



Rich-Text Editing with Draft.js


@nickgudumac





Tesla ▾


Tesla


Tesla

Tesla


Tesla M...


Tesla G...


ADD PAGES





+1









NEW POST







Tesla

7 November, 11:12 • post activity


British road trips 🇬🇧

"The car is only a month old, and it's fantastic to drive over distance, all the better when you realise it's not destroying the planet like the alternatives."




Brian Lee 16 days ago


Hey, great post! Let's add a UK flag emoji, what do you think?

Tammy Ellis 16 days ago • edit • delete

Good idea :) Just added it!

Brian Lee 16 days ago

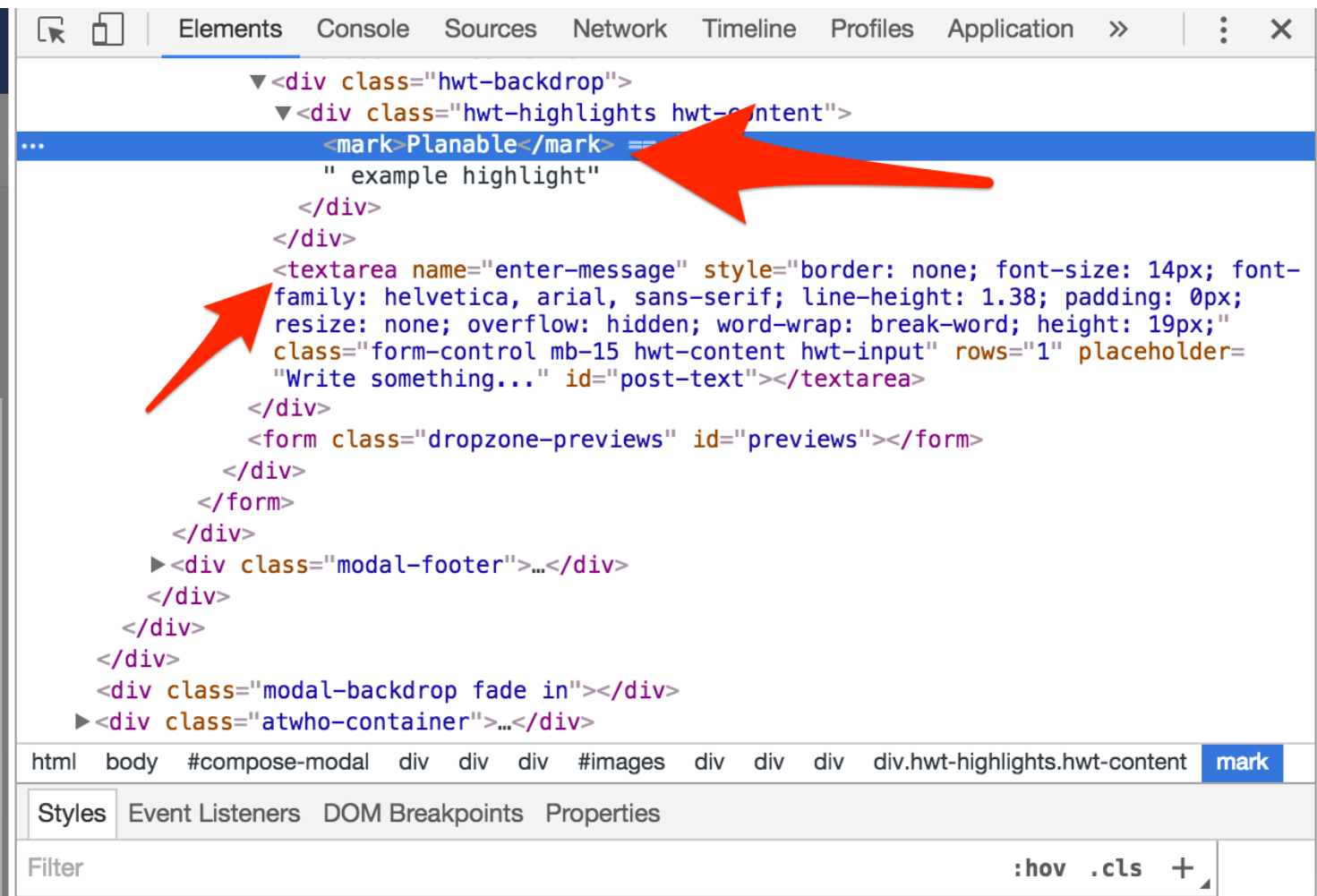
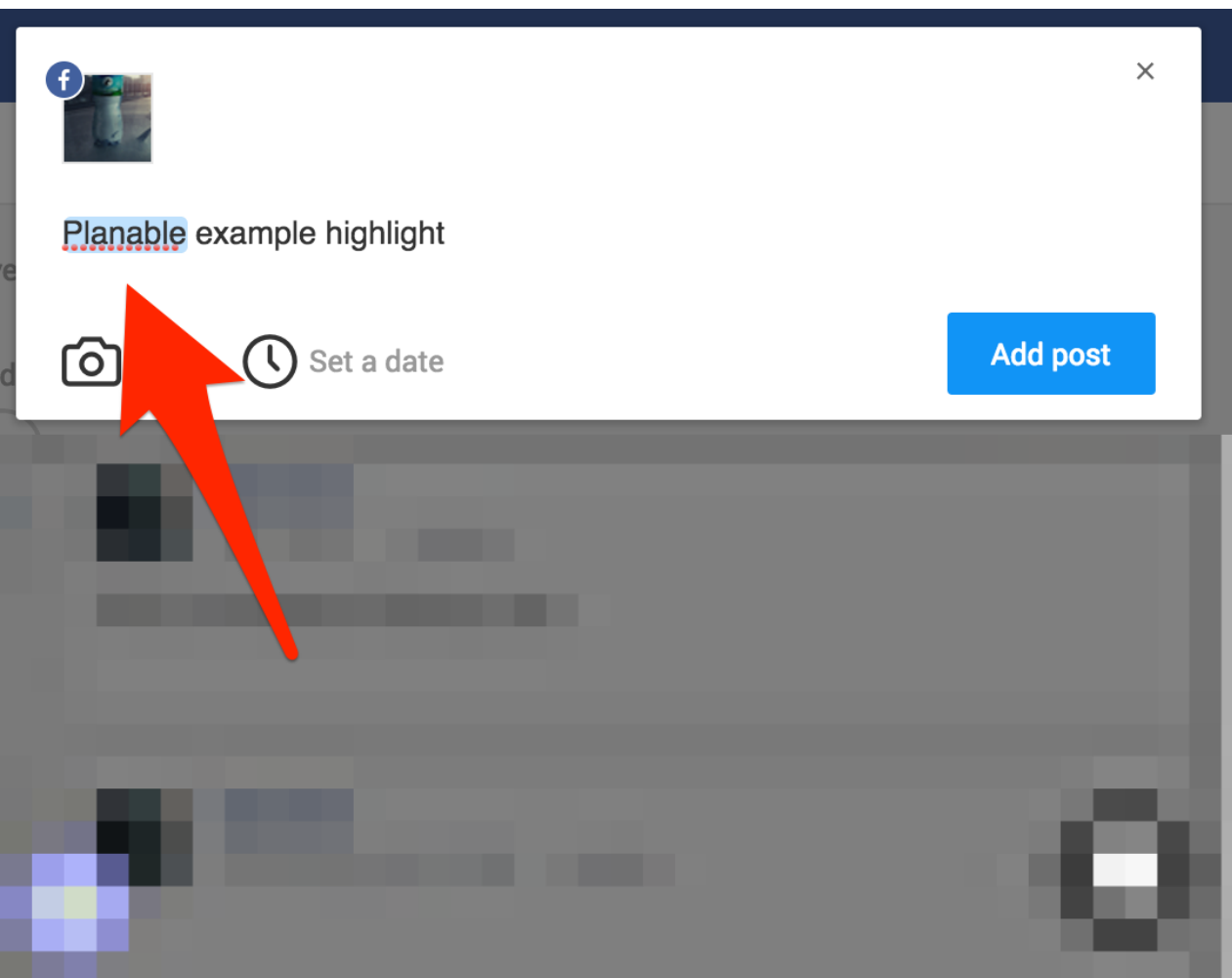
Awesome! Let's publish it.



Comment...

What are the options?

- Textarea with highlighters



What is the problem?

- Managing structured user input is hard.
- Undo/Redo, Copy/Paste broken.
- Limited rich-text capability.

Bad User Experience



bla bla ad Nicu the tag background doesn't match
the text, wtf?

Cancel • Post

What are the options?

- Textarea with highlighters
- Draw all contents manually
 - Must draw and position fake cursor

What are the options?

- Textarea with highlighters
- Draw all contents manually
 - Must draw and position fake cursor
- ContentEditable



Planable

Set a date • activity

Game changing update from **Instagram** ! Now, you can combine up to 10 photos and videos in one post and swipe through to see them all.
Have you checked it out already? Leave us a comment with your **Instagram** post including new feature. :)

Save

div.panel-body::after | 0x0



```
...before
▼<div class="editable-text-trigger is-template" data-template=
"Template.editable_text_widget (5) Template.editableText (5)">
  ▼<div class="wysiwyg-container is-template" data-template=
  "Template.wysiwyg (2)">
    ▼<div class="wysiwyg" contenteditable="true"> == $0
      "Game changing update from "
      <tag>Instagram</tag>
      " ! Now, you can combine up to 10 photos and videos in one
      post and swipe through to see them all.
      <br>
      "Have you checked it out already? Leave us a comment with your
      "
      <tag>Instagram</tag>
      " post including new feature. :)"
    </div>
    ▶<div class="btn-toolbar wysiwyg-toolbar">...</div>
  </div>
</div>
▶<div class="facebook-post-bottom-buttons">...</div>
```

Recommended by Sashko Stubailo, Eric Elliott, and 964 others



Nick Santos

Follow

Software Engineer @Medium, formerly @Google. Yay Brooklyn.

May 14, 2014 · 11 min read

Why ContentEditable is Terrible

Or: How the Medium Editor Works

The first time I sat across a table from Jacob (@fat), he asked bluntly, “How do you write a text editor?”

Top highlight

I drew a tree structure on the whiteboard, waved my hands, and said “This is a shitty editing surface.” Then I drew a column of boxes with arrows pointing to arrays, waved my hands some more, and said “This is a good editing surface.”

Jacob raised an eyebrow.

This post is what I would have said instead, if I had a year to think about it.

Why ContentEditable Is Terrible: A Mathematical Proof

ContentEditable is the native widget for editing rich text in a web browser. It is...sad.

Draft.JS

A framework for building rich-text editors
in React, built & used within Facebook.

Facebook Notes



 NICU GUDUMAC · THURSDAY, 23 FEBRUARY 2017



Benefits

- Strict control of contents (React)
- Strict control of cursor (Native Selection API)
- Declarative, understandable API
- Support for IME, cut / copy / paste, spellcheck etc
- Supports Arbitrary Rich Text

Structure

Editor State

Immutable Data Structure

Content State

- Text
- Blocks
- Styles
- Entities

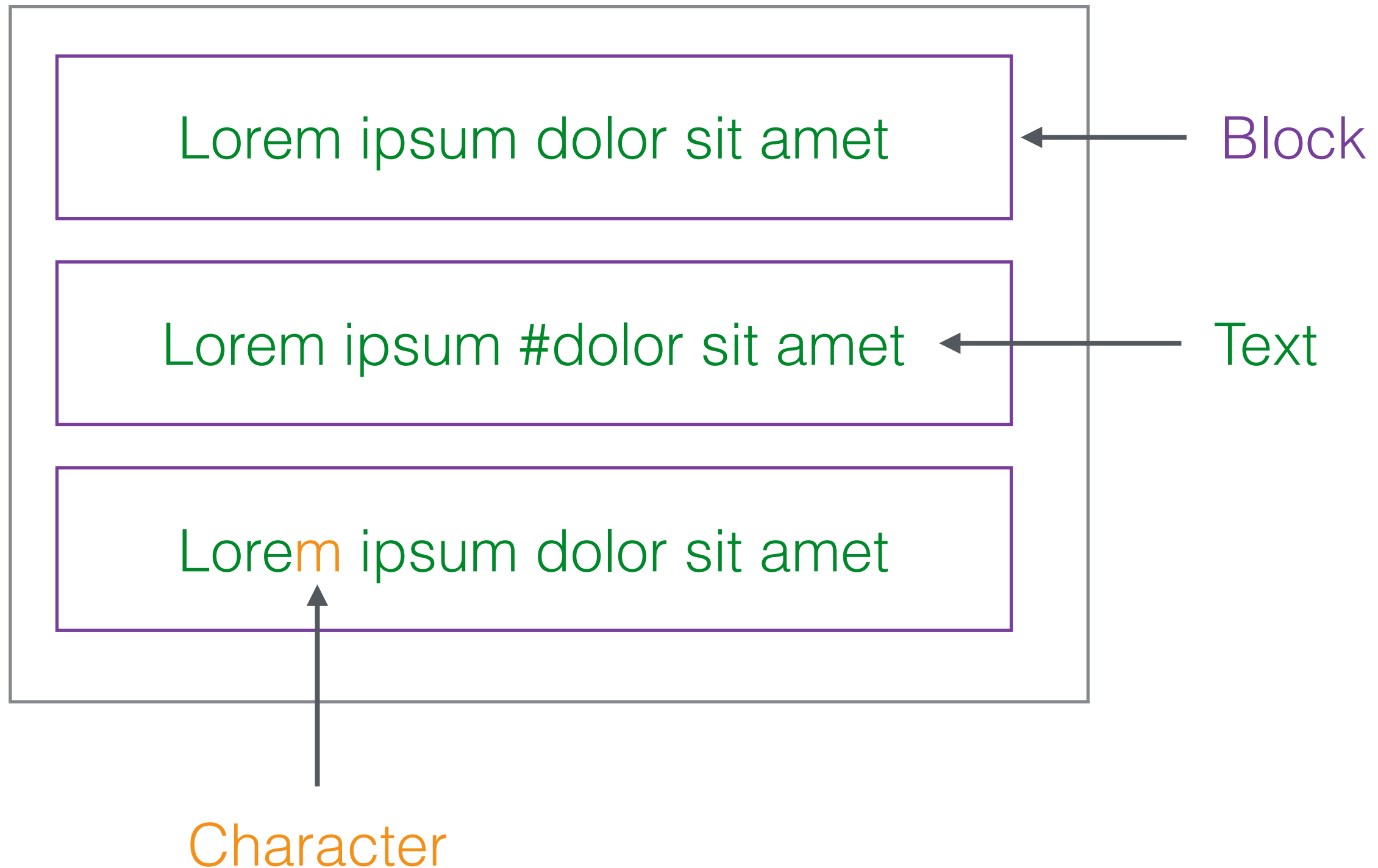
Selection State

- Selection Range

Undo / Redo

Stack of
Content States
(snapshots)

Content State



Example

Yay 🎉

Immutable Structure

```
{
  "blockMap": {
    "901ff": {
      "key": "901ff",
      "type": "unstyled",
      "text": "Yay 🎉",
      "characterList": [{
        "style": [],
        "entity": null
      }, {
        "style": [],
        "entity": null
      }, {
        "style": [],
        "entity": null
      }, {
        "style": [],
        "entity": "1"
      }, {
        "style": [],
        "entity": "1"
      }
    ],
    "depth": 0
  },
}
```

Manipulation

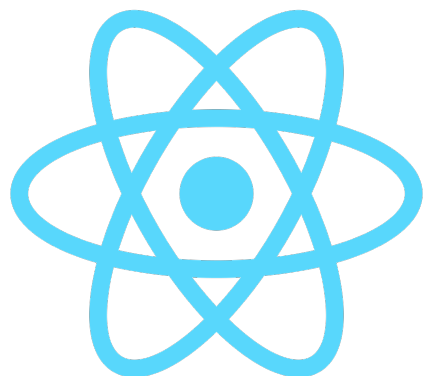
- Decorators (wrap text with a Component)

React -> React 🎉

- blockStyleFn (apply class to a whole block)

React -> **React**

- blockRendererFn (render custom block)



Decorators

#TIL: This editor can have all sorts of #hashtags. Pretty #cool :)

```
import React, { Component } from 'react';
import { Editor, EditorState } from 'draft-js';

class TweetEditorExample extends React.Component {
  constructor() {
    super();
    this.state = {
      editorState: EditorState.createEmpty(compositeDecorator),
    };
    const compositeDecorator = new CompositeDecorator([
      {
        strategy: hashtagStrategy,
        component: HashtagSpan,
      }
    ]);
    this.focus = () => this.refs.editor.focus();
    this.onChange = (editorState) => this.setState({editorState});
  }

  render() {
    return (
      <div style={styles.root}>
        <div style={styles.editor} onClick={this.focus}>
          <Editor
            editorState={this.state.editorState}
            onChange={this.onChange}
            placeholder="Write a tweet..."
            ref="editor"
            spellCheck={true}
          />
        </div>
      </div>
    );
  }
}
```

```
const HASHTAG_REGEX = /\#[\w\u0590-\u05ff]+/g;

function hashtagStrategy(contentBlock, callback, contentState) {
  findWithRegex(HASHTAG_REGEX, contentBlock, callback);
}

function findWithRegex(regex, contentBlock, callback) {
  const text = contentBlock.getText();
  let matchArr, start;
  while ((matchArr = regex.exec(text)) !== null) {
    start = matchArr.index;
    callback(start, start + matchArr[0].length);
  }
}

const HashtagSpan = (props) => {
  return (
    <span
      style={styles.hashtag}
      data-offset-key={props.offsetKey}
    >
      {props.children}
    </span>
  );
};
```

Block render

What about unicorn stickers?



Saving

- Convert to and from JSON
- Convert to and from HTML

...also.. Draft.JS third-party plugins



Stickers



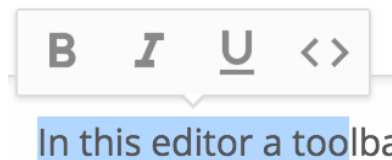
Emojis

74/140

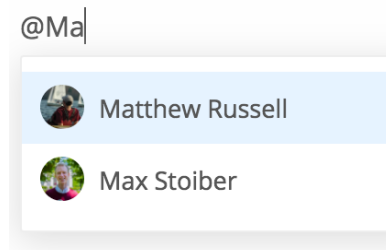
Counter

bit.ly

Linkify



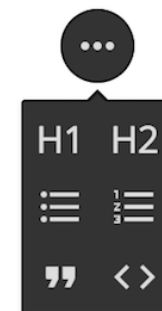
Inline toolbar



Mentions



Images



Side toolbar

And others...

That's all folks!