Technologies That Will Be Around in 21 Years

Adam Johnson

Me

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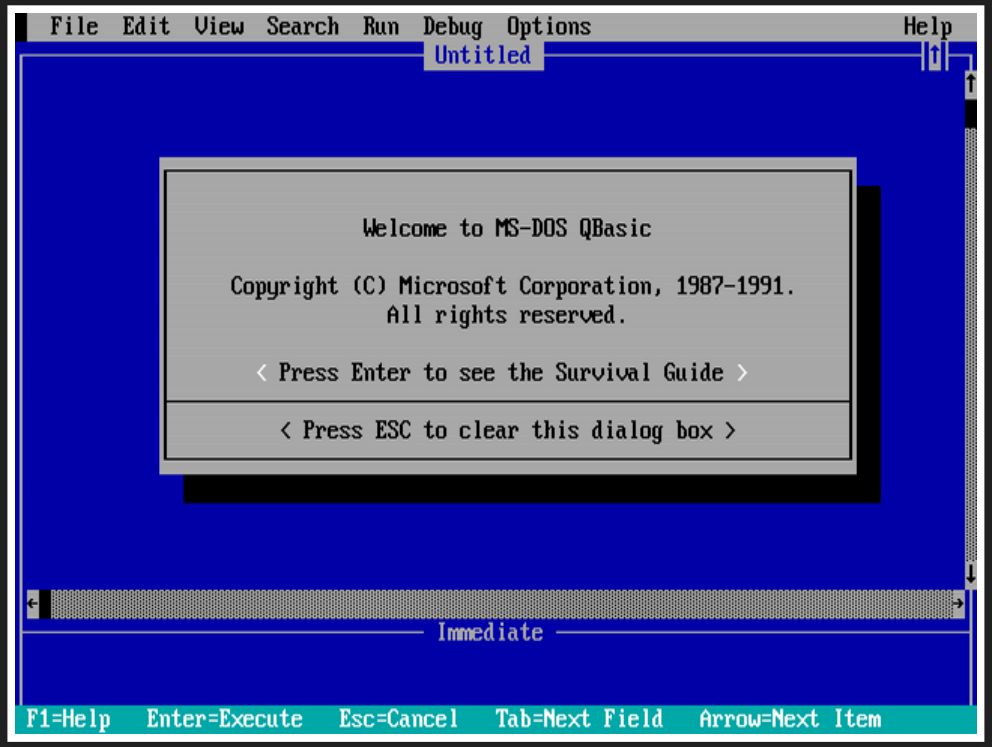
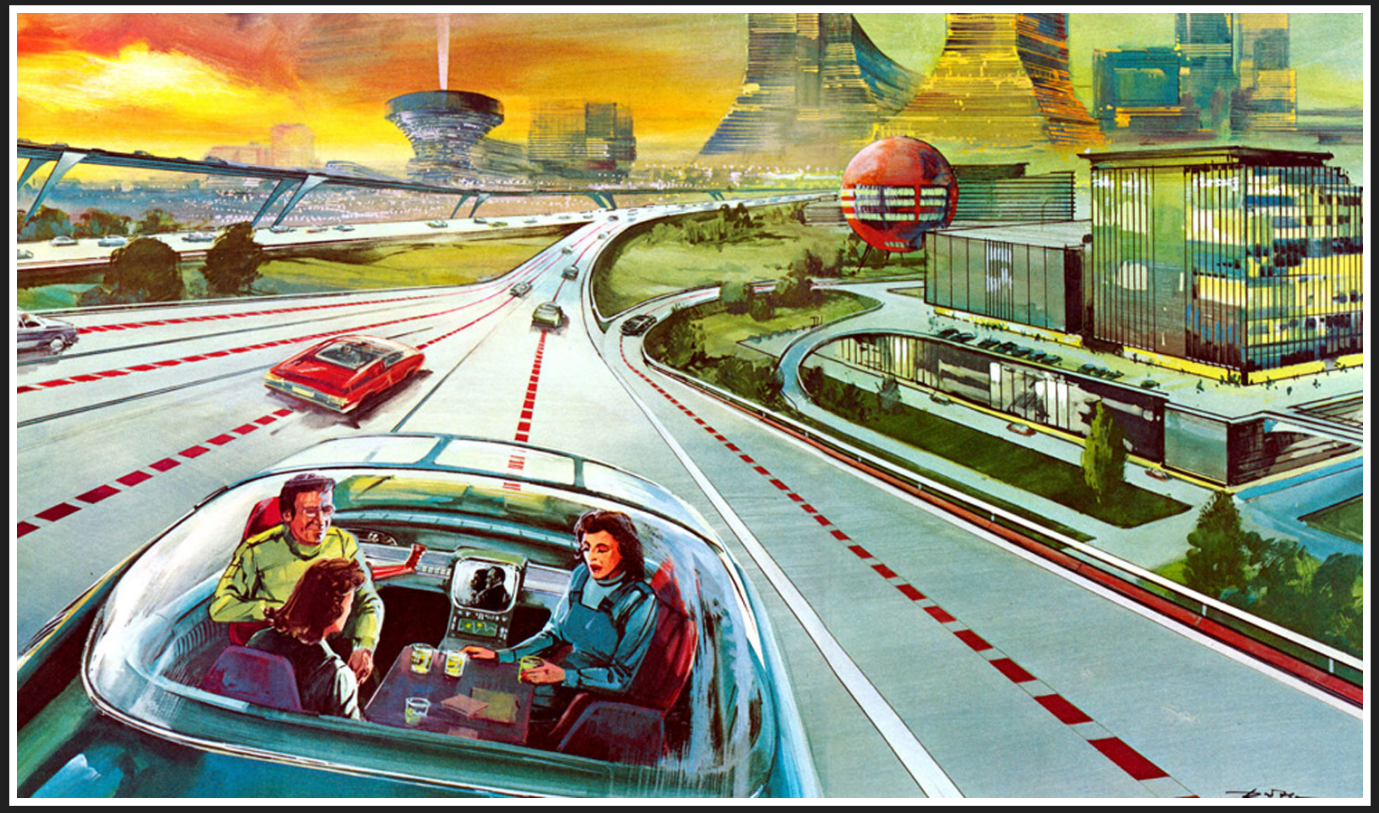
My Past

Started coding 21 years ago on QuickBasic:



My Future?



The question, "What's going to change in the next 10 years?" is a popular one in nearly all industries...

...you may forget to look at a simpler and more important question: "What's not going to change in the next ten years?"

Jeff Bezos and Warren Buffett agree on this question being the more important of the two.

https://fs.blog/2018/11/staying-the-same/

Lindy Effect

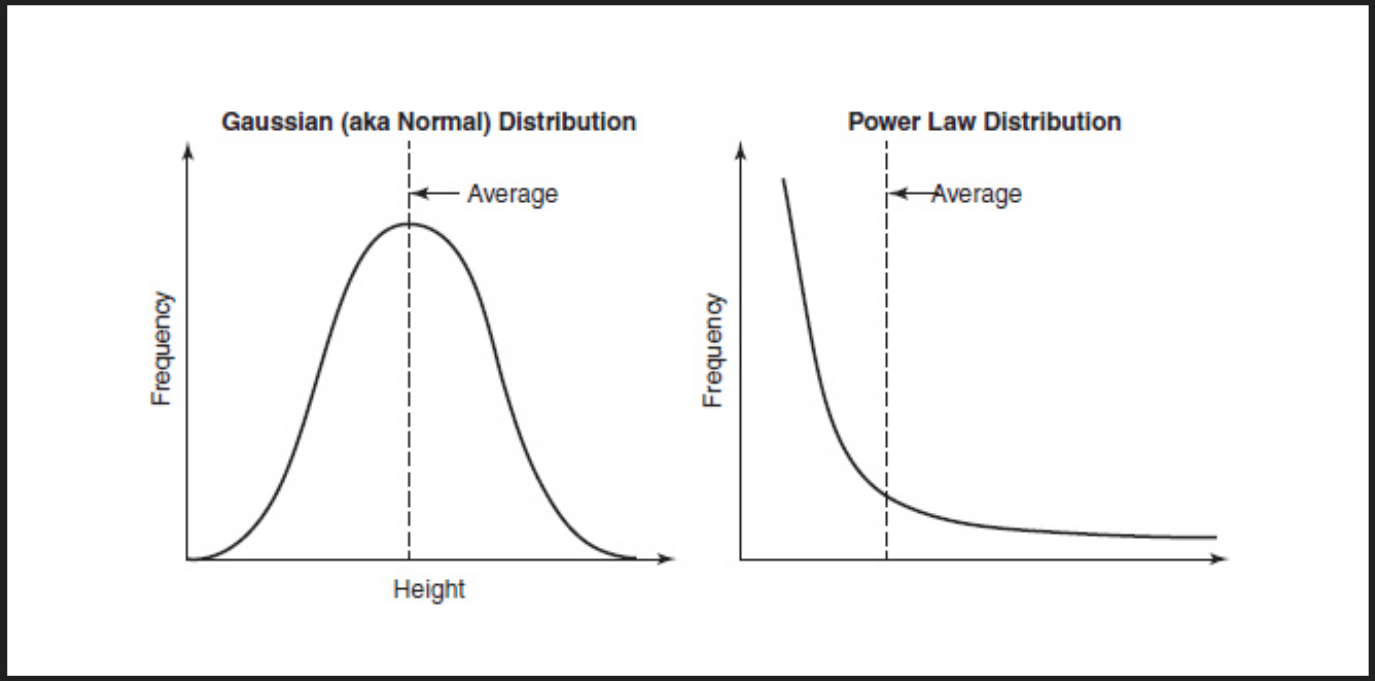
For the perishable, every additional day in its life translates into a shorter additional life expectancy. For the nonperishable, every additional day may imply a longer life expectancy. So the longer a technology lives, the longer it can be expected to live.

Nassim Taleb, Antifragile

Lindy Effect

COMPARATIVE LIFE EXPECTANCY	*DOMAIN*	*PROBABILITY DISTRIBUTION*
The young is expected to live longer than the old.	Perishable: life of humans and other animals	Gaussian (or close, from same type of family)
LINDY EFFECT. The old is expected to stay longer than the young in proportion to their age.	Non-perishable informational: life of intellectual production, lifetime of genera	Power law

Gaussian vs Power Law



Copernican/Mediocrity Principle

Six Technologies That Will Probably Be Around in 21 Years

Python

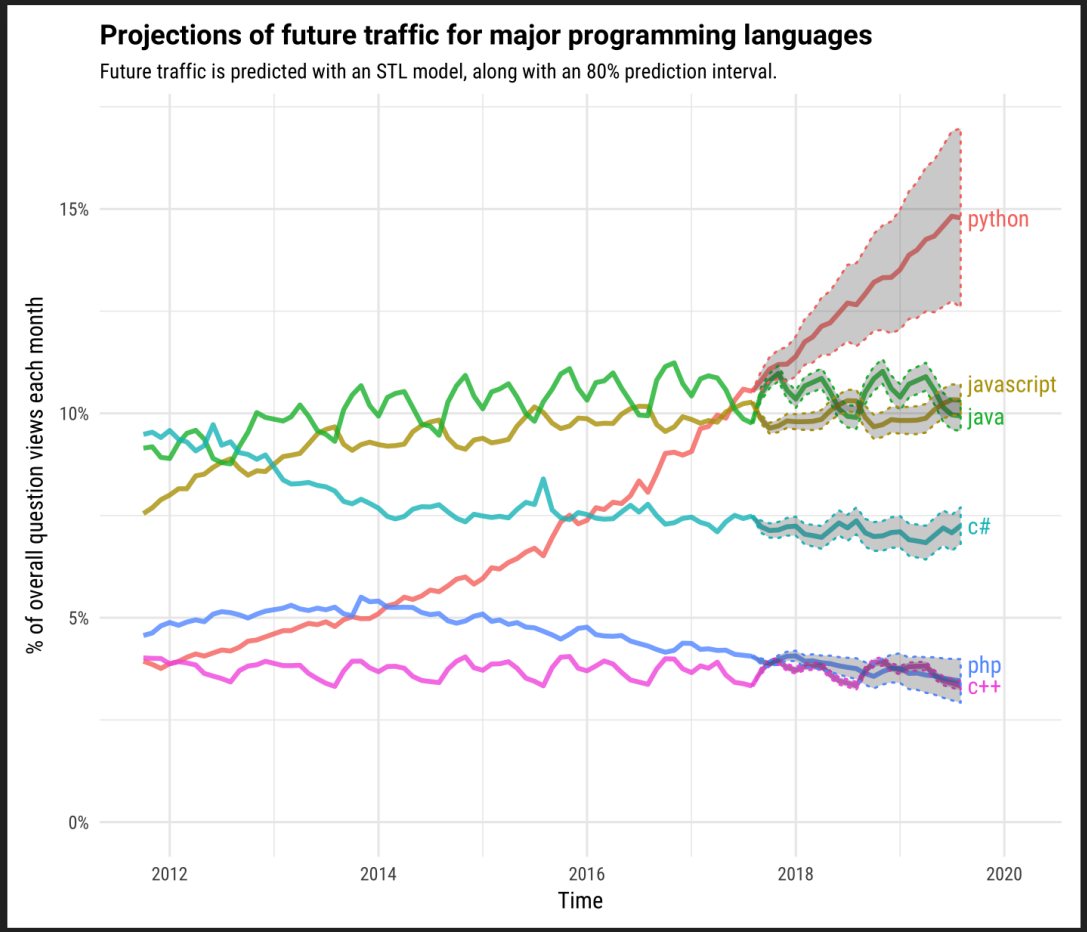
Python

```
def factorial(n):
    result = 1
    for i in range(1, n+1):
        result *= i
    return result
```

Python

- Since 1990 - 29 years old
- Last release 3.7.2, Dec 2018
- Stack overflow: 38.8% of respondents using it

Python



https://stackoverflow.blog/2017/09/06/incredible-growth-python/

SQL

SQL

```
SELECT name, inception, last_release, usage_2018
FROM technologies
WHERE name = 'SQL'
```

Or with Django ORM:

```
Technology.objects.filter(name='SQL')
```

SQL

- Since 1974 - 45 years old
- Last release SQL:2016, Dec 2016
- Stack overflow: 57% of respondents using it

SQL

- Wikipedia lists over 100 SQL databases
- For example: MySQL, PostgreSQL, SQLite, Microsoft SQL Server

C

C

```
int factorial(int n) {
    int result = 1;
    for (int i = 1; i <= n; ++i)
        result *= i;
    return result;
}
```

C

- Since 1972 - 47 years old
- Last release C18, June 2018
- Stack overflow: 23% of developers using it, 25.4% C++, and 34.4% C#

C for Python developers

- CPython
- `os.fork`
- `cffi`

HTML

HTML

```
<!DOCTYPE html>
<html>
  <head>
    <title>This is a title</title>
  </head>
  <body>
    <p>Hello world!</p>
  </body>
</html>
```

HTML

- Since 1993 - 26 years old
- Last release 5.2, December 2017
- Stack overflow: 68.5%

Unix timestamps

Unix timestamps

1,546,708,222

= Saturday, 5 January 2019 17:10:22 UTC

https://www.unixtimesta.mp/

Unix timestamps

- Since 1971 - 47 years old
- Will need to change from int32 for Year 2038 bug

COBOL

COBOL

```
IDENTIFICATION DIVISION.
FUNCTION-ID. factorial.

DATA DIVISION.
LOCAL-STORAGE SECTION.
01  i      PIC 9(10).

LINKAGE SECTION.
01  n      PIC 9(10).
01  ret    PIC 9(10).

PROCEDURE DIVISION USING BY VALUE n RETURNING ret.
    MOVE 1 TO ret

    PERFORM VARYING i FROM 2 BY 1 UNTIL n < i
```

COBOL

- Since 1959 - 60 years ago
- Last release 2014
- Stack Overflow: doesn’t appear on list of languages

COBOL

- In 2006 and 2012, Computerworld surveys found that over 60% of organizations used COBOL
- 1997 estimate: 200 billion lines of COBOL in existence

Conclusion

- Lindy Effect
- Copernican/Mediocrity Principle
- Python likely to be around in 21 years

Thank you!

- Adam Johnson, Django Core Contributor
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