

# PITCHES 101: QST MEANS BUSINESS

Lab 05 – CS 411 @  
Boston University

# What's Going to Go Down

- Each team will have a member stand up and state their first idea
  - I'll give it a thumbs-up or thumbs-down
  - In the case of a thumbs-down it's time for your P1
- Generally, projects should be green-lighted
  - Only concerns would be scope issues (i.e., not enough or too much work given the time constraints)
  - Mobile apps are allowed... HOWEVER, we may not be able to support you very much on those
- A few teams will have been either newly formed, or have new members
  - If this applies, you may defer your pitch until next week

**BUT FIRST**

**FRAMEWORKS**

**LIBRARIES**

**DATABASES**

# Library vs. Framework

*Both are essentially chunks of code written by someone else to help you perform tasks in a less verbose way.*

## Library

- Collection of reusable, compiled, and tested code that can facilitate the augmentation of application functionalities.
- A library implements many functions, variables, and parameters.

## Framework

- Enables a coding environment that contains low-level libraries to address conventional coding issues.
- The objective of a framework is to deliver faster development of an application.

# Express.js

The logo for Express.js, featuring the word "Express" in a thin, outlined, sans-serif font.

*A powerful JavaScript framework that allows you to develop a server-side component using JavaScript.*

## Advantages

- Easy to learn
- End-to-end development with ONLY JavaScript
- Faster than Python
- Large selection of libraries of packages

## Disadvantages

- Async/await can be tricky to learn

# React.js

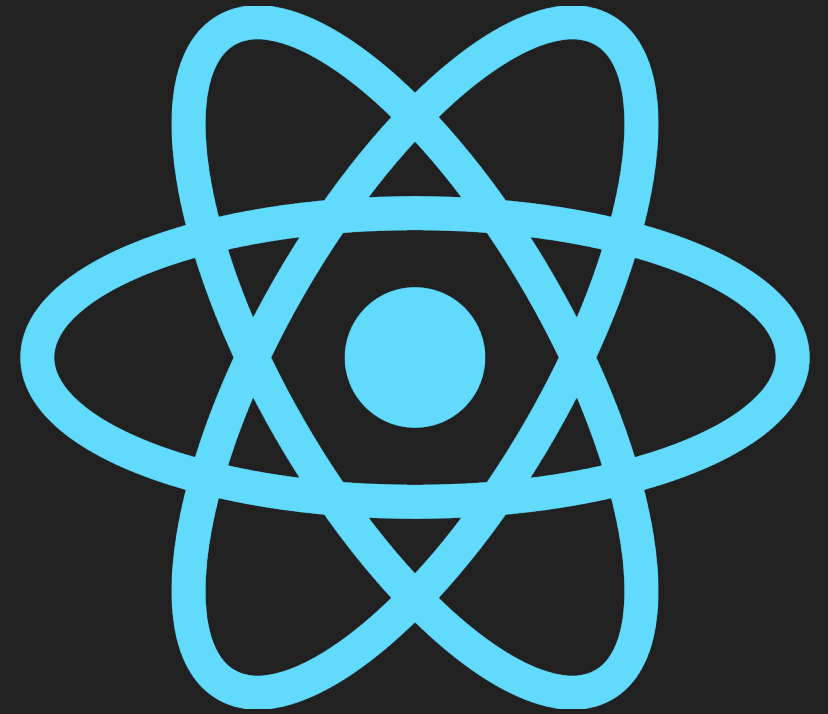
*A powerful AND popular JavaScript library.*

## Advantages

- Easy to learn
- Reusable components
- Large and active community
- One-way data flow (also called unidirectional)

## Disadvantages

- Lack of proper documentation



# Angular

*A TypeScript-based free and open-source framework.*

## Advantages

- Do things the Angular way
- MVC architecture implementation
- Bi-directional data flow
- High package availability

## Disadvantages

- Steep learning curve
- Verbose and complex at times





# Flask

*A micro web framework written in Python*

## Advantages

- Lightweight
- Flexible
- Very easy to use and understand
- Strong documentation

## Disadvantages

- Not a lot of tools and/or functionality



# Django

*A Python based framework that follows MVC.*



## Advantages

- Batteries Included
- Large and active community
- Built-in admin capabilities/interface
- Very scalable in the long term

## Disadvantages

- Feels bloated for smaller projects
- Sometimes too populated for larger projects (b/c MVC)

# MongoDB



mongoDB®

*A NoSQL document-oriented database program.*

## Advantages

- Simplicity
- Easy installation and setup
- Strong documentation
- Ad hoc querying

## Disadvantages

- Does not support joins like a relational database
- Uses multi-document ACID

# MySQL

*A open-source relational database management system.*

## Advantages

- Simple and easy to use (it's just SQL)
- Allows transactions to be rolled back
- Scalable in the long term
- Very large community

## Disadvantages

- Prone to data corruption (inefficient transactions)
- Not efficient for very large databases



# My Two Cents

- Don't try to get fancy

- Thanks to BU's oh so useful CS curriculum a lot of you may not have had exposure to many development techniques and that's OK

- Make sure everyone can contribute

- To the cracked ones... don't steal the show
  - To the unfamiliar... don't be afraid to ask questions

- There isn't one right way to do this

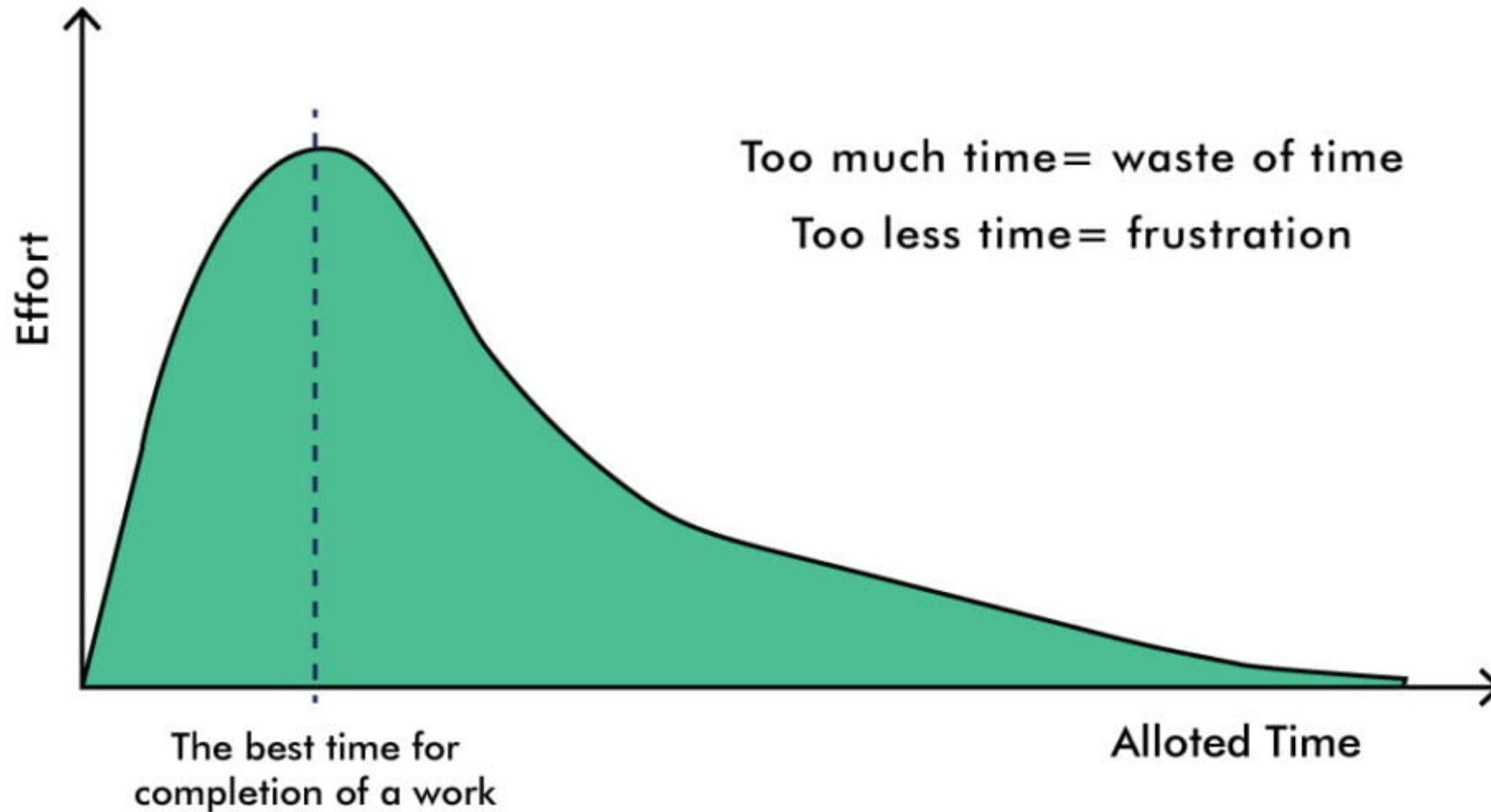
- Software engineers don't often agree... but that's what breeds innovation

- Be aware of Parkinson's Law (*and Student's Syndrome*)

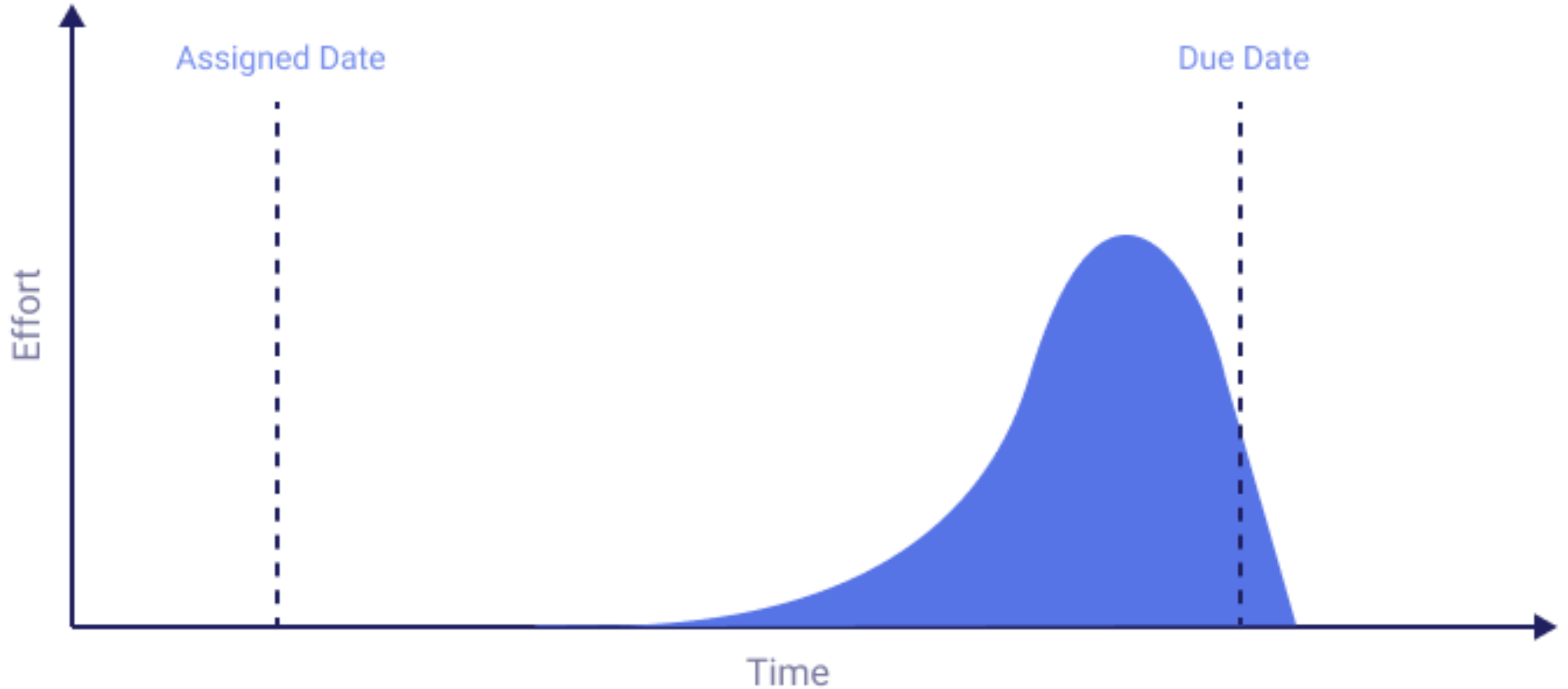
- *"Work expands so as to fill the time available for its completion."*

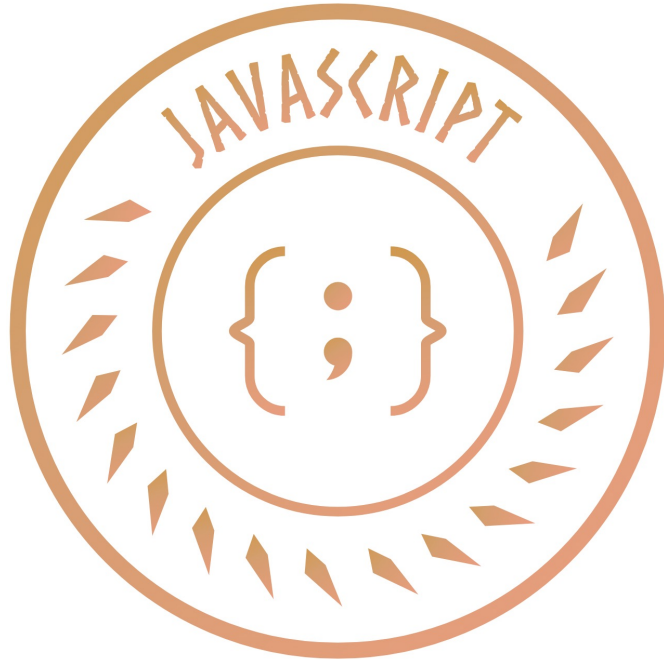
# Parkinson's Law

## Parkinson's Law



# Student's Syndrome





**DevDocs**

## DEVELOPMENT RESOURCES

<https://www.theodinproject.com/>  
<https://developer.mozilla.org/en-US/>  
<https://devdocs.io/>



```
git add lab05.txt  
git commit -m "complete"  
git push origin master
```

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