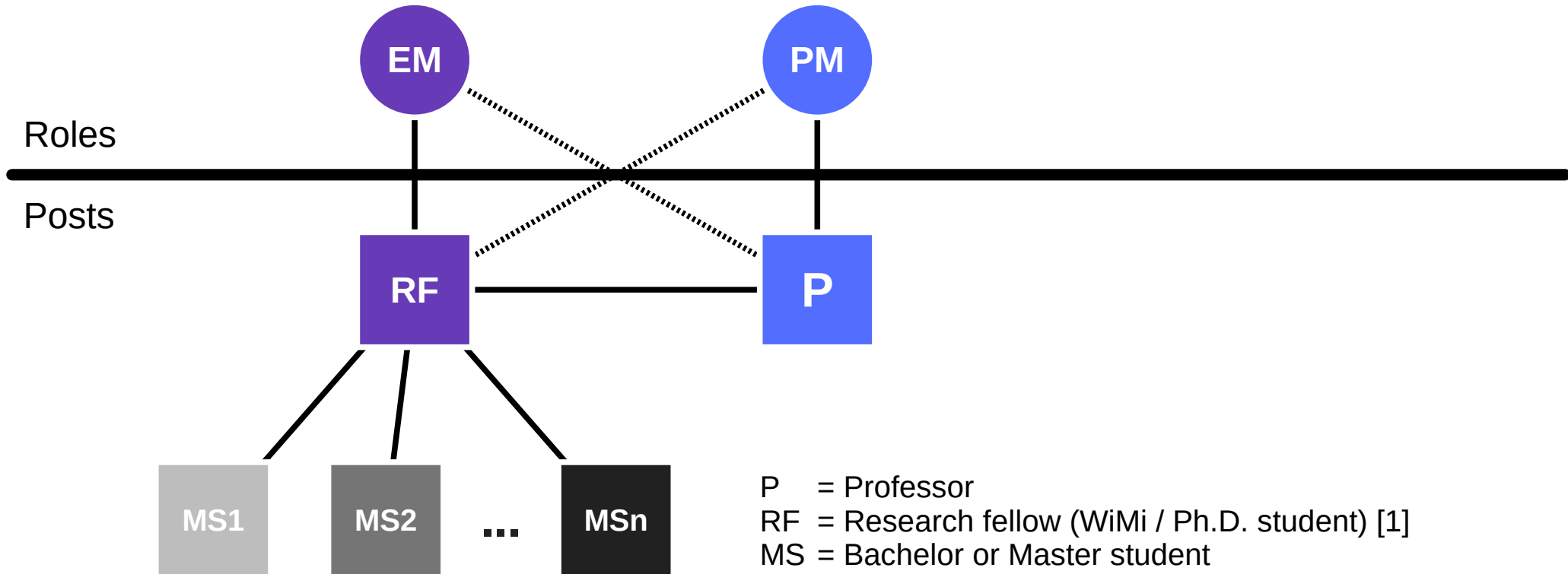
- Research
  - Desired output
    - Research papers
    - A dissertation
- Startup
  - Desired output
    - Software product
    - A startup

# Resulting Time Allocation



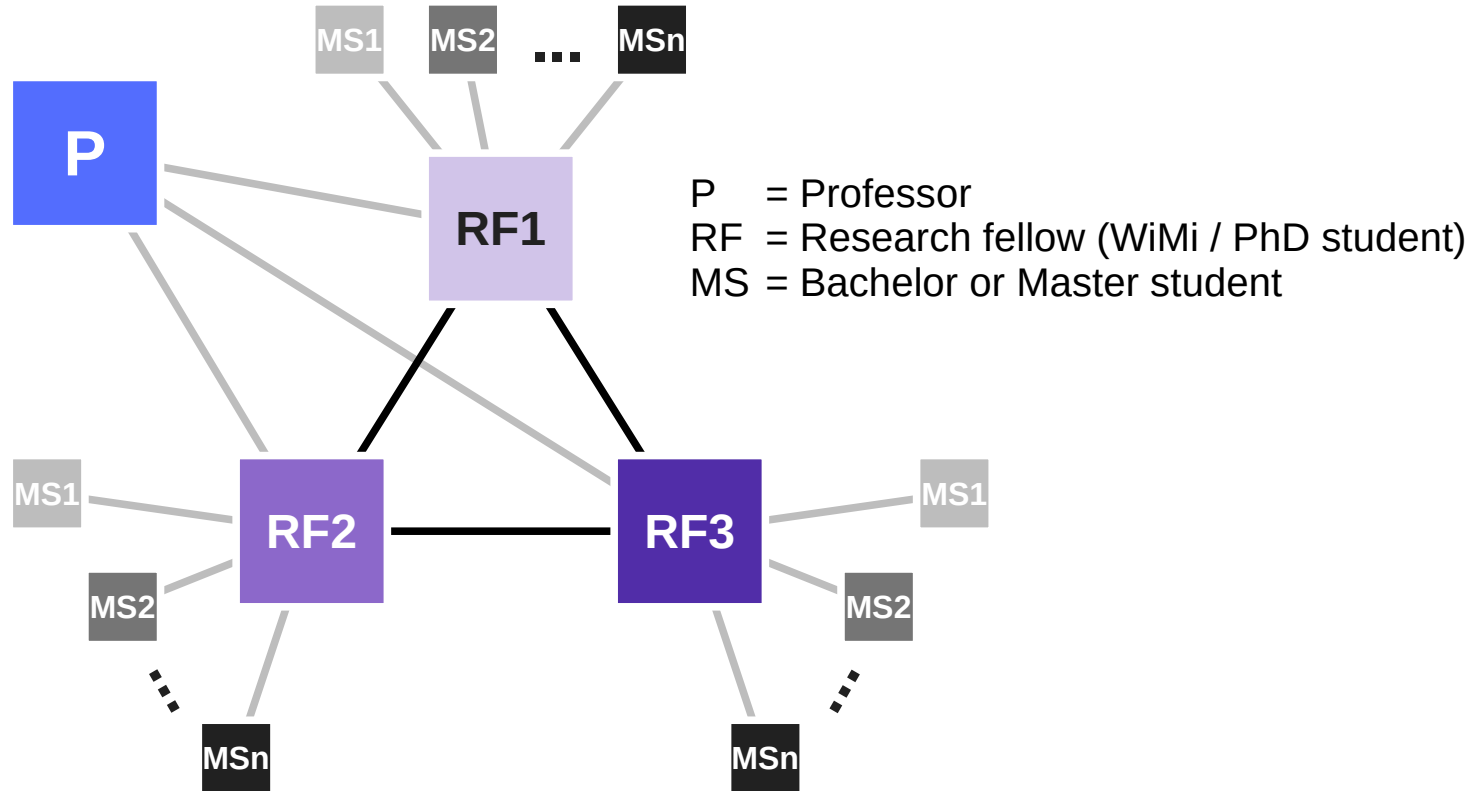
## 2. Project Management

# The Solo Founder Model



[1] The research fellow / PhD students acts as “lead programmer”

# The Peer Group Model





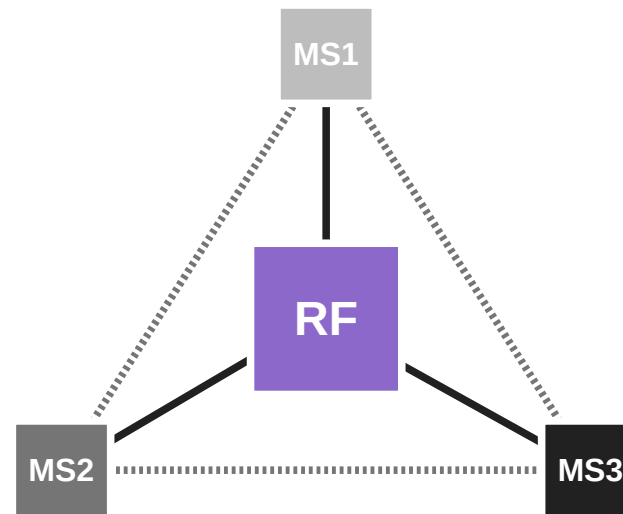
# End of Project

- Research project finished
- Startup created (or failed)

## 3. Lead Programming

# Lead Programmer [1]

- A lead programmer
  - Is an engineer who leads the development of a component / system
    - In case of solo founder: The system
    - In case of peer group: A key component
  - W.r.t. the component, is responsible for maintaining
    - Product vision and getting the features done
    - Architectural integrity and code quality
  - Manages other people as they contribute to the component
    - In the beginning, they write most of the code themselves
    - Later, they review and integrate code more than they write
- Other / helper engineers are
  - Students at the university (e.g. Master thesis students)
  - Open source volunteers



[1] A pun on Mills' "chief programmer teams"

# Lead Programmer / Helper Engineer Collaboration

- Lead programmer provides feature
  - If necessary breaks it down into tasks
  - Assigns tasks or waits for volunteers
- With helper, discusses design and implementation
  - Helps break down work into tasks / increments
  - Ideally, discussion is public (in open source anyway)
- In multiple increments, reviews and merges code
  - Helper provides sufficiently small commit
  - Lead programmer reviews, comments, integrates
- Until feature is fully implemented

Q

qdacity

Project overview

Repository

Issues 134

List

Boards

Labels

Service Desk

Milestones

Merge Requests 1

Requirements

CI / CD

Security & Compliance

Operations

Packages & Registries

Analytics

Wiki

Snippets

Members

Settings

Collapse sidebar

Professorship of Open Source Software > QDacity > qdacity > Issues

Open 134

Closed 560

All 694

Edit issues

New issue

Recent searches ▾

Search or filter results...

Created date ▾

↓

Add new Requirement Specification View

0 of 2 tasks completed

#700 · opened 1 week ago by Julia

Doing

0

updated 2 days ago

Update to Endpoint API to use Cloud Endpoints Portal

#699 · opened 2 weeks ago by Julia

Backend

To Do

0

updated 2 weeks ago

Save Document on switch between Text- & Coding Editor

#698 · opened 1 month ago by Julia

Bug

Frontend

To Do

0

updated 1 month ago

Vertically center star icon

#695 · opened 6 months ago by Andreas Kaufmann

Coding Editor

Frontend

To Do

0

updated 6 months ago

Saturation Metric Maximum

#694 · opened 7 months ago by Andreas Kaufmann

Backend

Bug

To Do

0

updated 7 months ago

Add symbol for codebookentry to the code status bar

#693 · opened 7 months ago by Julia

Frontend

Nice to have

0

updated 7 months ago

Implement Lombok to support a better code overview?

#692 · opened 8 months ago by Julia

Backend

0

updated 7 months ago

Save state of Code System

#690 · opened 8 months ago by Julia

Backend

Coding Editor

Frontend

0

updated 8 months ago

Notify about not-saved code book entries

#689 · opened 8 months ago by Julia

Coding Editor

Frontend

0

updated 8 months ago

Delete coding easier

#688 · opened 8 months ago by Julia

Coding Editor

Feature

Frontend

0

updated 8 months ago

Down arrow key to change code segment

#687 · opened 8 months ago by Julia

Coding Editor

Feature

Frontend

0

updated 8 months ago

Add Code by Drag'n'Drop

#686 · opened 8 months ago by Julia

Coding Editor

Feature

Frontend

0

updated 8 months ago

Code System Search delete button

#685 · opened 8 months ago by Julia

Feature

Frontend

0

updated 8 months ago

Better Solution for CodeIDs

#684 · opened 9 months ago by Julia

Backend

Coding Editor

0

updated 9 months ago

Code color inherited from category

0

Q qdacity

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Settings

Collapse sidebar

Professorship of Open Source Software > QDAcTy > qdacity > Issue Boards

Development ▾ Search or filter results...

Show labels Edit board Add list ▾ Add issues

Open570+

Add symbol for codebookentry to the code status bar

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Backend Coding Editor Frontend

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Notify about not-saved code book entries

Coding Editor Frontend

#689

Better Solution for CodeIDs

Backend Coding Editor

#684

Problems with Chrome

Bug Frontend Low Priority

#678

Delete coding easier

Coding Editor Feature Frontend

#688

Down arrow key to change code segment

Coding Editor Feature Frontend

#687

To Do660+

Update to Endpoint API to use Cloud Endpoints Portal

Backend

#699

Save Document on switch between Text- & Coding Editor

Bug Frontend

#698

Vertically center star icon

Coding Editor Frontend

#695

Saturation Metric Maximum

Backend Bug

#694

Code color inherited from category

Coding Editor Feature Frontend

#683

Duplicate code locations

Bug Coding Editor Frontend

#682

Updating coding brackets on rename

Bug Coding Editor Frontend

#681

Crash on switching documents

Bug Coding Editor

#680

Doing40+

Add new Requirement Specification View

#700

List support in Editor

Backend Feature

#645

Fix acceptance tests for pipeline

Dev Feature Refactoring

#673

Wiki Documentation

Dev Documentation Research

#633

In Review70+

Add sync for Meta Model attributes

#657

Finer grained merge

Feature Frontend

#666

Editable Conflict

Feature Frontend

#667

Sync positions in diff views for theirs and mine

Feature Frontend

#669

Deploying the NLP service

Backend Dev

#664

Remove coding when offline

Feature Frontend

#611

No Updates Before Sync Finished

Feature Frontend

#591

Closed

Restructure war folder

Frontend Refactoring

#86

Removing Codings

Bug Coding Editor Frontend

#274

getCurrentUser not working

Backend Bug

#327

Mixed Content

Bug Frontend

#169

General Refactoring

Frontend Refactoring

#171

Update App Engine SDK to 1.

Dev

#318

Add servlet for SSL challenge

Backend Feature

#270

Landing Page

Feature Frontend

#188

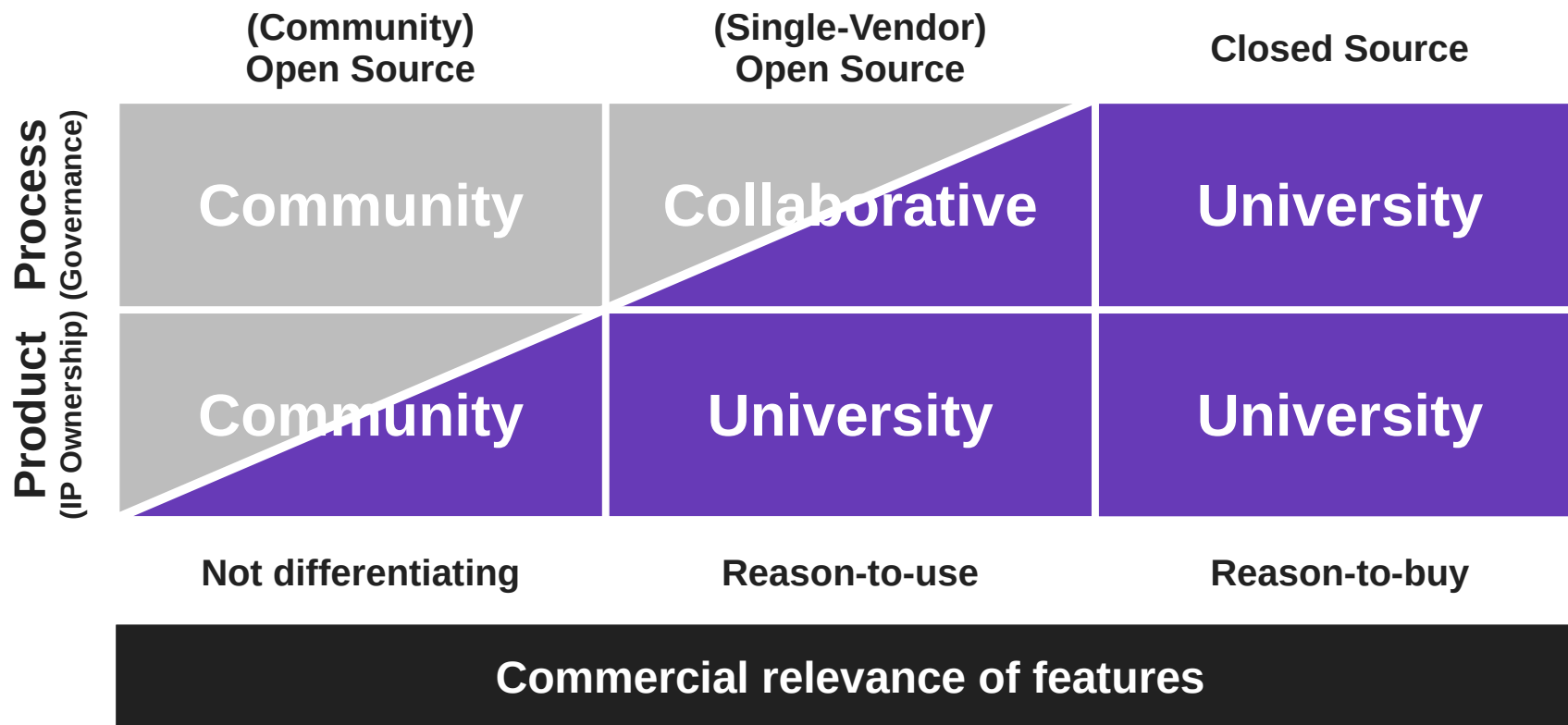
No Delete Btn for Validation

Frontend Refactoring

#188

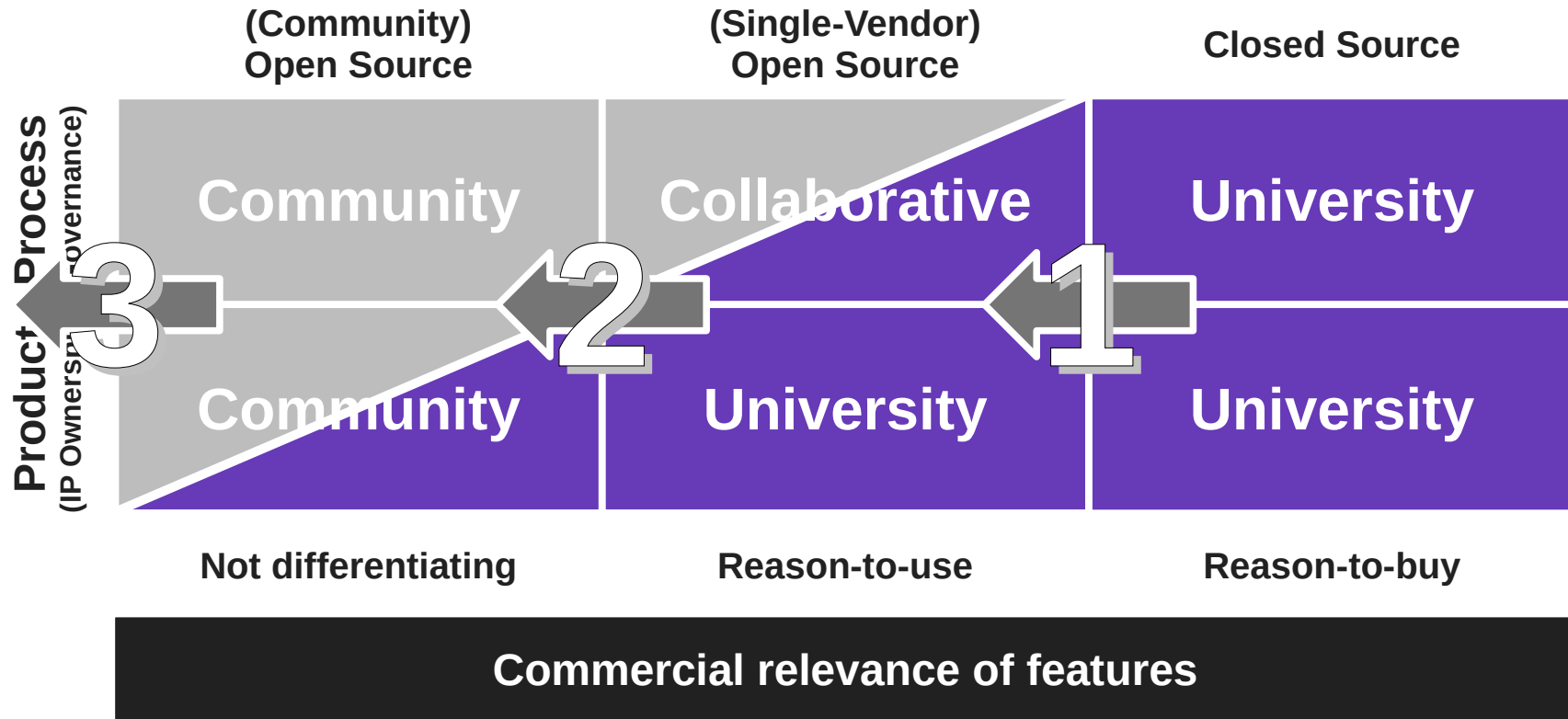
## 4. Open Source Strategy

# Open Source Community vs. University / Company

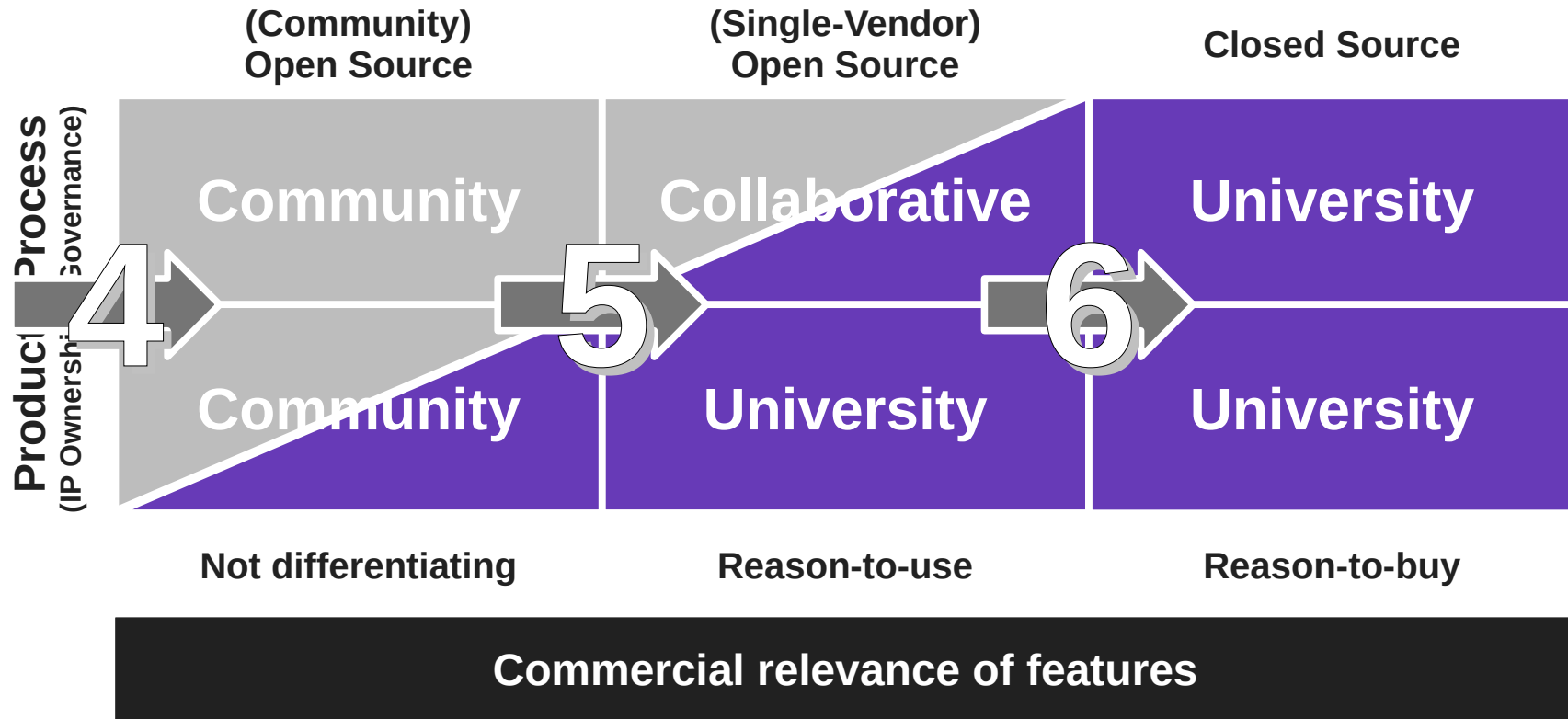




# Pushing out Features



# Pulling in Features

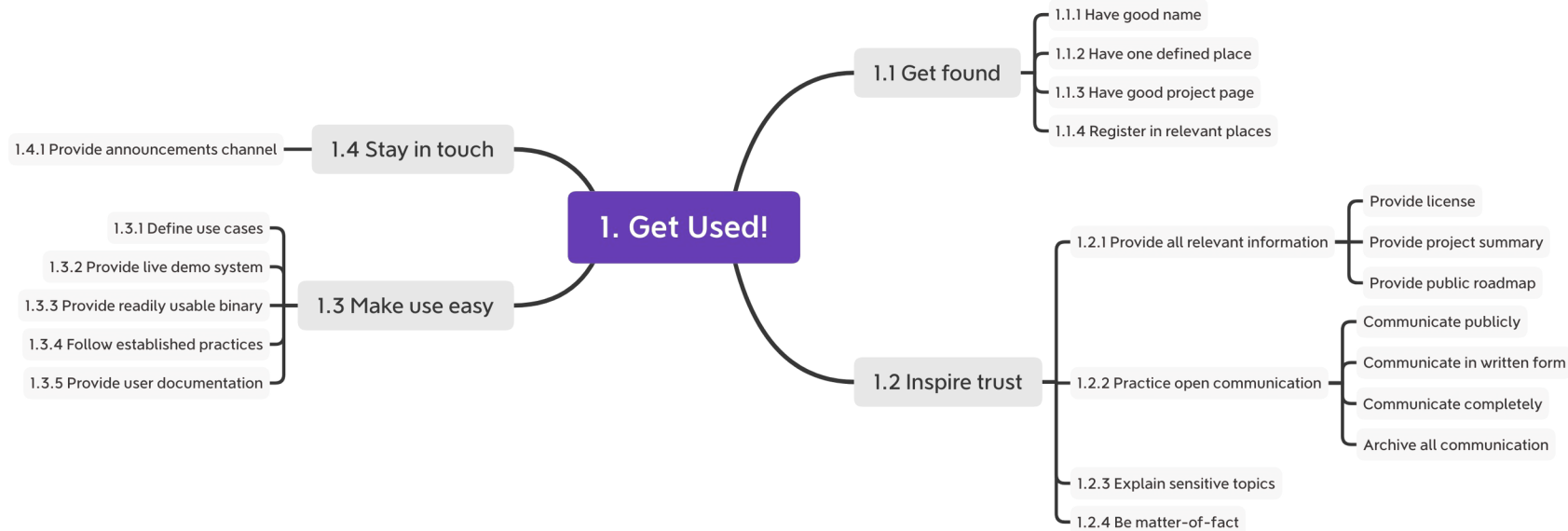


# Public Money, Public Code?

- Universities have both a non-profit and commercial part
  - Universities are tasked with research and teaching, among others
  - Universities are also tasked with exploiting their innovations
- It is the university's choice what to give away for free

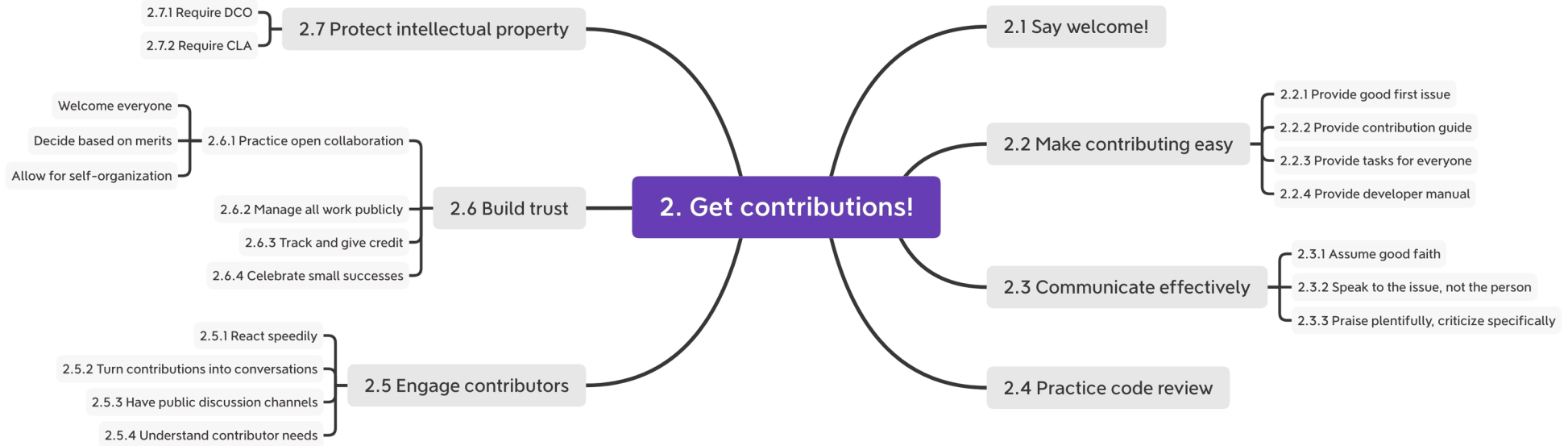
## 5. Getting Users

# Best Practices for Setting-up Shop and Getting Users



## 6. Getting Contributions

# Best Practices for Getting Contributions



# Summary

1. Research vs. startup
2. Project management
3. Lead programming
4. Open source strategy
5. Getting users
6. Getting contributions



# Thank you! Questions?

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- Contributions
  - None yet