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| *<!-- index.html -->* <!DOCTYPE html> <html lang="en"> <head>  <meta charset="UTF-8">  <meta name="viewport" content="width=device-width, initial-scale=1.0">  <meta http-equiv="X-UA-Compatible" content="ie=edge">  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css">  <title>Document</title>   <style>  \* {  margin: 0;  padding: 0;  }   body {  background-color: #DDD;  transition-duration: 0.3s;  }   div {  margin: auto;  position: relative;  overflow: hidden;  background-color: #F1F1F1;  width: 1px;  height: 1px;  transition-duration: 0.3s;  }   nav {  position: absolute;  top: 0;  width: 100%;  height: 5%;  z-index: 1000;  background-color: #BBB;  transition-duration: 0.3s;  }   nav i {  color: #222222;  transition-duration: 0.3s;  margin: 5px;  }   nav i:hover {  cursor: pointer;  }   input {  position: fixed;  }  </style> </head> <body onresize='renderer.resize()'>   <form action="#">  <input type="file" id="input" onchange="parser.parse(this.files)">  </form>   <div onclick="renderer.refreshNav()">  <nav id="nav" onclick="renderer.refreshValue = 200;">  <i class="fa fa-adjust" onclick="renderer.toggleMode()"></i>  <i class="fa fa-chevron-left" onclick="renderer.previousPage()"></i>  <i class="fa fa-chevron-right" onclick="renderer.nextPage()"></i>  </nav>  </div> </body>  <footer>  <script src="renderer.js"></script>  <script src="parser.js"></script> </footer> </html> |

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| *// parser.js* var parser = {  parse: function(file) {  file = file[0];   var reader = new FileReader();  reader.addEventListener('load', function() {  var bookObject;  var error = false;   try {  bookObject = JSON.parse(reader.result);  }   catch(err) {  error = true;  }   if (!error) {  renderer.parse(bookObject);  }   else {  console.error('file not formatted correctly');  }  });   reader.readAsText(file);  } } |

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| *// renderer.js* var renderer = {  mode: 'light',  factor: 1,  refreshValue: 200,  currentPage: 0,  element: document.getElementsByTagName('div')[0],  object: new Object(),  text: {  *// a function that uses regex to determine whether or not a provided url is valid*  validateURL: function(string) {  pattern = /^(?:(?:https?|ftp):\/\/)?(?:(?!(?:10|127)(?:\.\d{1,3}){3})(?!(?:169\.254|192\.168)(?:\.\d{1,3}){2})(?!172\.(?:1[6-9]|2\d|3[0-1])(?:\.\d{1,3}){2})(?:[1-9]\d?|1\d\d|2[01]\d|22[0-3])(?:\.(?:1?\d{1,2}|2[0-4]\d|25[0-5])){2}(?:\.(?:[1-9]\d?|1\d\d|2[0-4]\d|25[0-4]))|(?:(?:[a-z\u00a1-\uffff0-9]-\*)\*[a-z\u00a1-\uffff0-9]+)(?:\.(?:[a-z\u00a1-\uffff0-9]-\*)\*[a-z\u00a1-\uffff0-9]+)\*(?:\.(?:[a-z\u00a1-\uffff]{2,})))(?::\d{2,5})?(?:\/\S\*)?$/;  if (pattern.test(string)) {  return true;  }   else {  return false;  }  }  },   *// contains all the methods that's needed to manipulate colors*  color: {  *// inverts the given hex color*  ABSTRACTION:  invert: function(hex) {  function padZero(string, length) {  length = length || 2;  var zeros = new Array(length).join('0');  return (zeros + string).slice(-length);  }   if (hex.indexOf('#') === 0) {  hex = hex.slice(1);  }   if (hex.length === 3) {  hex = hex[0] + hex[0] + hex[1] + hex[1] + hex[2] + hex[2];  }   if (hex.length !== 6) {  console.log(hex);  console.error('invalid hex value');  }   var rgb = [  (255 - parseInt(hex.slice(0, 2), 16)).toString(16),  (255 - parseInt(hex.slice(2, 4), 16)).toString(16),  (255 - parseInt(hex.slice(4, 6), 16)).toString(16)  ]   return '#' + padZero(rgb[0]) + padZero(rgb[1]) + padZero(rgb[2]);  },   *// converts a standard rgb css color attribute into a usable hexadecimal number*  toHex: function(rgb) {  var hexDigits = new Array('0','1','2','3','4','5','6','7','8','9','a','b','c','d','e','f');   function hex(x) {  return isNaN(x) ? "00" : hexDigits[(x - x % 16) / 16] + hexDigits[x % 16];  }  rgb = rgb.match(/^rgb\((\d+),\s\*(\d+),\s\*(\d+)\)$/);  return "#" + hex(rgb[1]) + hex(rgb[2]) + hex(rgb[3]);  }  },   *// contains all the methods required for loading urls (most are asynchronous)*  image: {  *// an asynchronous function that retrieves the base64 value of an image using the provided image uel*  url: function(input, callback) {  var img = new Image();  img.crossOrigin = 'Anonymous';  img.onload = function() {  var canvas = document.createElement('canvas');  var context = canvas.getContext('2d');  var dataURL;  canvas.width = this.width;  canvas.height = this.height;  context.drawImage(this, 0, 0);  dataURL = canvas.toDataURL();  callback(dataURL);  canvas = null;  };   img.src = input;  },   file: function(input) {    }  },   *// this toggles between "light" and "night" mode which just changes the styling of certain elements*  toggleMode: function() {  var navChildren = document.getElementById('nav').children;  if (renderer.mode == 'light') {  renderer.mode = 'night';  document.getElementsByTagName('body')[0].style.backgroundColor = '#111111';  document.getElementById('nav').style.backgroundColor = '#222222';  renderer.element.style.backgroundColor = "#333333";    for (var c = 0; c < navChildren.length; c++) {  navChildren[c].style.color = '#DDDDDD';  }  }   else if (renderer.mode == 'night') {  renderer.mode = 'light';  document.getElementsByTagName('body')[0].style.backgroundColor = '#DDDDDD';  document.getElementById('nav').style.backgroundColor = '#EEEEEE';  renderer.element.style.backgroundColor = '#FFFFFF';    for (var c = 0; c < navChildren.length; c++) {  navChildren[c].style.color = '#222222';  }  }   *//renderer.element.style.backgroundColor = renderer.color.invert(renderer.color.toHex(renderer.element.style.backgroundColor));*  for (var i = 0; i < renderer.element.children.length; i++) {  if (renderer.element.children[i].localName == 'p') {  renderer.element.children[i].style.color = renderer.color.invert(renderer.color.toHex(renderer.element.children[i].style.color));  }  }  },   refreshNav: function() {  if (renderer.refreshValue < 200) {  renderer.refreshValue = 200;  }   else {  renderer.refreshValue = 0;  }  },   nextPage: function() {  if (renderer.object.pages[renderer.currentPage + 1] != undefined) {  renderer.currentPage++;   while (renderer.element.lastChild.id != 'nav') {  renderer.element.removeChild(renderer.element.lastChild);  }   renderer.parse(renderer.object);  }  },   previousPage: function() {  if (renderer.object.pages[renderer.currentPage - 1] != undefined) {  renderer.currentPage--;  }   while (renderer.element.lastChild.id != 'nav') {  renderer.element.removeChild(renderer.element.lastChild);  }   renderer.parse(renderer.object);  },  ALGORITHM:  *// this method is triggered every time the window is resized; it basically proportionally resizes*  *// the page to match the window dimensions to get rid of the scroll bar that would normally be visable*  resize: function() {  var windowSize = [  window.innerWidth,  window.innerHeight  ]   pageSize = renderer.object.meta.size;   if (windowSize[0] < pageSize[0] || windowSize[1] < pageSize[1]) {  if (windowSize[0] < pageSize[0] && windowSize[1] < pageSize[1]) {  var biggest;  var page;   if (windowSize[0] > windowSize[1]) {  biggest = windowSize[0];  page = pageSize[0];  }   else if (windowSize[0] < windowSize[1]) {  biggest = windowSize[1];  page = pageSize[1];  }   renderer.factor = page/biggest;  }   else if (windowSize[0] < pageSize[0] && !(windowSize[1] < pageSize[1])) {  renderer.factor = pageSize[0]/windowSize[0];  }   else if (windowSize[1] < pageSize[1] && !(windowSize[0] < pageSize[0])) {  renderer.factor = pageSize[1]/windowSize[1];  }  }   renderer.element.style.width = renderer.object.meta.size[0]/renderer.factor + 'px';  renderer.element.style.height = renderer.object.meta.size[1]/renderer.factor + 'px';   for (var c = 0; c < renderer.element.children.length; c++) {  var pageItem = renderer.object.pages[renderer.currentPage][c];  if (renderer.element.children[c].getAttribute('id') != 'nav' && pageItem != undefined) {  if (pageItem.type == 'text') {  renderer.element.children[c].style.fontSize = pageItem.font.size/renderer.factor + 'px';   if (pageItem.size != undefined) {  var width = '';  var height = '';   if (pageItem.size[0] != undefined) {  width = pageItem.size[0]/renderer.factor + 'px';  }   if (pageItem.size[1] != undefined) {  height = pageItem.size[1]/renderer.factor + 'px';  }   renderer.element.children[c].style.width = width;  renderer.element.children[c].style.height = height;  }  }   if (pageItem.type == 'image') {  if (pageItem.size.mode == 'proportional') {  renderer.element.children[c].style.width = (pageItem.size.dimensions[0] \* pageItem.size.scale)/renderer.factor + 'px';  renderer.element.children[c].style.height = (pageItem.size.dimensions[1] \* pageItem.size.scale)/renderer.factor + 'px';  }  }   renderer.element.children[c].style.left = (pageItem.position[0]/renderer.factor) + 'px';  renderer.element.children[c].style.top = (pageItem.position[1]/renderer.factor) + 'px';  }  }  },   *// this parses the entire "bookObject" which is the json data that builds the displayed book*  parse: function(bookObj) {  renderer.object = bookObj;  renderer.resize();  var size = renderer.object.meta.size;   renderer.element.style.width = size[0]/renderer.factor + 'px';  renderer.element.style.height = size[1]/renderer.factor + 'px';  var currentPage = renderer.object.pages[renderer.currentPage];  for (var i = 0; i < currentPage.length; i++) {  var element;   var index = i + 1;   if (currentPage[index] != undefined) {  if (currentPage[index].type == 'text') {  element = document.createElement('p');  element.innerHTML = currentPage[index].value;   element.style.fontFamily = currentPage[index].font.family;  element.style.fontSize = currentPage[index].font.size/renderer.factor + 'px';   if (currentPage[index].size != undefined) {  element.style.display = 'block';  var width = '';  var height = '';  if (currentPage[index].size[0] != undefined) {  width = currentPage[index].size[0]/renderer.factor + 'px';  }   if (currentPage[index].size[1] != undefined) {  height = currentPage[index].size[1]/renderer.factor + 'px';  }   if (currentPage[index].size.length == 2) {  element.style.overflow = 'hidden';  }   element.style.width = width;  element.style.height = height;  }   if (currentPage[index].color != undefined) {  element.style.color = currentPage[index].color;  }   if (currentPage[index].tags != undefined) {  for (t = 0; t < currentPage[index].tags.length; t++) {  if (currentPage[index].tags[t] == 'centered') {  element.style.width = '100%';  element.style.textAlign = 'center';  }  }  }  }   else if (currentPage[index].type == 'image') {  element = document.createElement('img');  if (currentPage[index].size.mode == 'proportional') {  if (renderer.text.validateURL(currentPage[index].source)) {  element.setAttribute('src', currentPage[index].source);   var tempImage = new Image();  tempImage.addEventListener('load', function() {  currentPage[index-1].size.dimensions = [  this.naturalWidth,  this.naturalHeight  ]   element.style.width = (this.naturalWidth \* currentPage[index-1].size.scale)/renderer.factor + 'px';  element.style.height = (this.naturalHeight \* currentPage[index-1].size.scale)/renderer.factor + 'px';  });   tempImage.src = currentPage[index].source;  }  }  }   if (currentPage[index].transformations != undefined && currentPage[index].transformations.length != 0) {  for (var t = 0; t < currentPage[index].transformations.length; t++) {  if (currentPage[index].transformations[t].type == 'rotate') {  element.style.transform += 'rotate(' + currentPage[index].transformations[t].value + 'deg)';  }  }  }   element.style.position = 'absolute';  element.style.left = (currentPage[index].position[0]/renderer.factor) + 'px';  element.style.top = (currentPage[index].position[1]/renderer.factor) + 'px';  element.style.transitionDuration = '1s';   renderer.element.appendChild(element);  }  }   if (renderer.mode == 'night') {  for (var i = 0; i < renderer.element.children.length; i++) {  if (renderer.element.children[i].localName == 'p') {  renderer.element.children[i].style.color = renderer.color.invert(renderer.color.toHex(renderer.element.children[i].style.color));  }  }  }  } }  window.setInterval(function() {  var children = document.getElementById('nav').children;   for (c = 0; c < children.length; c++) {  children[c].style.fontSize = document.getElementById('nav').offsetHeight/1.2 + 'px';  }  if (renderer.refreshValue < 200) {  renderer.refreshValue++;  document.getElementById('nav').style.top = '0';  }   else {  document.getElementById('nav').style.top = '-' + document.getElementById('nav').offsetHeight + 'px';  } }, 20); |

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| // example.json {  "meta": {  "size": [800, 1200],  "title": "EXAMPLE BOOK",  "author": "THOMAS ACHATZ",  "repeatedItems": {  "pagenumber": {  "position": [10, 10],  "color": "#FF0000",  "font": ""  }  }  },   "pages": [  [  {},   {  "type": "text",  "position": [0],  "color": "#212121",  "value": "Page 1",  "font": {  "family": "Calibri",  "size": 56  },  "transformations": [],   "tags": ["centered"]  },   {  "type": "text",  "position": [10, 90],  "color": "#212121",  "value": "Multiple Columns",  "font": {  "family": "Calibri",  "size": 24  },   "transformations": []  },   {  "type": "text",  "position": [10, 120],  "color": "#FF0000",  "value": "01010100 01101000 01101001 01110011 00100000 01101001 01110011 00100000 01100011 01101111 01101100 01110101 01101101 01101110 00100000 00110001",  "font": {  "family": "Calibri",  "size": 12  },   "size": [100],   "transformations": []  },   {  "type": "text",  "position": [70, 120],  "color": "#00FF00",  "value": "01010100 01101000 01101001 01110011 00100000 01101001 01110011 00100000 01100011 01101111 01101100 01110101 01101101 01101110 00100000 00110010",  "font": {  "family": "Calibri",  "size": 12  },   "size": [100],   "transformations": []  },   {  "type": "text",  "position": [130, 120],  "color": "#0000FF",  "value": "01010100 01101000 01101001 01110011 00100000 01101001 01110011 00100000 01100011 01101111 01101100 01110101 01101101 01101110 00100000 00110011",  "font": {  "family": "Calibri",  "size": 12  },   "size": [100],   "transformations": []  },   {  "type": "text",  "position": [500, 170],  "color": "#212121",  "value": "Rotation Transformations",  "font": {  "family": "Calibri",  "size": 24  },   "transformations": []  },   {  "type": "text",  "position": [10, 800],  "color": "#212121",  "value": "Lorem ipsum dolor sit amet, habeo percipit antiopam sit et. Nam vocent docendi persecuti et, cum te prima dolor. Verear consulatu quo in, regione nostrud aliquando et cum. Summo dicit ad nam, labitur oporteat philosophia has ea. Stet adipisci nam at. Ad justo soluta eruditi mel, habeo salutatus in vel, his habeo everti iracundia eu. Cu apeirian scriptorem ius, agam partiendo ne est. Vim ex semper aliquip vivendo, nec posse debitis deleniti in, usu quas accusata no. Sit animal consulatu assentior eu. Veniam admodum scriptorem pri ei. Commodo aliquid vel eu, pro rebum minim dolores ut, sit ei munere expetenda pertinacia.Per munere nostrud intellegebat in. At meis dicunt discere vel, id saepe integre quo, choro eirmod facilisi at sit. Id utinam ridens quidam cum, sea in purto diceret bonorum, sensibus postulant pri ea. Mei enim graece ad. Et eripuit alienum qui, his ullum everti blandit an.His et agam bonorum iudicabit. Ut eum quidam torquatos. In reque congue labores pro, qui no illud nonumes, novum urbanitas mea te. Eu natum audiam detracto quo, ne tritani prompta vel, per in liber commodo. Eu cum disputando referrentur, est eu primis vocent omnesque, saperet voluptua dissentiet ex qui. Prompta delicata rationibus et mel, eu velit voluptatum scripserit ius.Errem soleat salutatus id mel, ei principes molestiae qui. Ea cum legimus veritus, ex vix illud maiestatis. Pri choro accusata concludaturque ad, has te elitr everti. Melius suscipit ad duo, eum ad nulla prompta, an augue dicam omnesque vis. Alia choro oporteat quo ad.",  "font": {  "family": "Calibri",  "size": 14  },   "size": [750],   "transformations": []  },   {  "type": "image",  "position": [500, 200],  "source": "http://diylogodesigns.com/blog/wp-content/uploads/2016/04/google-logo-icon-PNG-Transparent-Background-768x768.png",  "size": {  "mode": "proportional",  "scale": 0.3  },  "transformations": [  {  "type": "rotate", "value": 45  }  ]  }  ],   [  {},   {  "type": "text",  "position": [0],  "color": "#212121",  "value": "Page 2",  "font": {  "family": "Calibri",  "size": 56  },  "transformations": [],   "tags": ["centered"]  },   {  "type": "text",  "position": [10, 60],  "color": "#212121",  "value": "Lorem ipsum dolor sit amet, habeo percipit antiopam sit et. Nam vocent docendi persecuti et, cum te prima dolor. Verear consulatu quo in, regione nostrud aliquando et cum. Summo dicit ad nam, labitur oporteat philosophia has ea. Stet adipisci nam at. Ad justo soluta eruditi mel, habeo salutatus in vel, his habeo everti iracundia eu. Cu apeirian scriptorem ius, agam partiendo ne est. Vim ex semper aliquip vivendo, nec posse debitis deleniti in, usu quas accusata no. Sit animal consulatu assentior eu. Veniam admodum scriptorem pri ei. Commodo aliquid vel eu, pro rebum minim dolores ut, sit ei munere expetenda pertinacia.Per munere nostrud intellegebat in. At meis dicunt discere vel, id saepe integre quo, choro eirmod facilisi at sit. Id utinam ridens quidam cum, sea in purto diceret bonorum, sensibus postulant pri ea. Mei enim graece ad. Et eripuit alienum qui, his ullum everti blandit an.His et agam bonorum iudicabit. Ut eum quidam torquatos. In reque congue labores pro, qui no illud nonumes, novum urbanitas mea te. Eu natum audiam detracto quo, ne tritani prompta vel, per in liber commodo. Eu cum disputando referrentur, est eu primis vocent omnesque, saperet voluptua dissentiet ex qui. Prompta delicata rationibus et mel, eu velit voluptatum scripserit ius.Errem soleat salutatus id mel, ei principes molestiae qui. Ea cum legimus veritus, ex vix illud maiestatis. Pri choro accusata concludaturque ad, has te elitr everti. Melius suscipit ad duo, eum ad nulla prompta, an augue dicam omnesque vis. Alia choro oporteat quo ad.",  "font": {  "family": "Calibri",  "size": 14  },   "size": [750],   "transformations": []  },   {  "type": "text",  "position": [10, 330],  "color": "#212121",  "value": "Lorem ipsum dolor sit amet, habeo percipit antiopam sit et. Nam vocent docendi persecuti et, cum te prima dolor. Verear consulatu quo in, regione nostrud aliquando et cum. Summo dicit ad nam, labitur oporteat philosophia has ea. Stet adipisci nam at. Ad justo soluta eruditi mel, habeo salutatus in vel, his habeo everti iracundia eu. Cu apeirian scriptorem ius, agam partiendo ne est. Vim ex semper aliquip vivendo, nec posse debitis deleniti in, usu quas accusata no. Sit animal consulatu assentior eu. Veniam admodum scriptorem pri ei. Commodo aliquid vel eu, pro rebum minim dolores ut, sit ei munere expetenda pertinacia.Per munere nostrud intellegebat in. At meis dicunt discere vel, id saepe integre quo, choro eirmod facilisi at sit. Id utinam ridens quidam cum, sea in purto diceret bonorum, sensibus postulant pri ea. Mei enim graece ad. Et eripuit alienum qui, his ullum everti blandit an.His et agam bonorum iudicabit. Ut eum quidam torquatos. In reque congue labores pro, qui no illud nonumes, novum urbanitas mea te. Eu natum audiam detracto quo, ne tritani prompta vel, per in liber commodo. Eu cum disputando referrentur, est eu primis vocent omnesque, saperet voluptua dissentiet ex qui. Prompta delicata rationibus et mel, eu velit voluptatum scripserit ius.Errem soleat salutatus id mel, ei principes molestiae qui. Ea cum legimus veritus, ex vix illud maiestatis. Pri choro accusata concludaturque ad, has te elitr everti. Melius suscipit ad duo, eum ad nulla prompta, an augue dicam omnesque vis. Alia choro oporteat quo ad.",  "font": {  "family": "Calibri",  "size": 14  },   "size": [750],   "transformations": []  },   {  "type": "text",  "position": [10, 630],  "color": "#212121",  "value": "Lorem ipsum dolor sit amet, habeo percipit antiopam sit et. Nam vocent docendi persecuti et, cum te prima dolor. Verear consulatu quo in, regione nostrud aliquando et cum. Summo dicit ad nam, labitur oporteat philosophia has ea. Stet adipisci nam at. Ad justo soluta eruditi mel, habeo salutatus in vel, his habeo everti iracundia eu. Cu apeirian scriptorem ius, agam partiendo ne est. Vim ex semper aliquip vivendo, nec posse debitis deleniti in, usu quas accusata no. Sit animal consulatu assentior eu. Veniam admodum scriptorem pri ei. Commodo aliquid vel eu, pro rebum minim dolores ut, sit ei munere expetenda pertinacia.Per munere nostrud intellegebat in. At meis dicunt discere vel, id saepe integre quo, choro eirmod facilisi at sit. Id utinam ridens quidam cum, sea in purto diceret bonorum, sensibus postulant pri ea. Mei enim graece ad. Et eripuit alienum qui, his ullum everti blandit an.His et agam bonorum iudicabit. Ut eum quidam torquatos. In reque congue labores pro, qui no illud nonumes, novum urbanitas mea te. Eu natum audiam detracto quo, ne tritani prompta vel, per in liber commodo. Eu cum disputando referrentur, est eu primis vocent omnesque, saperet voluptua dissentiet ex qui. Prompta delicata rationibus et mel, eu velit voluptatum scripserit ius.Errem soleat salutatus id mel, ei principes molestiae qui. Ea cum legimus veritus, ex vix illud maiestatis. Pri choro accusata concludaturque ad, has te elitr everti. Melius suscipit ad duo, eum ad nulla prompta, an augue dicam omnesque vis. Alia choro oporteat quo ad.",  "font": {  "family": "Calibri",  "size": 14  },   "size": [750],   "transformations": []  }  ]  ] } |