

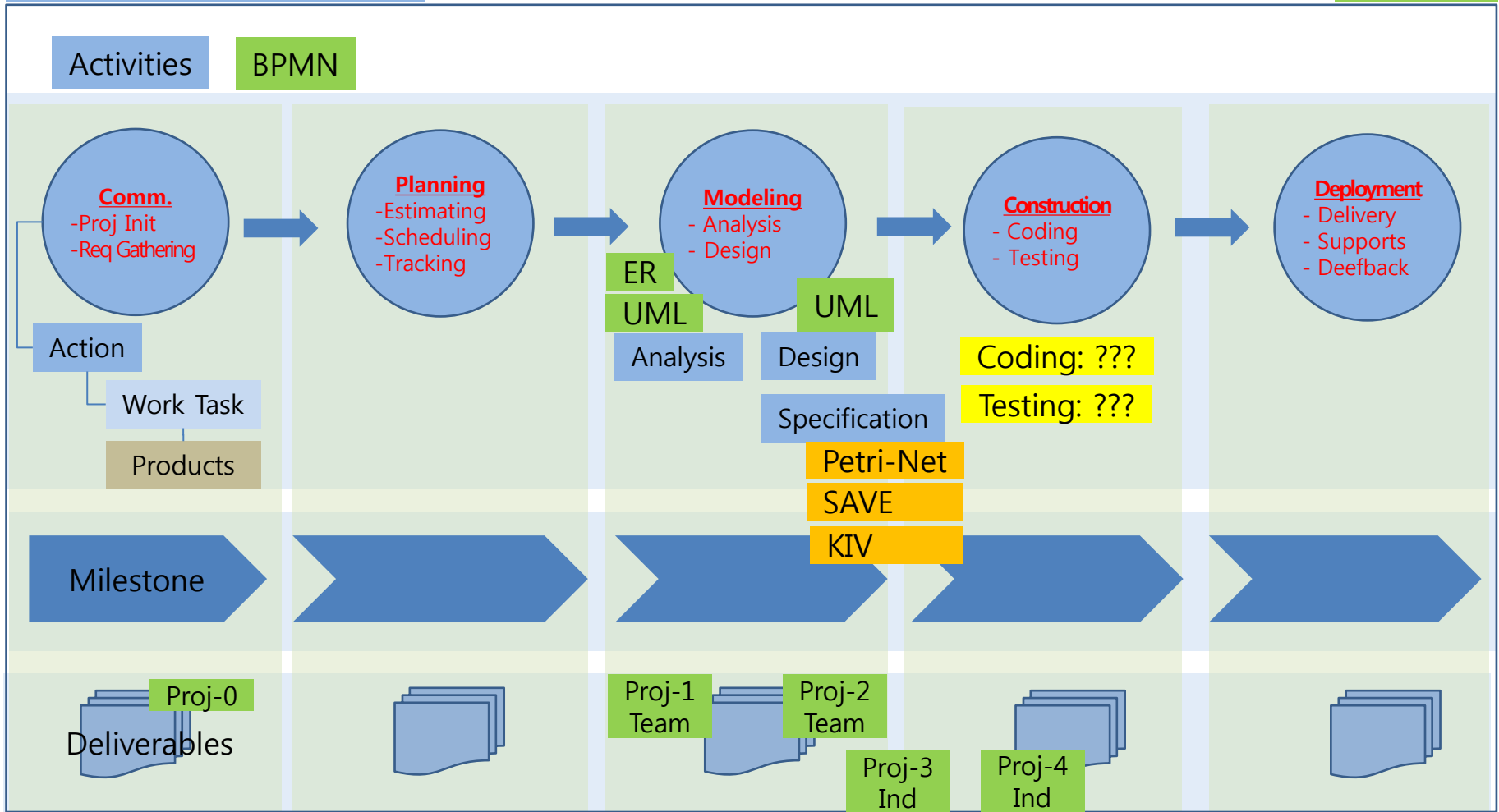
# SE Summary

Fall 2019

# A Process Framework

# Production Cell

# BEE-UP



## Umbrella Activities

SW Project Management

SW Quality Assurance

SW Configuration Management

Risk Management Management

# A Process Framework

## Process framework

**Framework activities**

**Actions**

**work tasks**

**work products**

**milestones & deliverables**

**QA checkpoints**

**Umbrella Activities**

- *Process framework*: The foundation for a complete software process by identifying a small number of framework activities that are applicable to all software projects.
  - *Software process*: a framework for the tasks that are required to build high-quality software.
  - *Software Engineering Actions*: a collection of related tasks that produced a major software engineering work product.

# Framework Activities

- Communication
- Planning
- [Activity] Modeling
  - [Action] Analysis of requirements
    - [work task] requirement gathering
    - [work task] elaboration
    - [work task] negotiation
    - [work task] specification
    - [work task] validation
  - [Action] Design
    - [work task] data design
    - [work task] architecture design
    - [work task] interface design
    - [work task] component-level design
- Construction
  - Code generation
  - Testing
- Deployment

# Umbrella Activities

- Software project management
- Formal technical reviews
- Software quality assurance
- Software configuration management
- Work product preparation and production
- Reusability management
- Measurement
- Risk management

# Mother Tongues

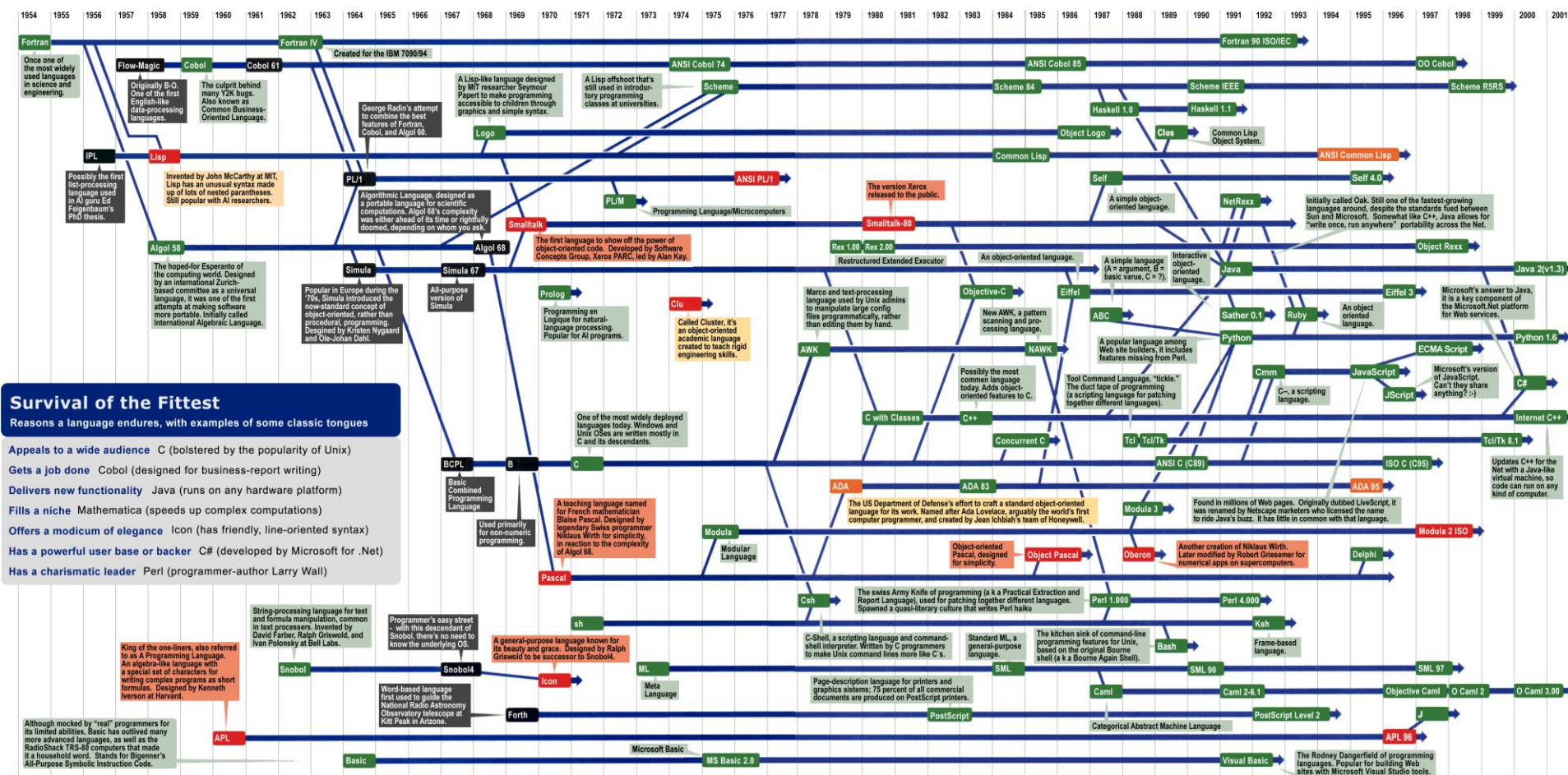
Tracing the roots of computer languages through the ages

Just like half of the world's spoken tongues, most of the 2,300-plus computer programming languages are either endangered or extinct. As powerhouses C/C++, Visual Basic, Cobol, Java and other modern source codes dominate our systems, hundreds of older languages are running out of life.

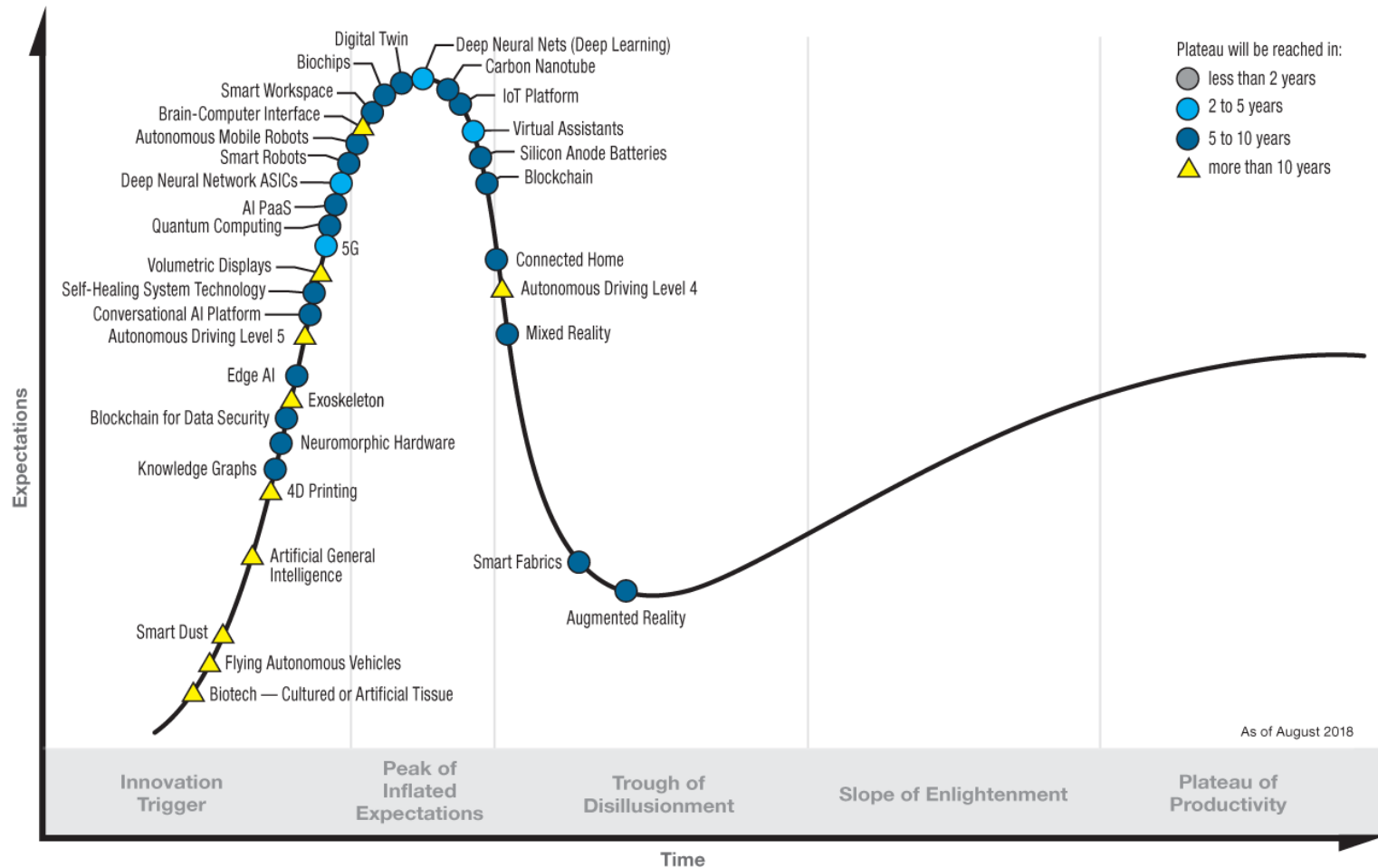
An ad hoc collection of engineers-electronic lexicographers, if you will-aim to save, or at least document the lingo of classic software. They're combing the globe's 9 million developers in search of coders still fluent in these nearly forgotten lingua frangas. Among the most endangered are Ada, APL, B (the predecessor of C), Lsp, Oberon, Smalltalk, and Simula.

Code-raker Grady Booch, Rational Software's chief scientist, is working with the Computer History Museum in Silicon Valley to record and, in some cases, maintain languages by writing new compilers so our ever-changing hardware can grok the code. Why bother? "They tell us about the state of software practice, the minds of their inventors, and the technical, social, and economic forces that shaped history at the time," Booch explains. "They'll provide the raw material for software archaeologists, historians, and developers to learn what worked, what was brilliant, and what was an utter failure." Here's a peek at the strongest branches of programming's family tree. For a nearly exhaustive rundown, check out the Language List at [HTTP://www.informatik.uni-freiburg.de/Java/misc/lang\\_list.html](http://www.informatik.uni-freiburg.de/Java/misc/lang_list.html). - Michael Mendeno

Key	
1954	Year Introduced
Active	thousands of users
Protected	taught at universities; compilers available
Endangered	usage dropping off
Extinct	no known active users or up-to-date compilers
Lineage continues	



# Hype Cycle for Emerging Technologies, 2018



[gartner.com/SmarterWithGartner](https://gartner.com/SmarterWithGartner)

Source: Gartner (August 2018)

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