TexIt

Bharath Srivatsan, Rohan Doshi, Andrew Hartnett
COS 333, Spring 2017

4:31am
Friend Center
Basement

TexIt

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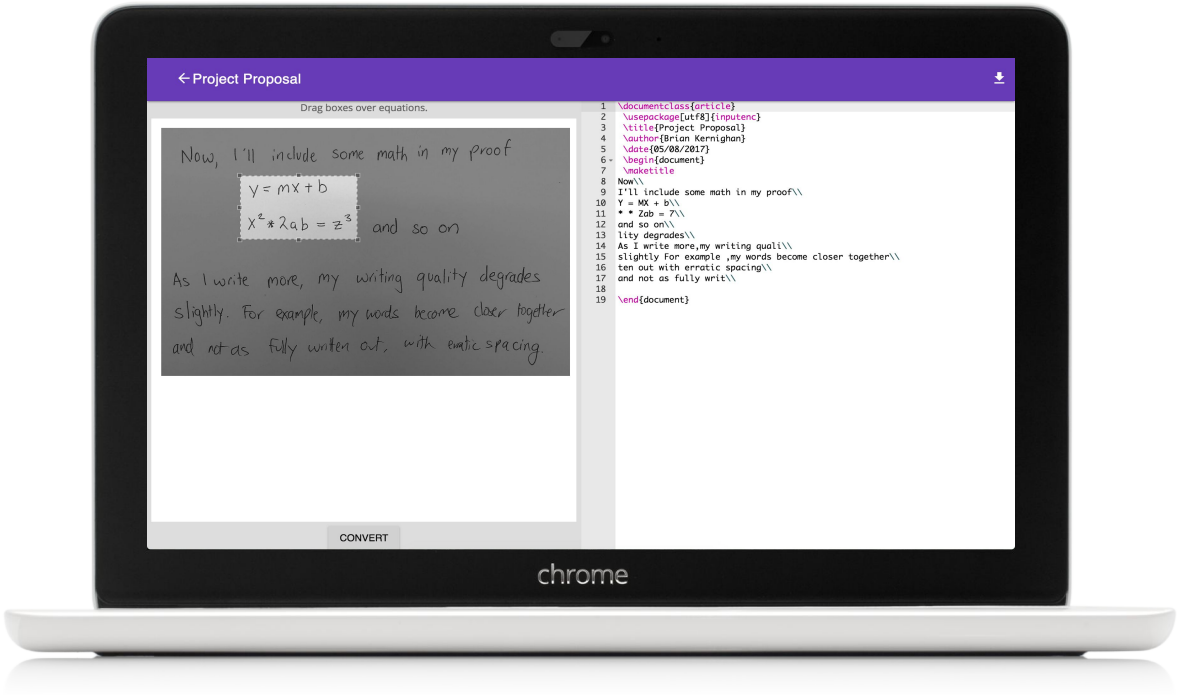
Previously...

PSets were hard.

LaTeXing was harder.

Today

We do the LaTeXing for you



Presenting

TexIt

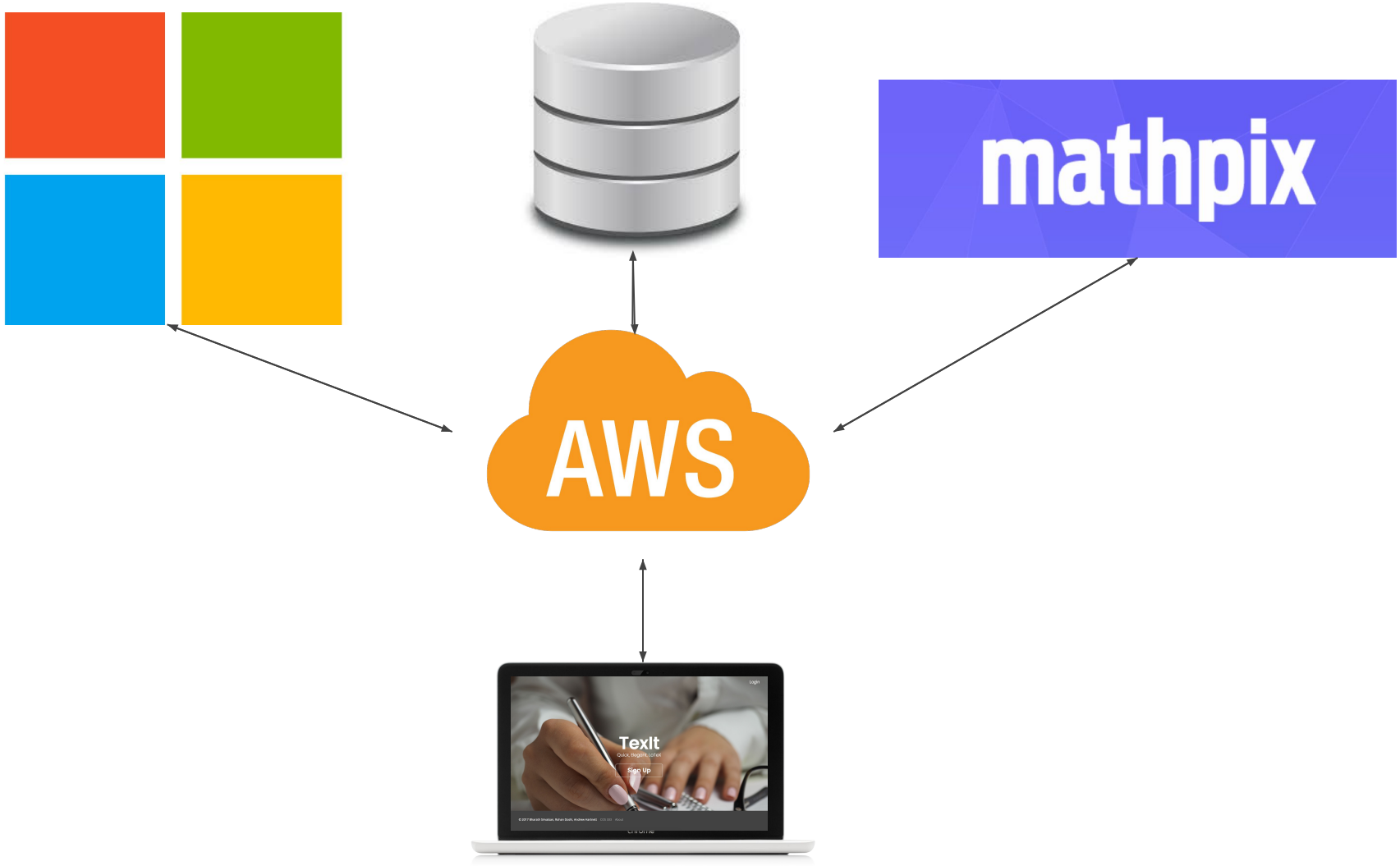
Backup Plan

Coming Soon

Upcoming Features

- LaTeX Compilation
- Direct downloads
- Multi-page support

How We Do It


mathpix
AWS
TexIt
Sign Up

mathpix

AWS

I'm going to write my problem set here.
This is a dope pset. Notice my clear words and sentences all through the set.

$y = mx + b$

$x^2 * 2ab = z^3$ and so on

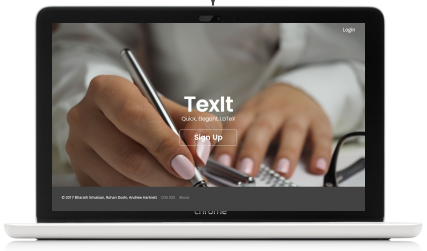
I'm going to write my problem set here.
This is a dope pset. Notice my clear words and sentences all through the set.

Now, I'll include some math in my proof

$y = mx + b$

$x^2 * 2ab = z^3$ and so on

As I write more, my writing quality degrades slightly. For example, my words become closer together and not as fully written out, with erratic spacing.

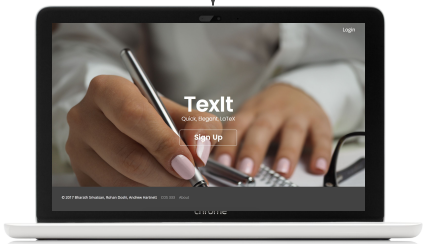


mathpix

My problem set.
Question One.
The applications of..

AWS

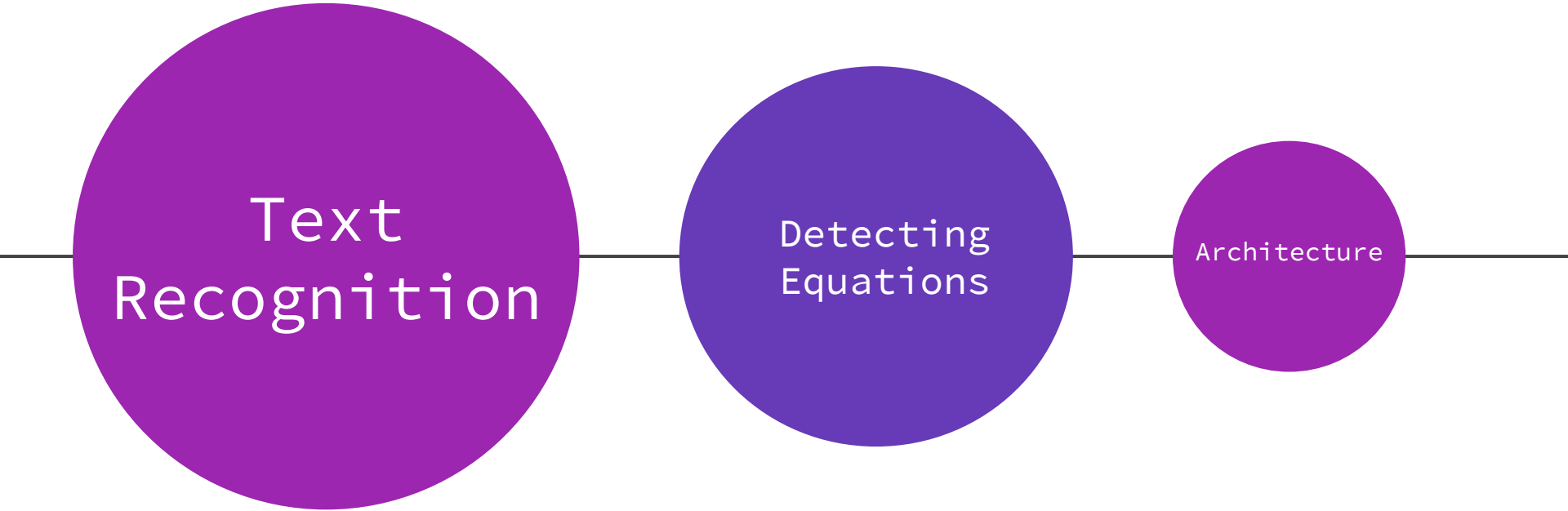
```
\frac{d}{dx}\left(
\int_{0}^{x}
f(u)\,du\right)=f(x).
```




```
 \author{Andrew Hartnett}
 \date{05/08/2017}
 \begin{document}
 \maketitle
$ \left. \begin{array} { l }
{ y = m x + b } \\ { x ^ {
\end{array} \right.  $
\end{document}
```

Technical Challenges

Challenges and Solutions



- Slow
- Fragile
- Inaccurate

Text Recognition

The Unsolved Challenge

Text Recognition

Creative Solutions

- Controlled tests run on 4 potential APIs
- Image processing to rotate/greyscale inputs
- Creative reordering of blocks

- Cloud vision only supports normal text
- Mathpix only supports equations

Finding Equations

What lines to send to which service?

Finding Equations

Find a library

- JCrop is a jQuery library designed for image editors
- User selects a box, upload coordinates

- Lots of moving parts
- OpenCV Issues
- Limited API Calls

Architecture

It would all be so easy if only...

Architecture

Pivot

- AWS Microservices
- Pivoting to Pillow for CV
- Controlled Beta

User Feedback

Positives

- Much easier, especially for formulas
- Class filtering approach is useful
- File storage is handy
- The app was “dope”

Negatives

- Accuracy is still an issue
- Loading times are long
- Clearer instructions needed

www.texitapp.com

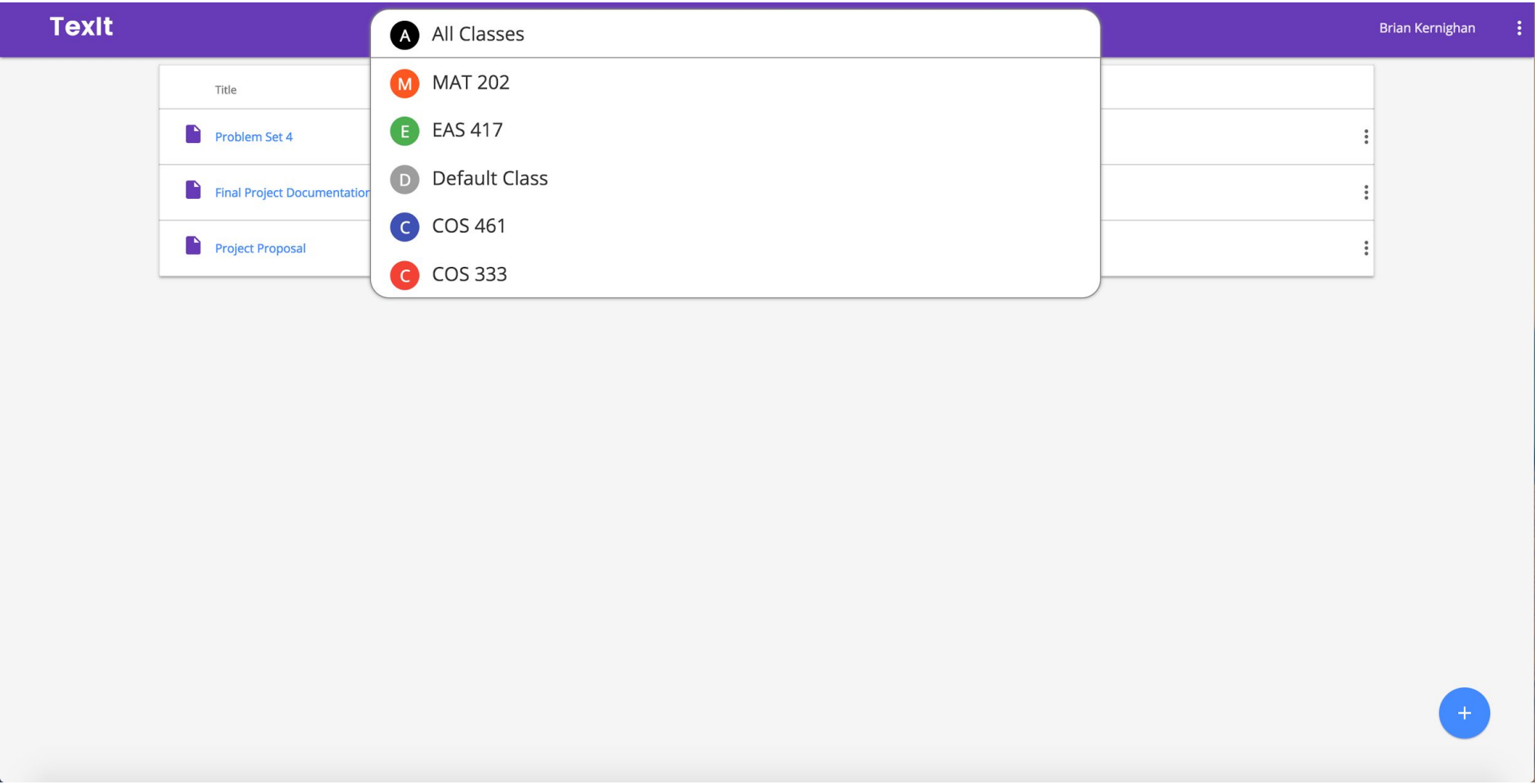
Thank You

TexIt

All Files

Brian Kernighan

Title	Last Modified	Class
Problem Set 4	May 8 2017, 6:33 PM	COS 333
Princeton OIT Analysis	May 8 2017, 6:08 PM	COS 461
Final Project Documentation	May 8 2017, 6:08 PM	COS 333
Homework 2	May 8 2017, 6:07 PM	MAT 202
Additional Analysis	May 8 2017, 6:05 PM	COS 461
Network Analysis	May 8 2017, 6:00 PM	COS 461
Yi San Revolution	May 8 2017, 5:55 PM	EAS 417
Midterm Paper	May 8 2017, 5:52 PM	EAS 417
Project Proposal	May 8 2017, 5:51 PM	COS 333
Pset 3	May 8 2017, 5:44 PM	MAT 202


TexIt
A All Classes
M MAT 202
E EAS 417
D Default Class
C COS 461
C COS 333
Brian Kernighan
Title
Problem Set 4
Final Project Documentation
Project Proposal

TexIt

COS 333

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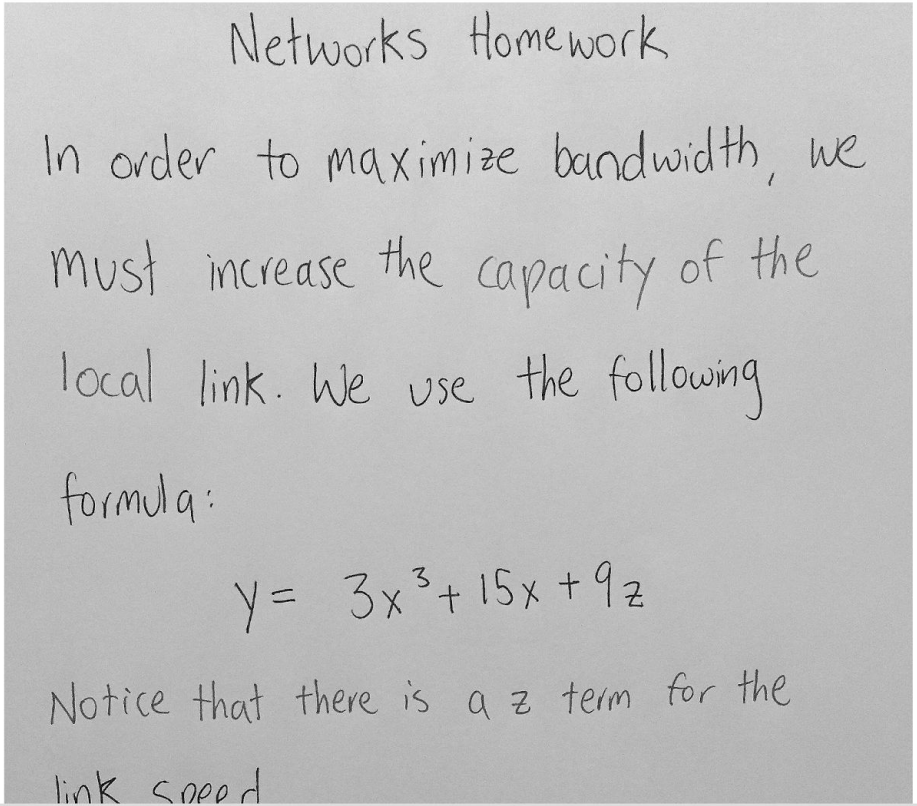
Drag boxes over equations.

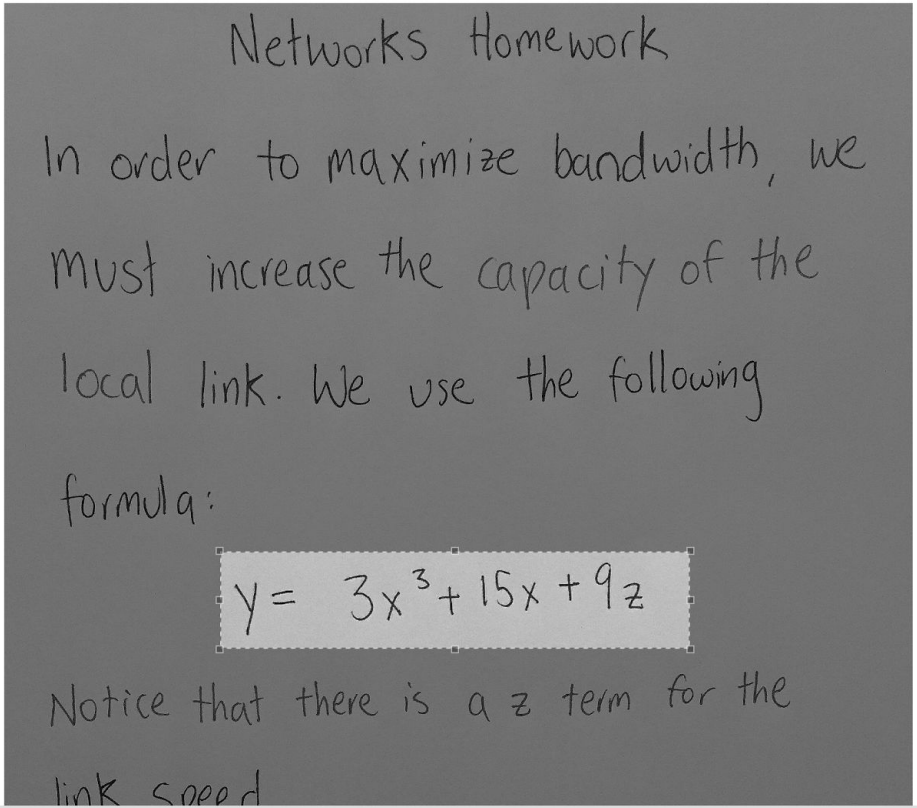


CONVERT

```
\documentclass{article}
 \usepackage[utf8]{inputenc}
 \title{Problem Set 4}
 \author{Brian Kernighan}
 \date{05/08/2017}
 \begin{document}
 \maketitle
$ y = 3 x ^ { 3 } + 1 5 x + 9 z  $
Networks Homework\\
In order to maximize bandwidth we\\
Must increase the capacity of the\\
local link We use the following\\
formula\\
Y = 3 * * + 15 * + 92\\
Notice that there is a z term for the\\
link speed\\

\end{document}
```

Drag boxes over equations.



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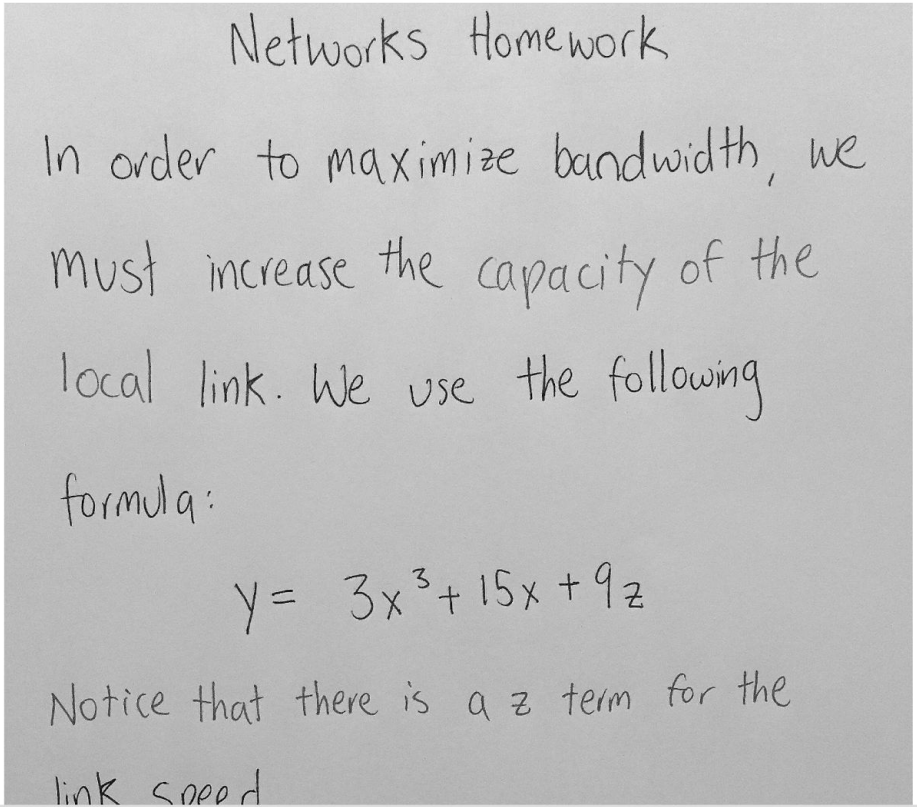

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