

L^AT_EX



LaTeX Lab 3: Article

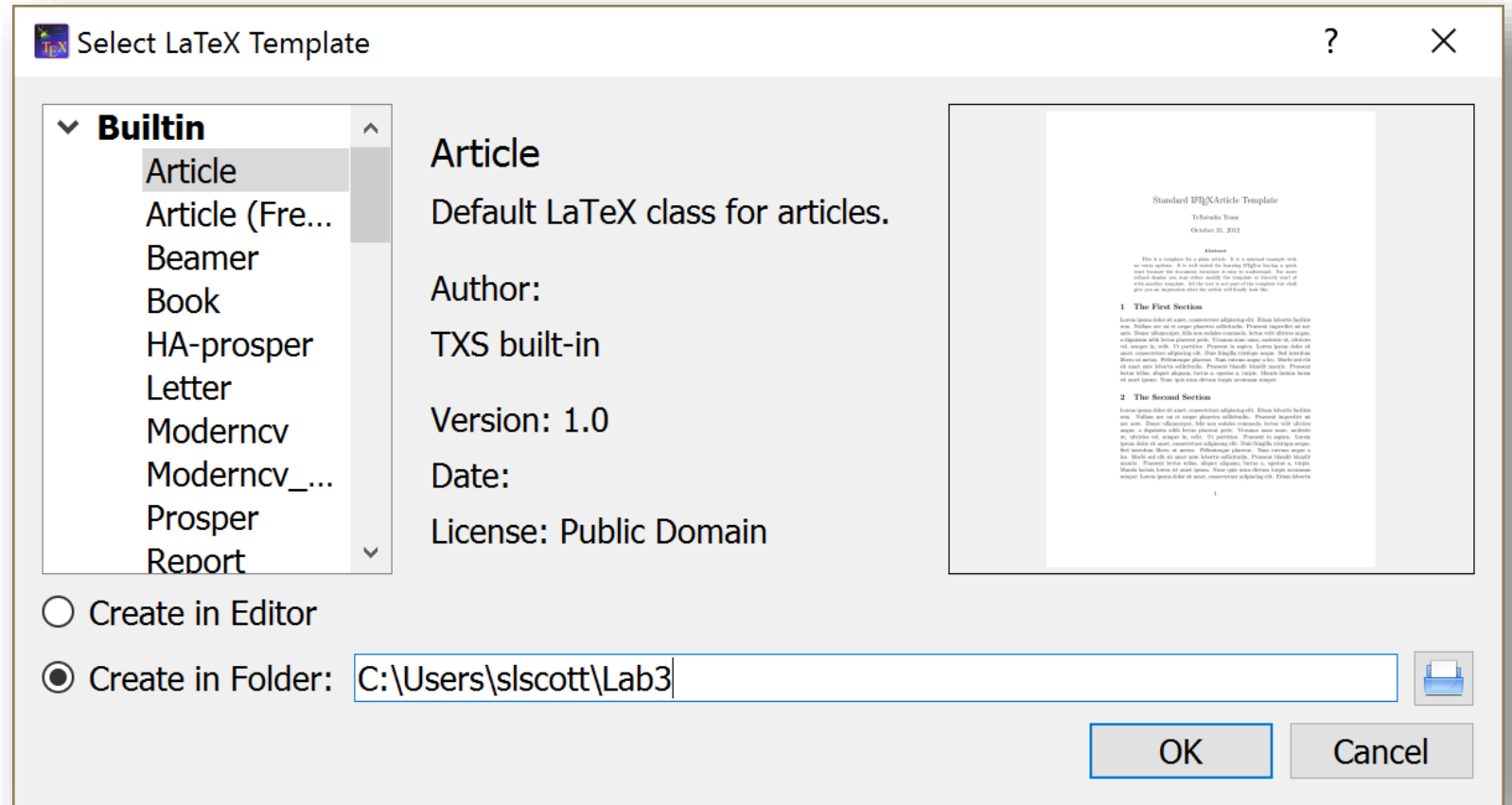
CSI 500

Course material derived from:


Lamport, L. (1994). *L^AT_EX: a document preparation system: user's guide and reference manual*. Addison-Wesley.

Article

- Let's make another LaTeX document
- Make a new folder called "Lab3"
- In TexStudio, File, New From Template
- Select "Article"
- Select "Create in Folder", and navigate to your "Lab3" folder.
- Press OK



Report LaTeX code

- Type in the following in the editor window.
 - Your additions are shown in **RED** font color
 - the "%" indicates comments
- Save the document
- Press the green arrowhead titled "Build and View" on the menu bar - it looks like this 
- At the dialog box, press F5 and OK

```
% Article example
\documentclass[11pt]{ article }
\usepackage{ fullpage }

%opening
\title{ An Example of a LaTeX Article }
\author{ Your Name }

\begin{ document }

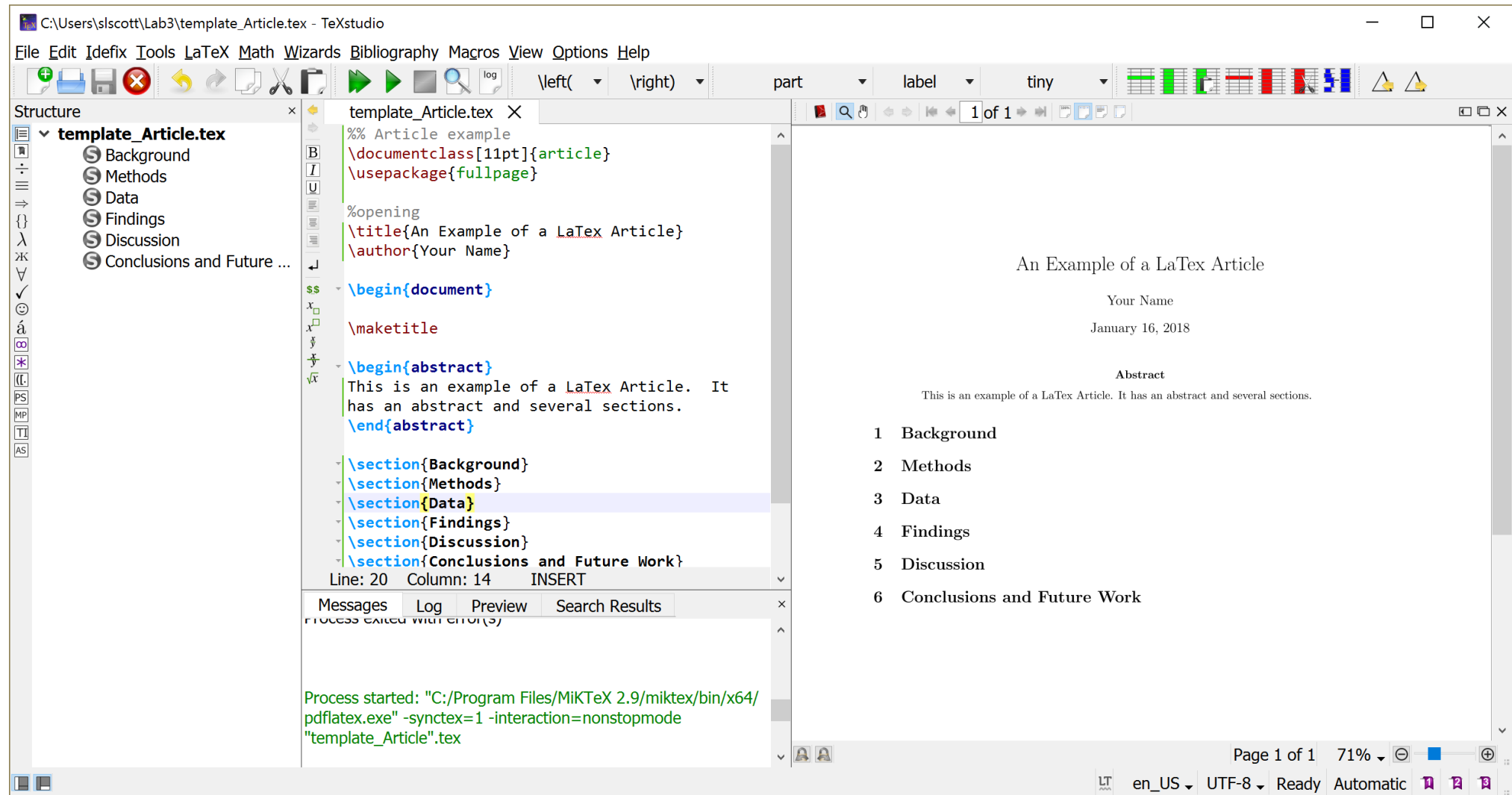
\maketitle

\begin{ abstract }
This is an example of a LaTeX Article. It
has an abstract and several sections.
\end{ abstract }

\section{ Background }
\section{ Methods }
\section{ Data }
\section{ Findings }
\section{ Discussion }
\section{ Conclusions and Future Work }

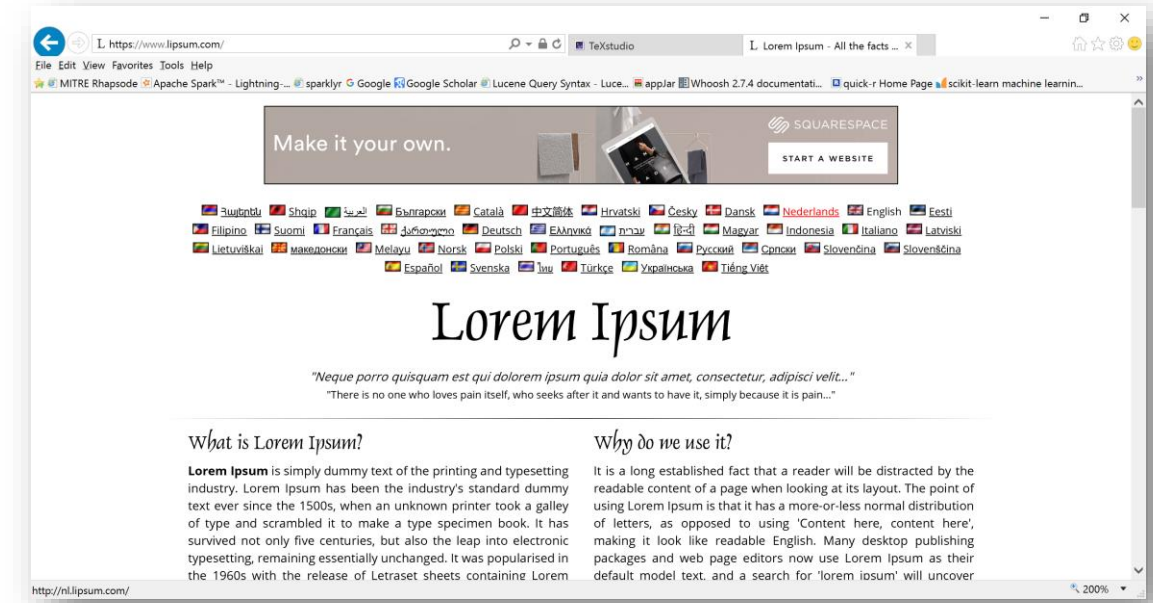
\end{ document }
```

What it should look like



Generate Lorum Ipsum content

- Typesetters often use dummy content to visualize the page layouts
- The "Lorum Ipsum" text is an example
 - <https://www.lipsum.com/>
- Visit this web site, and generate 12 paragraphs of text, and copy the text into your clipboard
- In your TexStudio, open a new blank file in your Lab3 folder, call it "Lorum_Ipsum.tex", and paste the copied text into it. We'll use this file as content for this lab.



Add dummy content

- Below each of the `\section{ }` commands, enter in two paragraphs of Lorum Ipsum text.
- Separate paragraphs by double `<cr>`
- Cut and paste from your content document that you just created (Lorum Ipsum.tex)

% example of what your `\section`
% and `\paragraph` should look like

```
\section{ Background }
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris convallis a ante a gravida. Integer quis neque id elit ullamcorper finibus. Mauris convallis et libero et aliquet. Aliquam erat volutpat. Praesent fringilla consequat nibh eu semper.

Mauris sodales odio in quam molestie, vitae condimentum ante mattis. Cras purus nulla, hendrerit quis mauris non, auctor venenatis nulla. Sed maximus dictum dignissim. Fusce bibendum tristique neque quis tristique.

Build and view results

Dummy text

Typeset text

The screenshot displays the TeXstudio interface with the file `C:\Users\slscott\Lab3\template_Article.tex` open. The left sidebar shows the document structure with sections: Background, Methods, Data, Findings, Discussion, and Conclusions and F... The main editor shows the source code of the LaTeX document, including the `\maketitle` command, an abstract, and a section titled `\section{Background}`. The code is color-coded, and the text is wrapped. The status bar at the bottom indicates the current line and column: Line: 42, Column: 0, INSERT.

The right pane shows the typeset output of the document. The title is "An Example of a LaTeX Article". The author's name is "Your Name". The date is "January 16, 2018". The abstract is "This is an example of a LaTeX Article. It has an abstract and several sections." The main text is divided into two sections: "1 Background" and "2 Methods". The "Background" section contains a paragraph of Lorem ipsum text. The "Methods" section contains a paragraph of Lorem ipsum text. The status bar at the bottom indicates the current page and zoom: Pages 1 to 2 of 3, 74%.

Red arrows point from the text labels to specific parts of the interface: one from "Dummy text" to the source code editor, and another from "Typeset text" to the typeset output pane.

Using two column format

- Some journals use single column, and others use two or more columns.
- LaTeX supports this feature.
- At the very first line of your document, add in the use of the "twocolumn" document class.

```
% Article example
\documentclass[11pt,twocolumn]{ article }
\usepackage{ fullpage }

%opening
\title{ An Example of a LaTeX Article }
\author{ Your Name }

\begin{ document }
```


Build and view

results

new
"twocolumn"
document
class

The screenshot displays the TeXstudio interface with two main windows. The left window shows the LaTeX source code for a document titled "template_Article.tex". The code includes the following lines:

```
%% Article example
\documentclass[11pt,twocolumn]{article}
\usepackage{fullpage}

%opening
\title{An Example of a LaTeX Article}
\author{Your Name}

\begin{document}

\maketitle

\begin{abstract}
This is an example of a LaTeX Article. It
has an abstract and several sections.
\end{abstract}

\section{Background}
Lorem ipsum dolor sit amet, consectetur
adipiscing elit. In vel lacus massa. Nulla vel
mauris at purus imperdiet placerat. Suspendisse
nec velit consequat, tincidunt massa et,
faucibus arcu. Maecenas turpis nibh, tincidunt
```

The right window shows the resulting PDF document, "An Example of a LaTeX Article". The document is in two columns. The title "An Example of a LaTeX Article" is centered at the top. Below the title is the author's name "Your Name" and the date "January 16, 2018". The document contains an abstract and two sections: "1 Background" and "2 Methods".

Red arrows highlight the "twocolumn" option in the source code and the resulting two-column layout in the PDF. A red circle is drawn around the abstract and the first two sections of the PDF.

Pages 1 to 2 of 3 74% en_US UTF-8 Ready Automatic

Add Sections

- LaTeX supports hierarchical sections in documents
 - We've already defined `\section`
 - Let's define `\subsection`
- In each of your `\sections`, add in a couple of `\subsection{ name }` commands
- Move text around so there are some lines in each subsection

% example of what your `\section`
% and `\subsection` should look like

```
\section{ Background }  
Lorem ipsum dolor sit amet, consectetur adipiscing elit.  
Mauris convallis a ante a gravida. Integer quis neque id elit  
ullamcorper finibus. Mauris convallis et libero et aliquet.  
Aliquam erat volutpat. Praesent fringilla consequat nibh eu  
semper.
```

```
\subsection{ Background subsection 1 }
```

Mauris sodales odio in quam molestie, vitae condimentum ante mattis. Cras purus nulla, hendrerit quis mauris non, auctor venenatis nulla. Sed maximus dictum dignissim. Fusce bibendum tristique neque quis tristique.

```
\subsection{ Background subsection 2 }
```

Maecenas vitae dui facilisis, vulputate arcu id, laoreet metus. Quisque et tincidunt ante, a laoreet odio. Etiam ac tellus congue, sagittis lacus at, tempor est.

Here's what our subsections should look like

This is an example of a LaTeX Article. It has an abstract and several sections.

1 Background

Lorem ipsum dolor sit amet, consectetur adipiscing elit. In vel lacus massa. Nulla vel mauris at purus imperdiet placerat. Suspendisse nec velit consequat, tincidunt massa et, faucibus arcu. Maecenas turpis nibh, tincidunt at turpis at, scelerisque malesuada quam. Aliquam semper convallis nunc, eget luctus dui interdum vel.

1.1 Background subsection 1

Morbi ut interdum dolor. Morbi vestibulum, eros sit amet interdum lobortis, nulla dui condimentum enim, eget scelerisque odio arcu sed odio. Sed lobortis gravida elit, nec blandit mi cursus et. Cras eget nunc nec massa laoreet finibus. Sed vel luctus ligula. Donec vitae arcu sed lorem ullamcorper tristique. Donec eleifend arcu nec pulvinar mollis. Vestibulum ornare ligula eu sagittis finibus. Vestibulum eleifend et enim quis pharetra.

1.2 Background subsection 2

Maecenas vitae dui facilisis, vulputate arcu id,

risus a commodo. Sed sed orci congue, vestibulum lectus a, mollis elit. Aliquam id turpis elementum lectus sodales lacinia. Vivamus eleifend libero condimentum, blandit orci nec, iaculis massa. In ut magna libero. Suspendisse potenti. Nulla facilisi. Proin feugiat diam auctor maximus semper. Nullam metus risus, lacinia at dolor in, ultricies malesuada justo.

2 Methods

Donec tincidunt enim nec eros volutpat, pharetra convallis neque pellentesque. Donec in dui auctor, sodales odio et, luctus nisi.

2.1 Methods subsection 1

Proin in dictum ante. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer ultrices justo eget erat pretium, eu convallis mi interdum. Phasellus at justo ut metus ullamcorper consectetur nec et lacus. Integer eu tortor ac enim maximus fringilla. Pellentesque ante odio, auctor sed enim sed, porta sollicitudin elit. Phasellus at leo vitae urna interdum efficitur eu vel erat. Cras mattis lacus dui, nec auctor turpis facilisis at. Ut volutpat elit elit.

2.2 Methods subsection 2

Subsections
automatically
numbered

Subsections
automatically
numbered

LaTeX Font Families

- LaTeX supports several major font families
- type in the following to exercise various font families
- the `\\` indicate hard line returns, which makes this example easier to read

```
\section{ Background }
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit. In vel lacus massa.

```
\textrm{ This is Roman font }\\
```

```
\textsf{ This is Sans serif font }\\
```

```
\texttt{ this is typewriter font, often used for computer code }\\
```

```
\textmd{ This is medium series font }\\
```

```
\textbf{ this is bold font }\\
```

```
\textup{ this is upright shape font }\\
```

```
\textit{ this is italic font }\\
```

```
\textsl{ this is slanted font. note difference from italic }\\
```

```
\textsc{ this is small caps font }\\
```

```
\emph{ this is emphasized font }\\
```

```
\textnormal{ this is the default, or text normal font }\\
```

```
\underline{ this is underline font }\\
```

LaTeX Font Sizes

- LaTeX supports font sizing for emphasis or effect
- type in the following to exercise various font sizes
- Note: you must restore the normal size fonts by issuing a `\normalsize{}` command

```
\section{ Background }
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit. In vel lacus massa.

```
\tiny{ this is tiny font }\\
```

```
\scriptsize{ this is scriptsize font }\\
```

```
\footnotesize{ this is footnote size font }\\
```

```
\small{ this is small font }\\
```

```
\normalsize{ this is the default, normal size font }\\
```

```
\large{ this is large font }\\
```

```
\Large{ this is Large, which is larger font }\\
```

```
\LARGE{ this is LARGE font }\\
```

```
\huge{ this is huge font }\\
```

```
\Huge{ this is Huge font }\\
```

```
\subsection{ Background subsection 1 }
```

```
\normalsize{ }
```

Nulla vel mauris at purus imperdiet placerat. Suspendisse nec

Here's how the font families and sizes look

Font families

Font sizes

Abstract

This is an example of a LaTeX Article. It has an abstract and several sections.

1 Background

Lorem ipsum dolor sit amet, consectetur adipiscing elit. In vel lacus massa.

This is Roman font

This is Sans serif font

this is typewriter font, often used for computer code

This is medium series font

this is bold font

this is upright shape font

this is italic font

this is slanted font. note difference from italic

THIS IS SMALL CAPS FONT

this is emphasized font

this is the default, or text normal font

this is underline font

this is tiny font

this is scriptsize font

this is footnote size font

this is small font

this is the default, normal size font

this is large font

this is Large, which is larger font

this is LARGE font

this is huge font

this is Huge font

1.1 Background subsection 1

Nulla vel mauris at purus imperdiet placerat. Suspendisse nec velit consequat, tincidunt massa et, faucibus arcu. Maecenas turpis nibh, tincidunt at turpis at, scelerisque malesuada quam. Aliquam semper convallis nunc, eget luctus dui interdum vel.

Morbi ut interdum dolor. Morbi vestibulum, eros sit amet interdum lobortis, nulla dui condimentum enim, eget scelerisque odio arcu sed odio. Sed lobortis gravida elit, nec blandit mi cursus et. Cras eget nunc nec massa laoreet finibus. Sed vel luctus ligula. Donec vitae arcu sed lorem ullamcorper tristique. Donec eleifend arcu nec pulvinar mollis. Vestibulum ornare ligula eu sagittis finibus. Vestibulum eleifend et enim quis pharetra.