How To Work With **BRILLLIANT** Developers

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TALENT is not enough

62
College Team

54
USA Olympic Dream Team

Charles Barkley
Larry Bird
Patrick Ewing
Magic Johnson
Michael Jordan
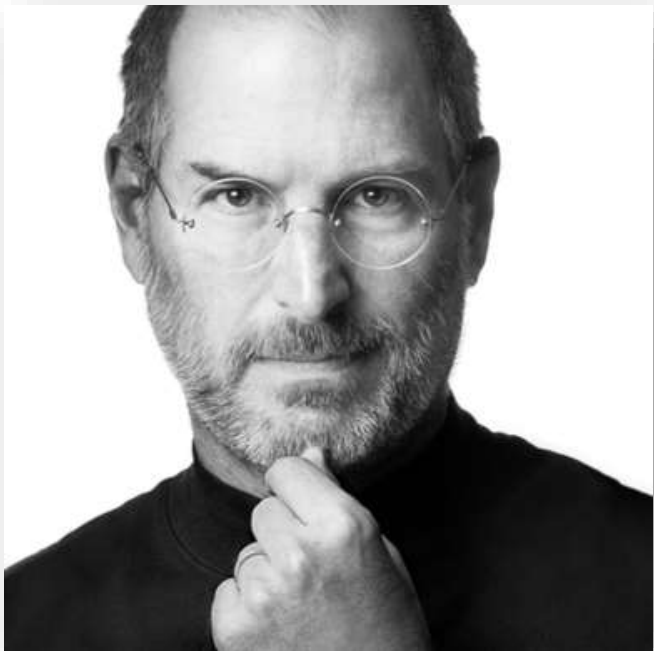Karl Malone
Scottie Pippen

Why **THIS** talk?

- Hiring superstars can backfire

- "Brilliance" is often productive dysfunction

- There are patterns to the brilliance in IT

- There are useful ways to mitigate dysfunctions

BRILLIANT personality traits

Idealism
There is a right way to do this.
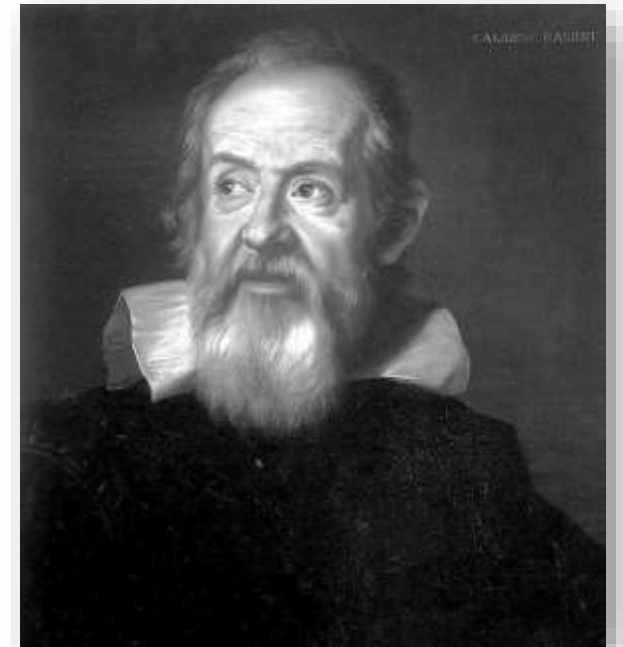

Steve Jobs

Technology Obsession
I can figure this out.

Thomas Edison

Iconoclasm
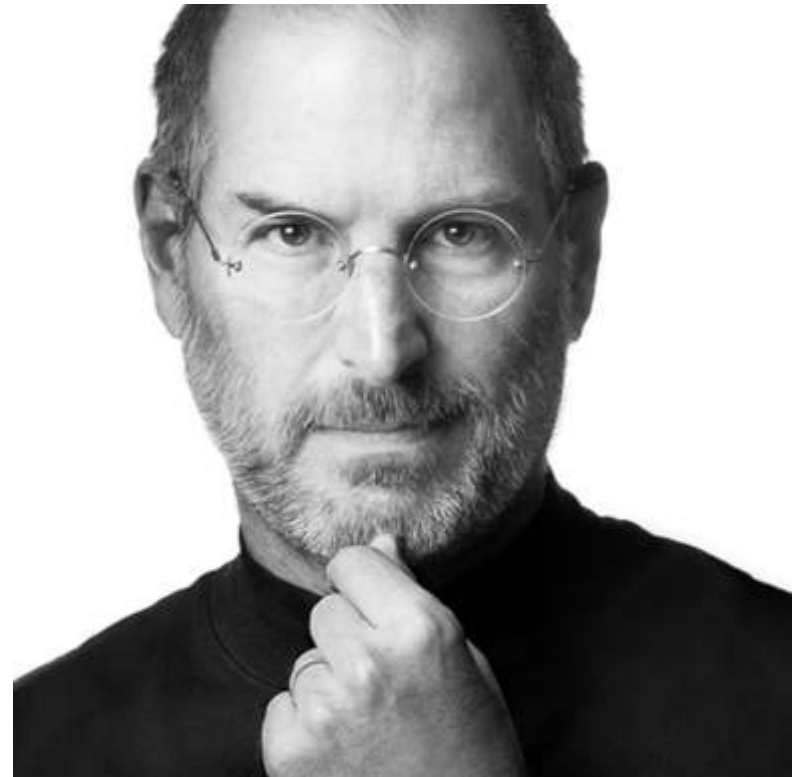*Everyone else is wrong.*

Galileo

the
IDEALIST

A little idealism can go a long way

Design **IDEALS** of Steve Jobs

- Simplicity & Minimalism

- Ease of use

- Beautiful without and within

- Elegance (Imputed Value)

Design Ideals in **DESKTOP COMPUTERS**

IBM PC

Macintosh (1984)

Design Ideals in **MP3 PLAYERS**

RIO MP3 player

iPod (2001)

Design ideals in **SMART PHONES**

Blackberry

iPhone (2007)

Unrestrained **IDEALISM**

NeXT Computer (1988)

- $100,000 Logo
- Perfect cube with 90° angles
- Beautiful inside and out
- Custom designed factories to handle 10,000 units / month
- Sold only 400 units / month

IDEALISM among programmers

We are using an old version of DataTables

Our jQuery is outdated

We should refactor our JS

Data duplicated across tables

The tables should be normalized

These tables don't meet accessibility standards

We should create a table template that uses semantic HTML

Our version of the Bootstrap is no longer maintained

We should update our UI template framework

There are no tests in the code base

Some of this data looks wrong

We need to validate the data

Why are some queries in repositories and others in services?

We should standardize query locations

Name	Short Name	Industry?	Status
Type to filter	Type to filter		
Association of American Medical Colleges	AAMC	No	Active
Bayer Healthcare Pharmaceuticals	Bayer	Yes	Active
Center for Cancer Research	CCR	No	Active
Center for Information Technology	CIT	No	Active
Center for Scientific Review	CSR	No	Active
Centers for Disease Control and Prevention	CDC	No	Active
Clinical Center	CLC	No	Active
Codman Neuro, a division of DePuy Orthopaedics, Inc.	Codman (DePuy)	Yes	Active
Cumberland Pharmaceuticals	Cumberland	Yes	Active
Department of Defense (DOD)	DoD	No	Active

Make it Work: Establish **TEAM** ideals

His Ideals:
- No tests
- Normalized databases
- Always validate data
- Ignore dependency updates
- Try the newest tools

Her Ideals:
- Test everything
- Design databases for efficiency
- Invalid data can be okay
- Keep dependencies updated
- Use established tools

Our Ideals
- Tests for all public methods
- Database tables normalized unless they need to be optimized for speed
- Product owner will determine if invalid data is an issue
- Outdated dependencies should be updated on a case-by-case basis

Make it Work: **CAPTURE** work to be done

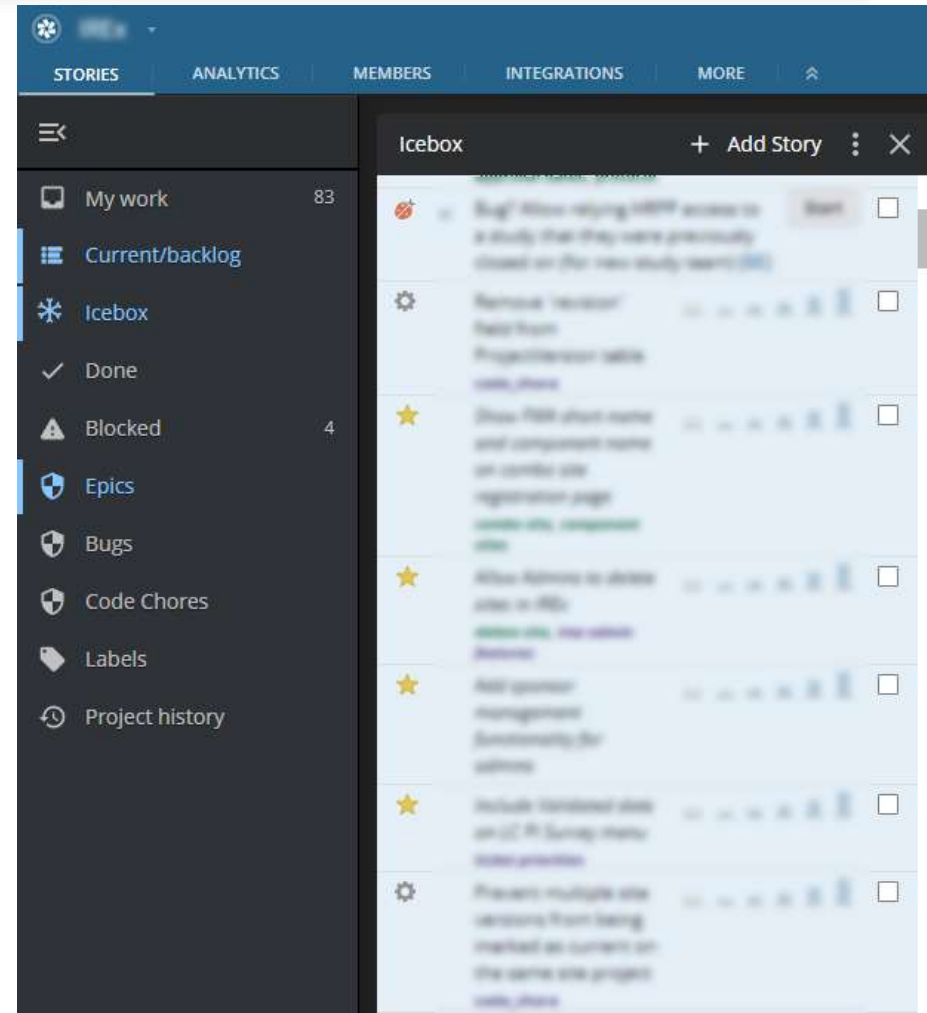| Create table display	Create a table template	Normalize database
Validate data	Standardize query location	Update jQuery dependency
Update DataTables	Update Bootstrap	Write tests

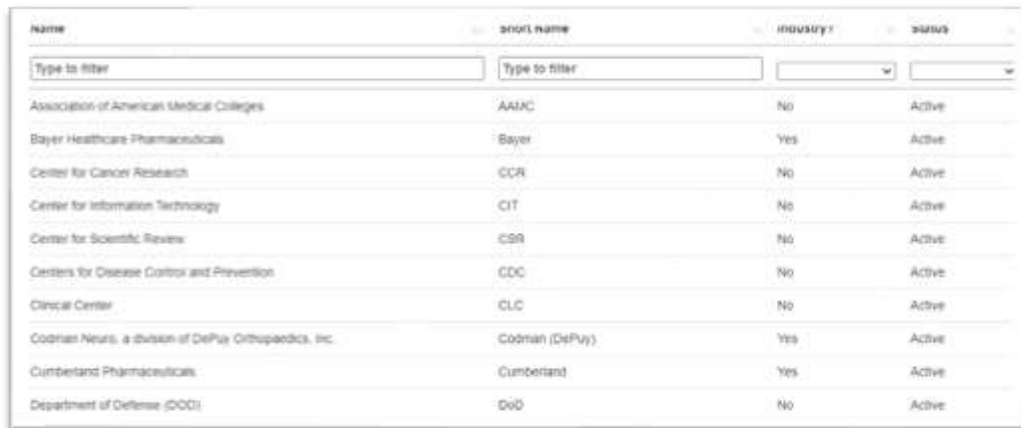# Make it Work: **PRIORITIZE** implementation

Do Now

Create table display

Create a table template

Name	Short name	Industry	Status
Type to filter	Type to filter		
Association of American Medical Colleges	AAMC	No	Active
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Codman Neuro, a division of DePuy Orthopaedics, Inc.	Codman (DePuy)	Yes	Active
Cumberland Pharmaceuticals	Cumberland	Yes	Active
Department of Defense (DOD)	DoD	No	Active

Do later

Normalize database

Validate data

Standardize query location

Update jQuery dependency

Update DataTables

Write tests

Update Bootstrap
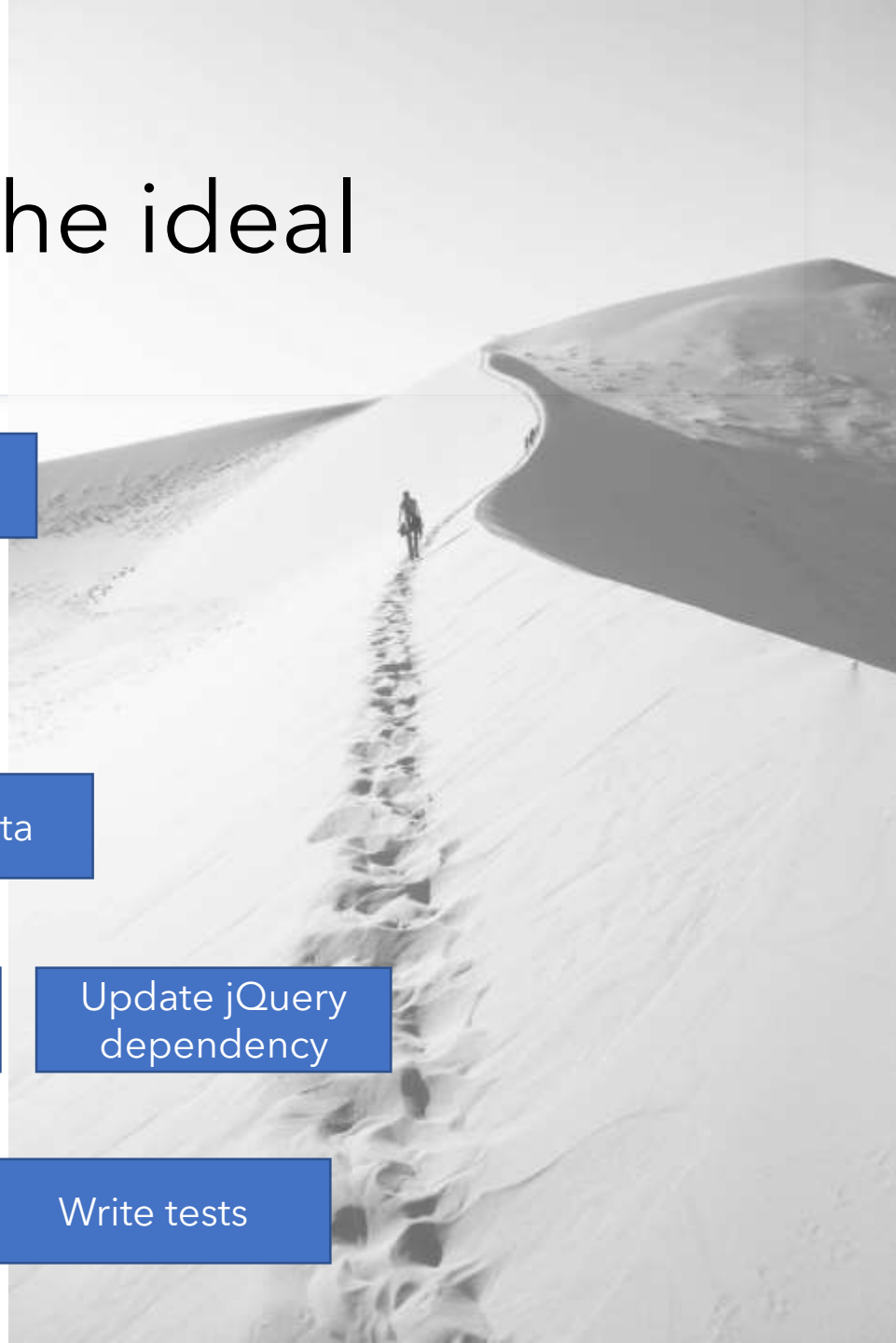
Make it Work: **ITERATE** toward the ideal

Ticket #1012 – Add column to an old table $+$ Use new table template

Ticket #1016 – Create read-only view $+$ Write tests

Ticket #1017 – BUG: User cannot load page $+$ Validate data

Ticket #1018 – Update jQuery and DataTables   Update DataTables   Update jQuery dependency

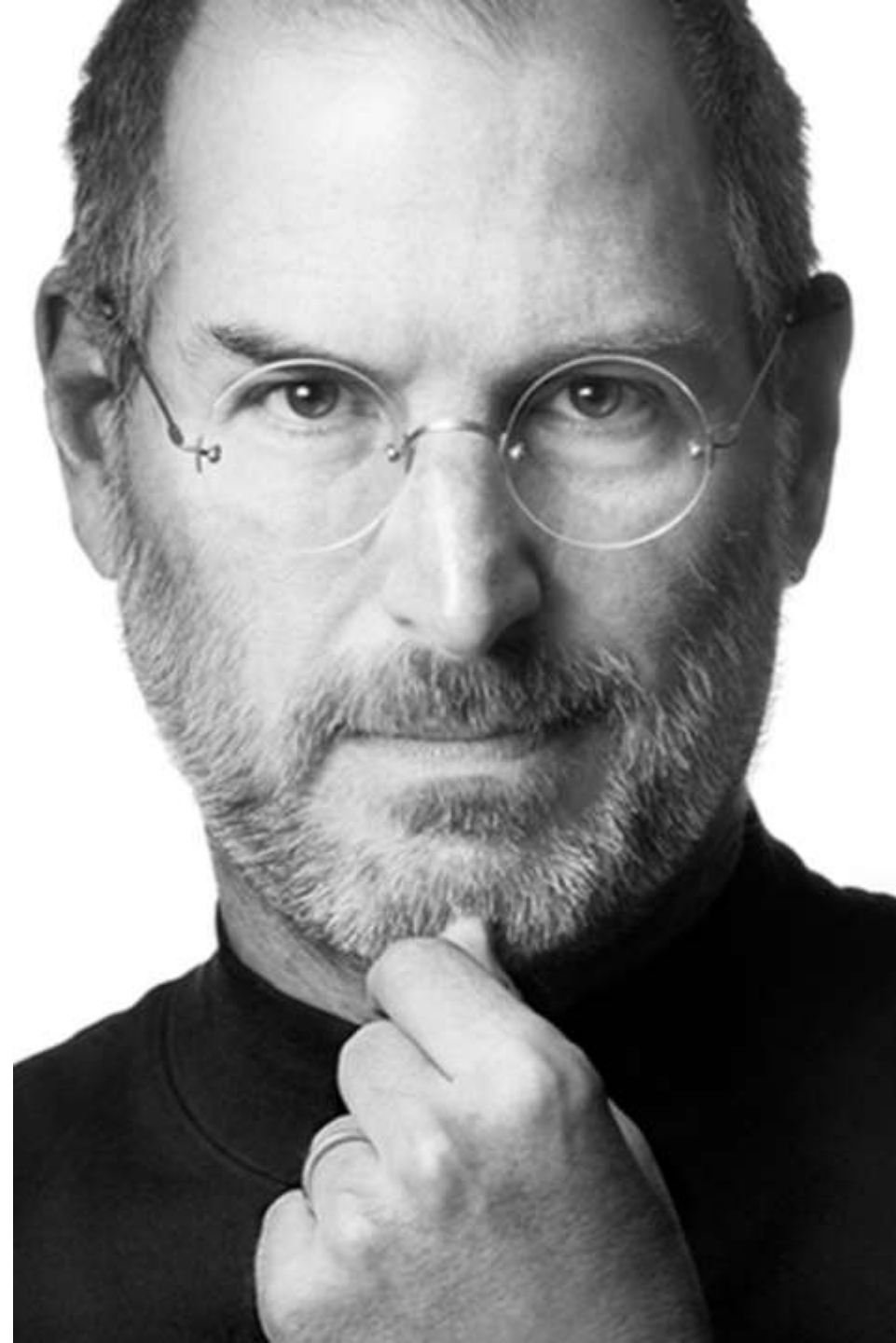**Ticket #1019++** – Create new feature $+$ Update Bootstrap   Write tests

Working with **IDEALISTS**

- Idealists want to achieve an ideal but need help balancing current priorities with their future vision

- Help idealists by:

  - Discussing and agreeing on team ideals

  - Capturing the work to be done

  - Prioritizing the implementation

  - Iterating toward the ideal

the
TECHNOLOGY-OBSESSED

There's a reason we work in tech instead of HR

Edison's amazing **TECHNICAL** focus
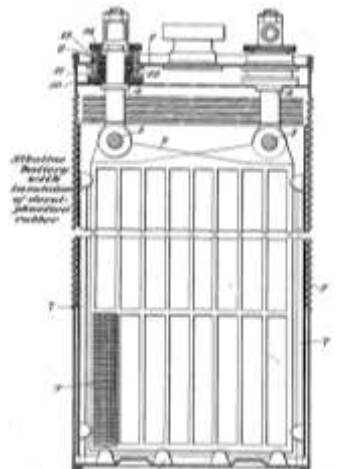

Phonograph

Light bulb and Electricity Infrastructure

Mining and Cement Manufacture

Fluoroscope

Alkaline Battery

Edison's abysmal **PEOPLE** skills

Swimming with George

"Mr. Edison is fortunate among other men in having been born without feeling."

– William Orton, Edison's aide

Proposing to Mary

TECH-FOCUS among programmers

"We didn't become programmers because we like working with people.

As a rule we find interpersonal relationships messy and unpredictable.

We like the clean and predictable behavior of the machines that we program."

Robert C. Martin, *The Clean Coder*

Tech-focused in **INTER-PERSONAL** settings

- Not good at small talk
- Conversation limited to technical topics
- Assumes others understand their perspective
- Not good with ambiguity

Tech-focused with **STAKEHOLDERS**

- Struggle to understand "big picture" priorities
- Focus on technical details
- May be disrespectful to less technical people

Make it Work: If **COMMUNICATION** is not your skill

- Keep working on it

- Find an understanding team

- Be respectful of others

- When communicating, assume the other person has no idea what you're talking about

Make it Work: Be **PRECISE** in communication

Ambiguous
1. We should work on this
2. I like that option
3. I might consider that
4. That seems important
5. I'm not sure that will work

Clear
1. Mark will do this by 1:00 today
2. Yes, I approve of this plan
3. I'll get back to you tomorrow
4. Work on this immediately
5. No, we will not do that

Make it Work: Be **PREDICTABLE**

- Have an agenda or purpose for meetings

- Schedule events in advance

- Clarify expectations on all processes

- Give early warning if processes will change

- Be transparent and over-communicate

Make it Work: Play to our **STRENGHTS**

Working with the **TECH-FOCUSED**

- Tech-focused folks love working with technology but need help working with other people

- We can work together by
    - Setting boundaries for mutual respect
    - Being precise and explicit in our speech
    - Making expectations predictable
    - Letting people play to their strengths
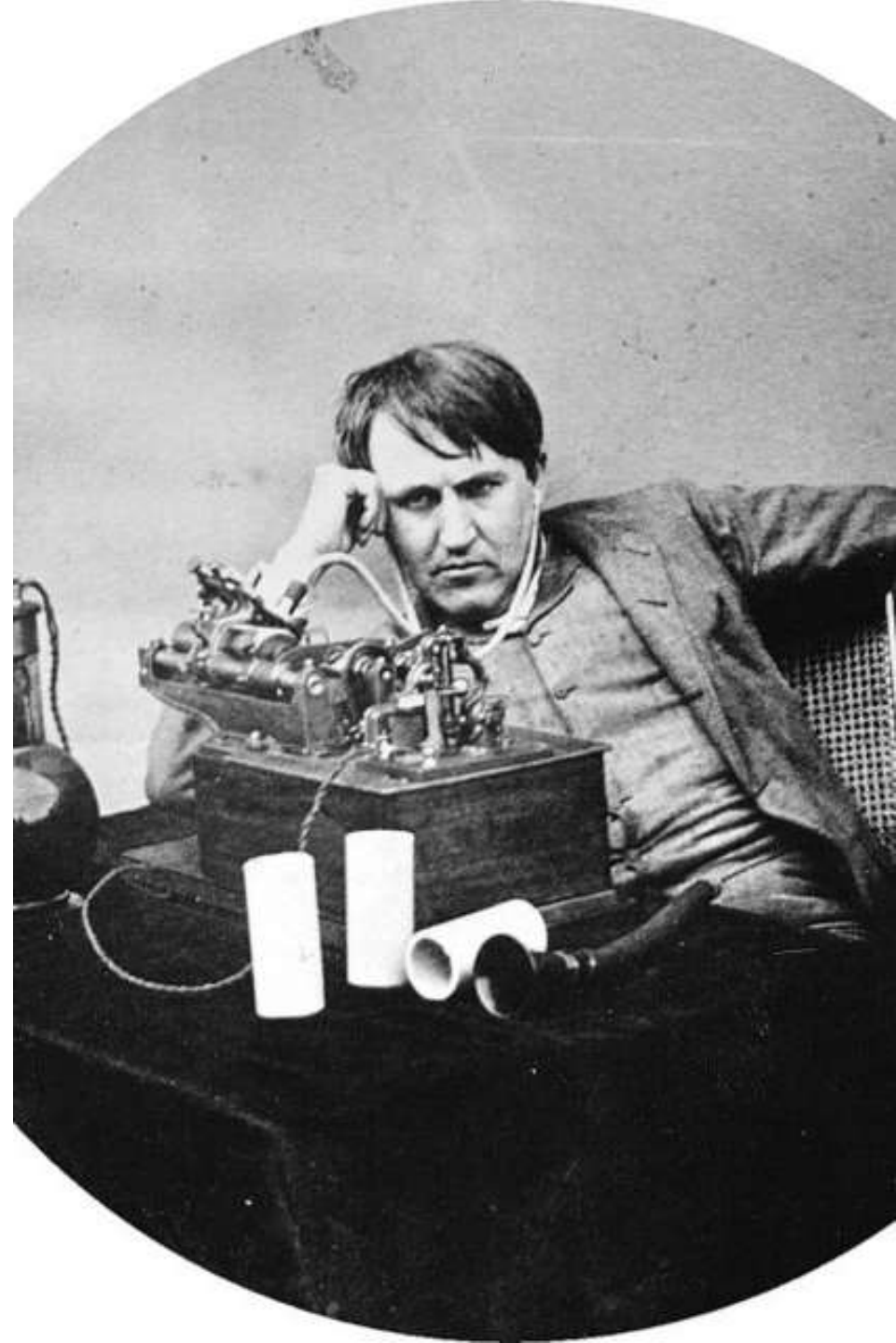
the
ICONOCLAST

A dash of disagreement makes every team better

Copernicus's **IDEA**

- 1473 – Copernicus born

- 1513 – 1543 – Copernicus made astronomical observations and formulated his heliocentric theory, which he refused to publish

- 1542 – at age 69, Copernicus finally submitted his heliocentric theory for publication

- 1543 – Copernicus died
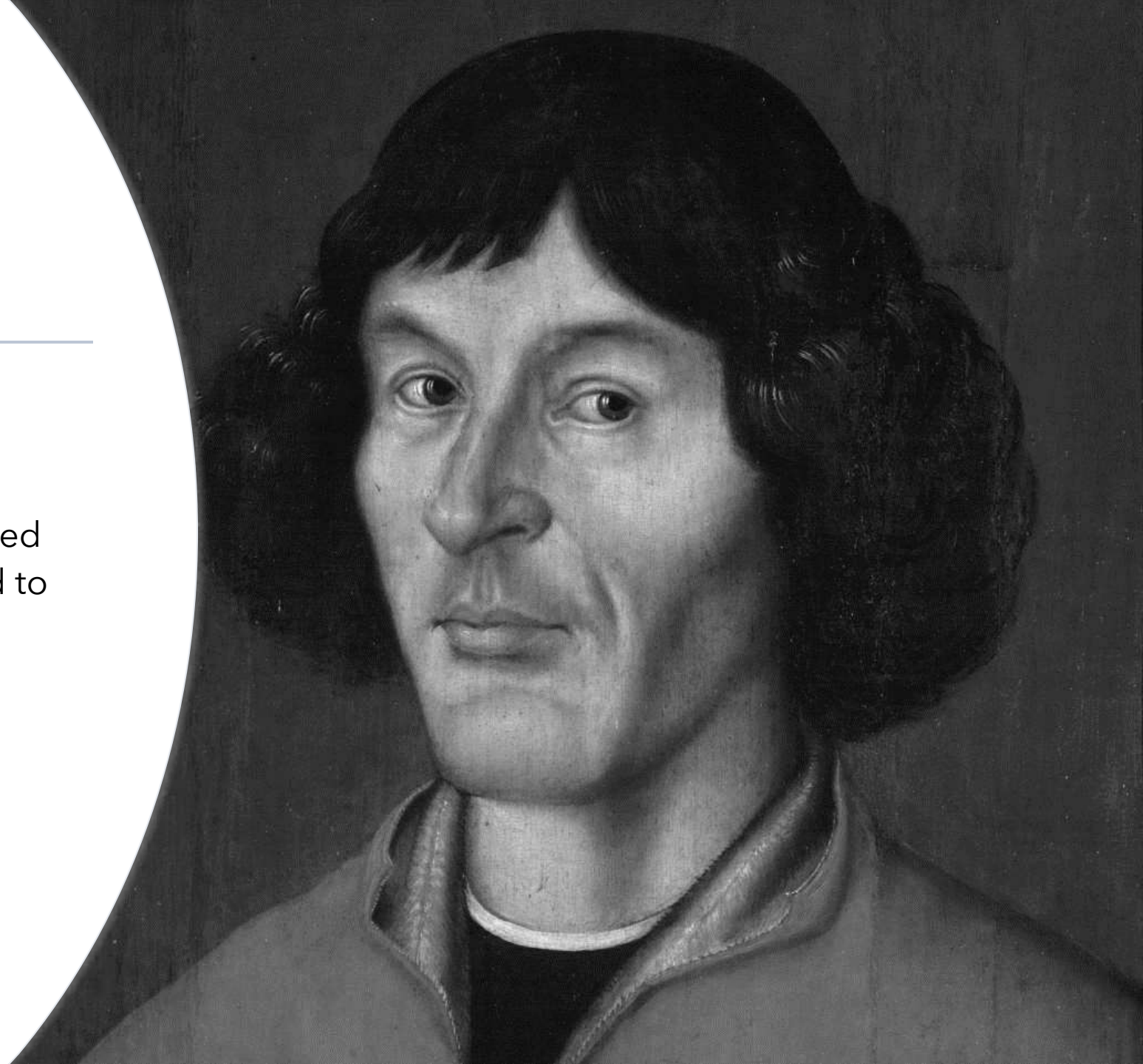
Galileo's **DISSENT**

- 60 years after Copernicus, people still believe earth was center of universe

- 1608 - Galileo invented a stronger telescope

- 1615 – Galileo said the earth circles the sun

- 1616 – Church tells Galileo to never hold that thought again

- 1632 – With pope's permission, Galileo publishes book arguing earth circles sun

- 1633 – Galileo sentenced to house arrest

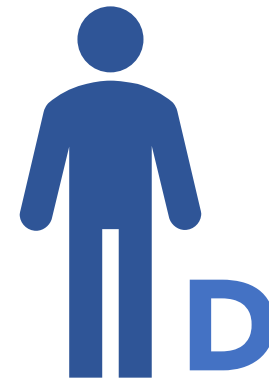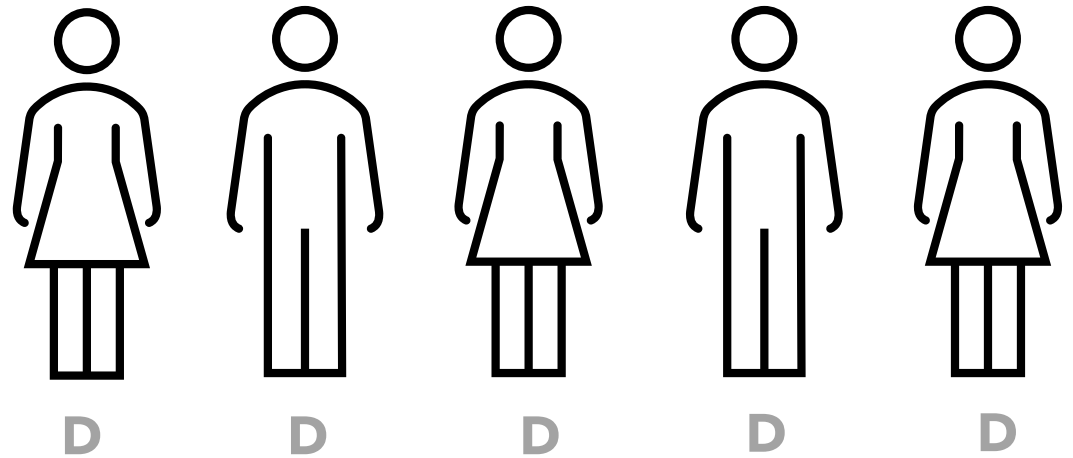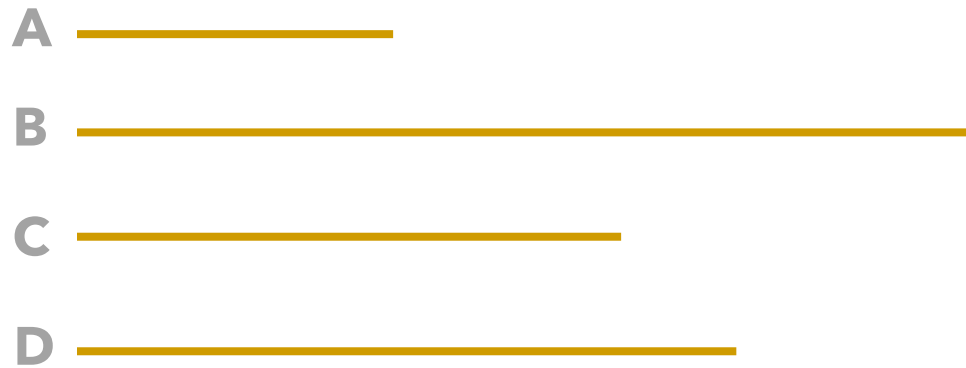- 1642 – Galileo dies, still under house arrest

DISSENT among programmers
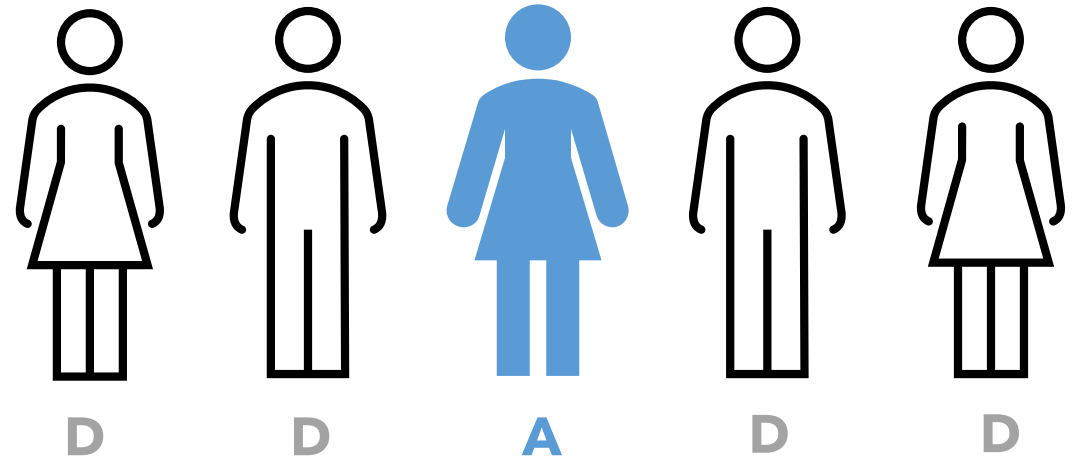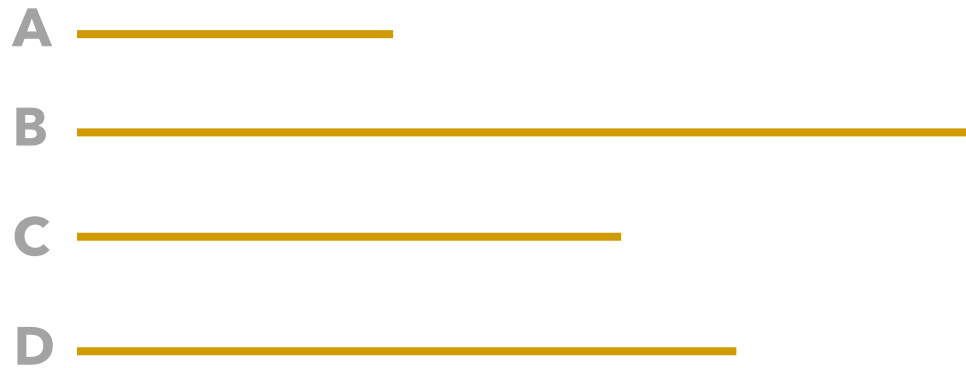
?

Challenges
conventional
wisdom

?

Asks hypothetical
questions about
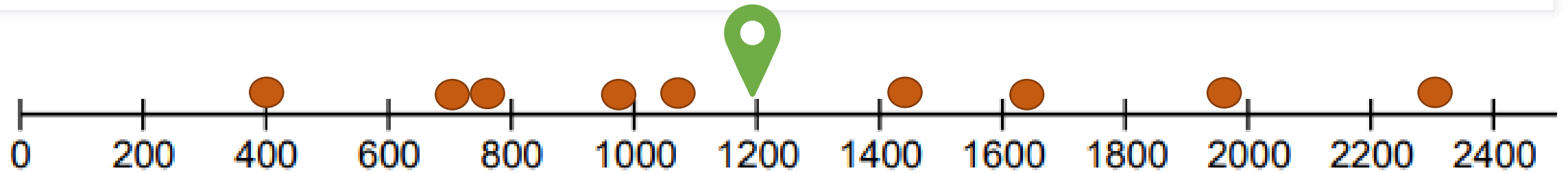possible
scenarios

The Need For **DISAGREEMENT**

The Need For **DISAGREEMENT**

Make it Work: Find the **COMPROMISE**

1,198 pounds

"The best decisions are a product of disagreement and contest."
- Harri Oinas-Kukkonen

Make it Work: Promote **MUTUAL PURPOSE**

- Different backgrounds
- Different skills
- Different ideas
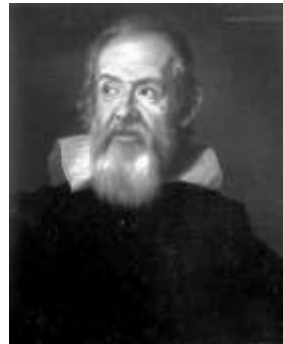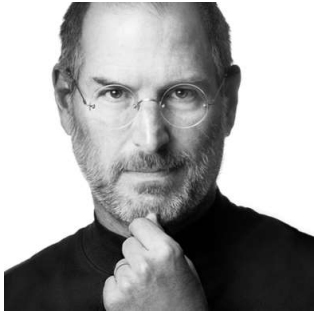- Different approaches
- Common goal – mutual success

Working with ICONOCLASTS

- Iconoclasts are willing to disagree when others won't, but they risk being alienated or silenced.

- Work with iconoclasts by:
    - Encouraging respectful disagreement
    - Finding compromise when possible
    - Promoting mutual purpose
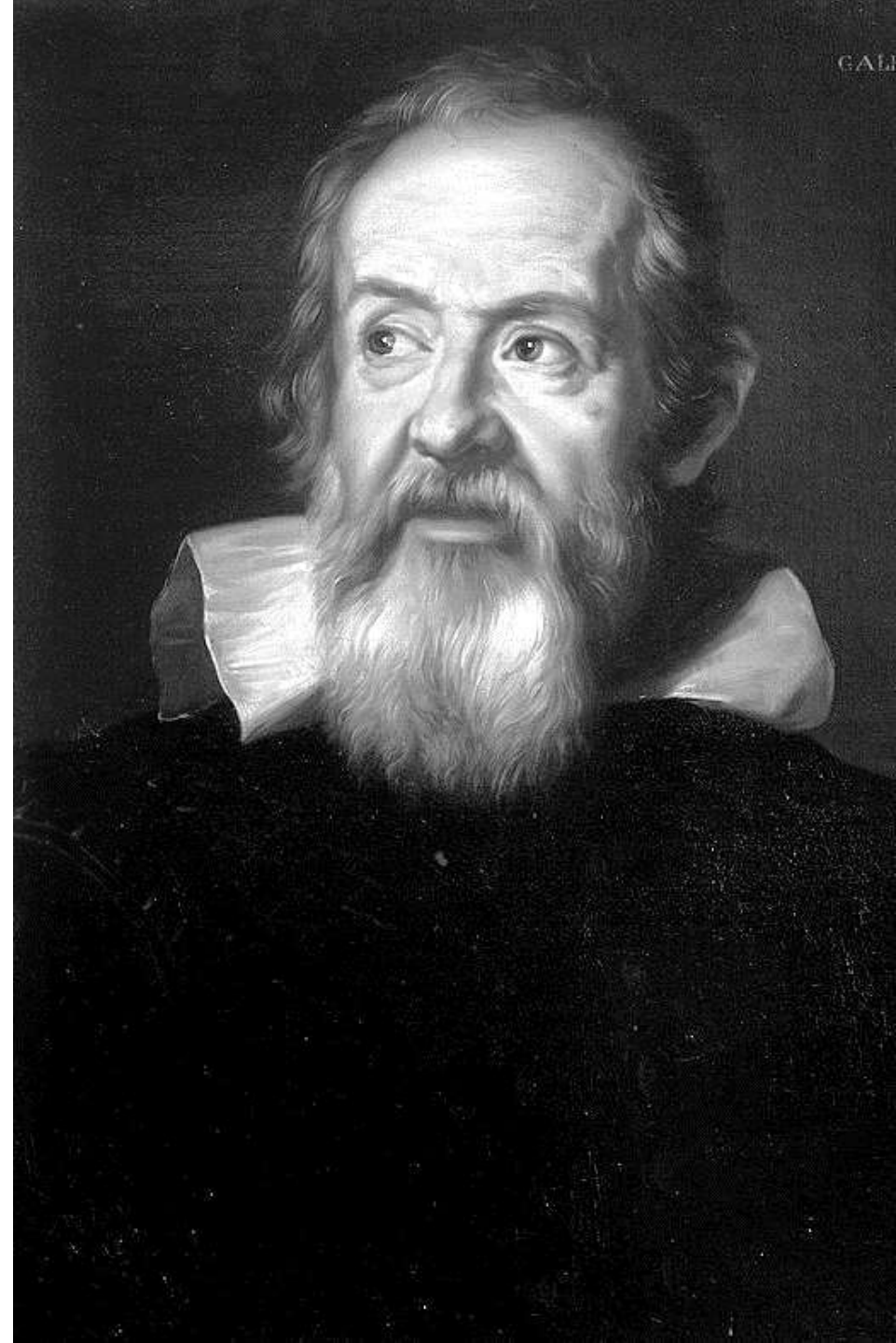
CONCLUSION

It takes work to turn brilliant developers into a brilliant team.

BIBLIOGRAPHY of helpful books

An Employer's Guide To Managing Professionals on the Autism Spectrum by Marcia Scheiner
A wonderful description of working with folks on the spectrum with practical suggestions for leaders.

The Paradox of Choice by Barry Schwartz
Explains how too many choices can be debilitating and what to do about it.

The Wisdom of Crowds by James Surowiecki
Exploration of how groups of independent thinkers can be "smarter" than any individual.

Dreaming in Code by Scott Rosenberg
Story of a team of talented, well-funded developers who were not able to create the software they dreamed of.

Crucial Conversations by Kerry Patterson, et. al.
Insightful and practical suggestions for talking with people, especially those who disagree

Fit by Warren Kennaugh
Argues that a talented person needs to find a work culture that fits his personality in order to excel.

Steve Jobs by Walter Isaacson
Authorized biography of Steve Jobs that reveals how his ideology was a two-edged sword.

Edison by Edmund Morris
Biography of Thomas Edison, oddly written backwards. Read from last chapter to first.