

Scratch3.0 gui 代码学习

1. 启动过程打印信息：

#

npm start

> scratch-gui@0.1.0 start /home/bibaodi/demo/scratch-gui
> webpack-dev-server

```
Project is running at http://0.0.0.0:8601/
webpack output is served from /
Content not from webpack is served from /home/bibaodi/demo/scratch-gui/build
webpack: wait until bundle finished: /
Hash: 9f02fcd9a3d80661cf07
Version: webpack 3.8.1
Time: 24980ms

   Asset      Size  Chunks             Chunk Names
static/blocks-media/icons/event_when-broadcast-received_green.svg 1.65 kB    [emitted]
   gui.js    2.97 kB    0 [emitted]      gui
   blocksonly.js    3.67 kB    2 [emitted]      blocksonly
   lib.min.js    9.68 MB    3 [emitted] [big]  lib
   gui.js.map    3.24 kB    0 [emitted]      gui
   player.js.map    5.17 kB    1 [emitted]      player
   blocksonly.js.map    3.88 kB    2 [emitted]      blocksonly
   lib.min.js.map    10.9 MB    3 [emitted]      lib
   index.html    314 bytes    [emitted]
   blocks-only.html    342 bytes    [emitted]
   player.html    333 bytes    [emitted]
   static/blocks-media/1x1.gif    43 bytes    [emitted]
   static/blocks-media/click.mp3    8.13 kB    [emitted]
   static/blocks-media/click.ogg    5.45 kB    [emitted]
   static/blocks-media/delete.mp3    9.8 kB    [emitted]
   static/blocks-media/delete.wav    11.9 kB    [emitted]
   static/blocks-media/delete.ogg    8.62 kB    [emitted]
static/blocks-media/dropdown-arrow-dark.svg 573 bytes    [emitted]
   static/blocks-media/dropdown-arrow.svg    569 bytes    [emitted]
   static/blocks-media/eyedropper.svg    3.55 kB    [emitted]
   static/blocks-media/green-flag.svg    1.19 kB    [emitted]
   static/blocks-media/handclosed.cur    326 bytes    [emitted]
   static/blocks-media/handdelete.cur    766 bytes    [emitted]
   static/blocks-media/handopen.cur    198 bytes    [emitted]
   static/blocks-media/icons/arrow.svg    1.21 kB    [emitted]
static/blocks-media/icons/control_forever.svg    4.67 kB    [emitted]
static/blocks-media/icons/control_repeat.svg    1.99 kB    [emitted]
static/blocks-media/icons/control_stop.svg    301 bytes    [emitted]
static/blocks-media/icons/control_wait.svg    1.14 kB    [emitted]
static/blocks-media/icons/event_broadcast_blue.svg    1.65 kB    [emitted]
static/blocks-media/icons/event_broadcast_coral.svg    1.66 kB    [emitted]
static/blocks-media/icons/event_broadcast_green.svg    1.66 kB    [emitted]
static/blocks-media/icons/event_broadcast_magenta.svg    1.66 kB    [emitted]
static/blocks-media/icons/event_broadcast_orange.svg    1.66 kB    [emitted]
static/blocks-media/icons/event_broadcast_purple.svg    1.65 kB    [emitted]
static/blocks-media/icons/event_when-broadcast-received_blue.svg    1.65 kB    [emitted]
static/blocks-media/icons/event_when-broadcast-received_coral.svg    1.65 kB    [emitted]
   player.js    7.13 kB    1 [emitted]      player
static/blocks-media/icons/event_when-broadcast-received_magenta.svg    1.66 kB    [emitted]
static/blocks-media/icons/event_when-broadcast-received_orange.svg    1.66 kB    [emitted]
static/blocks-media/icons/event_when-broadcast-received_purple.svg    1.65 kB    [emitted]
   static/blocks-media/icons/event_whenflagclicked.svg    634 bytes    [emitted]
   static/blocks-media/icons/set-led_blue.svg    2.04 kB    [emitted]
   static/blocks-media/icons/set-led_coral.svg    2.04 kB    [emitted]
   static/blocks-media/icons/set-led_green.svg    2.04 kB    [emitted]
   static/blocks-media/icons/set-led_magenta.svg    2.04 kB    [emitted]
   static/blocks-media/icons/set-led_mystery.svg    2.96 kB    [emitted]
   static/blocks-media/icons/set-led_orange.svg    2.04 kB    [emitted]
   static/blocks-media/icons/set-led_purple.svg    2.04 kB    [emitted]
   static/blocks-media/icons/set-led_white.svg    2.04 kB    [emitted]
   static/blocks-media/icons/set-led_yellow.svg    2.04 kB    [emitted]
   static/blocks-media/icons/wedo_motor-clockwise.svg    3.75 kB    [emitted]
static/blocks-media/icons/wedo_motor-counterclockwise.svg    3.73 kB    [emitted]
   static/blocks-media/icons/wedo_motor-speed_fast.svg    4.33 kB    [emitted]
   static/blocks-media/icons/wedo_motor-speed_med.svg    4.35 kB    [emitted]
   static/blocks-media/icons/wedo_motor-speed_slow.svg    4.36 kB    [emitted]
static/blocks-media/icons/wedo_when-distance_close.svg    4.75 kB    [emitted]
static/blocks-media/icons/wedo_when-tilt-backward.svg    4.91 kB    [emitted]
static/blocks-media/icons/wedo_when-tilt-forward.svg    4.93 kB    [emitted]
   static/blocks-media/icons/wedo_when-tilt-left.svg    3.65 kB    [emitted]
   static/blocks-media/icons/wedo_when-tilt-right.svg    3.66 kB    [emitted]
   static/blocks-media/icons/wedo_when-tilt.svg    4.11 kB    [emitted]
   static/blocks-media/repeat.svg    1.24 kB    [emitted]
   static/blocks-media/rotate-left.svg    1.06 kB    [emitted]
   static/blocks-media/rotate-right.svg    1.06 kB    [emitted]
   static/blocks-media/sprites.png    4.15 kB    [emitted]
   static/blocks-media/sprites.svg    1.77 kB    [emitted]
   static/blocks-media/zoom-in.svg    634 bytes    [emitted]
   static/blocks-media/zoom-out.svg    582 bytes    [emitted]
   static/blocks-media/zoom-reset.svg    501 bytes    [emitted]
   static/blocks-media/click.wav    3.19 kB    [emitted]
static/extensions/example-extension.js    9.99 kB    [emitted]
   extension-worker.js.map    41.7 kB    [emitted]
   extension-worker.js    43.4 kB    [emitted]
[0] ./node_modules/react/index.js 190 bytes {3} [built]
[16] ./node_modules/react-dom/index.js 1.36 kB {3} [built]
[27] (webpack)-dev-server/client?http://0.0.0.0:8601 7.95 kB {3} [built]
[33] ./node_modules/url/url.js 23.3 kB {3} [built]
[36] ./src/lib/app-state-hoc.jsx 1.86 kB {3} [built]
[47] ./src/containers/gui.jsx 5.71 kB {3} [built]
[132] multi (webpack)-dev-server/client?http://0.0.0.0:8601 react react-dom 52 bytes {3} [built]
[150] ./node_modules/react/cjs/react.development.js 55.3 kB {3} [built]
[166] multi (webpack)-dev-server/client?http://0.0.0.0:8601 ./src/index.jsx 40 bytes {0} [built]
[167] ./src/index.jsx 1 kB {0} [built]
[459] ./src/index.css 1.2 kB {0} [built]
[461] multi (webpack)-dev-server/client?http://0.0.0.0:8601 ./src/examples/blocks-only.jsx 40 bytes {2} [built]
[462] ./src/examples/blocks-only.jsx 1.88 kB {2} [built]
[465] multi (webpack)-dev-server/client?http://0.0.0.0:8601 ./src/examples/player.jsx 40 bytes {1} [built]
```

```
[466] ./src/examples/player.jsx 5.49 kB {1} [built]
+ 454 hidden modules
Child html-webpack-plugin for "index.html":
  1 asset
    [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
    [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
    [2] (webpack)/buildin/global.js 488 bytes {0} [built]
    [3] (webpack)/buildin/module.js 495 bytes {0} [built]
Child html-webpack-plugin for "blocks-only.html":
  1 asset
    [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
    [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
    [2] (webpack)/buildin/global.js 488 bytes {0} [built]
    [3] (webpack)/buildin/module.js 495 bytes {0} [built]
Child html-webpack-plugin for "player.html":
  1 asset
    [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
    [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
    [2] (webpack)/buildin/global.js 488 bytes {0} [built]
    [3] (webpack)/buildin/module.js 495 bytes {0} [built]
webpack: Compiled successfully.
```

2. 既然程序启动需要执行 npm start 那么就从 npm start 开始学习，掌握这方面的框架知识后就可以能够进阶了。

>在 NodeJS 项目中，用 package.json 文件来声明项目中使用的模块[\[http://www.cnblogs.com/zhang-jian/p/5035424.html\]](http://www.cnblogs.com/zhang-jian/p/5035424.html)

>工程文件中 node_modules 目录下存放所有的库文件。

>让我研究增加新的 blocky 的功能 https://wiki.scratch.mit.edu/wiki/Blocks#Pen_blocks

>package.json 里面的 peerdependencies [\[https://nodejs.org/en/blog/npm/peer-dependencies/\]](https://nodejs.org/en/blog/npm/peer-dependencies/)

>npm start 执行后，是执行的 package.json 里面的 scripts 里面对应的项 “node ./node_modules/webpack-dev-server/bin/webpack-dev-server.js”。这个就可以进一步了，后面比较关键的就是 webpack 的执行，webpack 是一个很重要的组成部分。webpack 很重要的一个配置文件 webpack.config.js。scripts 中 start 对应的部分是 “start”: “webpack-dev-server”。

>package.conf 字段详解解释了 npm scripts 中各个字段的意义[\[https://docs.npmjs.com/misc/scripts\]](https://docs.npmjs.com/misc/scripts)
[\[http://www.cnblogs.com/dtdxr/p/4758265.html\]](http://www.cnblogs.com/dtdxr/p/4758265.html)

>现在开始分析 webpack-dev-server [\[http://www.cnblogs.com/hhhyaon/p/5664002.html\]](http://www.cnblogs.com/hhhyaon/p/5664002.html)
[\[https://segmentfault.com/a/1190000006964335\]](https://segmentfault.com/a/1190000006964335)

>webpack 教程解释了 webpack.config.js 这个配置文件的意义[\[https://blog.zfanw.com/webpack-tutorial/\]](https://blog.zfanw.com/webpack-tutorial/) 这个说明一个知识点：block 方面的代码存放于(blockonly: './src/examples/blocks-only.jsx')。到达这里说明了一点，webpack 的作用主要的用来作为一个方便的打包、部署、发布的工具，然而 webpack-dev-server 主要是服务与 webpack 的。

>主要的工作代码开始于 index.jsx。既有 react 的语法又有 jsx 语法特性。

[\[http://www.runoob.com/react/react-tutorial.html\]](http://www.runoob.com/react/react-tutorial.html) 菜鸟教程开始入门，哈哈

>如果想要增加自己的 block，那么只要修改/scratch-gui/node_modules/scratch-blocks/里面的文件，然后重新编译生效就可以了。

建议参考网站：

1. npm 官方: <https://www.npmjs.com/>
2. react 入门教材: <http://www.ruanyifeng.com/blog/2015/03/react.html> 阮一峰
3. react 官方文档: <https://reactjs.org/docs/react-api.html#react.children>
4. HOC 介绍: <https://segmentfault.com/a/1190000008112017>

npm start

```
> scratch-gui@0.1.0 start /home/bibaodi/demo/scratch-gui
> webpack-dev-server
```

```
Project is running at http://0.0.0.0:8601/
webpack output is served from /
Content not from webpack is served from /home/bibaodi/demo/scratch-gui/build
Hash: 9f02fcd9a3d80661cf07
Version: webpack 3.8.1
Time: 24619ms
```

Asset	Size	Chunks	Chunk Names
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```

static/blocks-media/icons/event_when-broadcast-received_green.svg 1.65 kB [emitted]
  gui.js 2.97 kB 0 [emitted] gui
    blocksonly.js 3.67 kB 2 [emitted] blocksonly
      lib.min.js 9.68 MB 3 [emitted] [big] lib
        gui.js.map 3.24 kB 0 [emitted] gui
          player.js.map 5.17 kB 1 [emitted] player
            blocksonly.js.map 3.88 kB 2 [emitted] blocksonly
              lib.min.js.map 10.9 MB 3 [emitted] lib
                index.html 314 bytes [emitted]
                blocks-only.html 342 bytes [emitted]
                player.html 333 bytes [emitted]
                static/blocks-media/1x1.gif 43 bytes [emitted]
                static/blocks-media/click.mp3 8.13 kB [emitted]
                static/blocks-media/click.ogg 5.45 kB [emitted]
                static/blocks-media/delete.mp3 9.8 kB [emitted]
                static/blocks-media/delete.ogg 8.62 kB [emitted]
                static/blocks-media/delete.wav 11.9 kB [emitted]
            static/blocks-media/dropdown-arrow-dark.svg 573 bytes [emitted]
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            static/blocks-media/icons/event_broadcast_magenta.svg 1.66 kB [emitted]
            static/blocks-media/icons/event_broadcast_orange.svg 1.66 kB [emitted]
            static/blocks-media/icons/event_broadcast_purple.svg 1.65 kB [emitted]
            static/blocks-media/icons/event_when-broadcast-received_blue.svg 1.65 kB [emitted]
            static/blocks-media/icons/event_when-broadcast-received_coral.svg 1.65 kB [emitted]
            player.js 7.13 kB 1 [emitted] player
static/blocks-media/icons/event_when-broadcast-received_magenta.svg 1.66 kB [emitted]
static/blocks-media/icons/event_when-broadcast-received_orange.svg 1.66 kB [emitted]
static/blocks-media/icons/event_when-broadcast-received_purple.svg 1.65 kB [emitted]
  static/blocks-media/icons/event_whenflagclicked.svg 634 bytes [emitted]
    static/blocks-media/icons/set-led_blue.svg 2.04 kB [emitted]
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    static/blocks-media/icons/wedo_when-tilt-backward.svg 4.91 kB [emitted]
    static/blocks-media/icons/wedo_when-tilt-forward.svg 4.93 kB [emitted]
    static/blocks-media/icons/wedo_when-tilt-left.svg 3.65 kB [emitted]
    static/blocks-media/icons/wedo_when-tilt-right.svg 3.66 kB [emitted]
    static/blocks-media/icons/wedo_when-tilt.svg 4.11 kB [emitted]
      static/blocks-media/repeat.svg 1.24 kB [emitted]
      static/blocks-media/rotate-left.svg 1.06 kB [emitted]
      static/blocks-media/rotate-right.svg 1.06 kB [emitted]
      static/blocks-media/sprites.png 4.15 kB [emitted]
      static/blocks-media/sprites.svg 1.77 kB [emitted]
      static/blocks-media/zoom-in.svg 634 bytes [emitted]
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      static/blocks-media/zoom-reset.svg 501 bytes [emitted]
      static/blocks-media/dropdown-arrow.svg 569 bytes [emitted]
    static/extensions/example-extension.js 9.99 kB [emitted]
      extension-worker.js 43.4 kB [emitted]
      extension-worker.js.map 41.7 kB [emitted]
[0] ./node_modules/react/index.js 190 bytes {3} [built]
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[27] (webpack)-dev-server/client?http://0.0.0.0:8601 7.95 kB {3} [built]
[33] ./node_modules/url/url.js 23.3 kB {3} [built]
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[47] ./src/containers/gui.jsx 5.71 kB {3} [built]
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[167] ./src/index.jsx 1 kB {0} [built]
[459] ./src/index.css 1.2 kB {0} [built]
[461] multi (webpack)-dev-server/client?http://0.0.0.0:8601 ./src/examples/blocks-only.jsx 40 bytes {2} [built]
[462] ./src/examples/blocks-only.jsx 1.88 kB {2} [built]
[465] multi (webpack)-dev-server/client?http://0.0.0.0:8601 ./src/examples/player.jsx 40 bytes {1} [built]
[466] ./src/examples/player.jsx 5.49 kB {1} [built]
+ 454 hidden modules

```

Child html-webpack-plugin for "index.html":

- 1 asset
 - [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
 - [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
 - [2] (webpack)/buildin/global.js 488 bytes {0} [built]
 - [3] (webpack)/buildin/module.js 495 bytes {0} [built]

Child html-webpack-plugin for "blocks-only.html":

- 1 asset
 - [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
 - [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
 - [2] (webpack)/buildin/global.js 488 bytes {0} [built]
 - [3] (webpack)/buildin/module.js 495 bytes {0} [built]

Child html-webpack-plugin for "player.html":

- 1 asset
 - [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
 - [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
 - [2] (webpack)/buildin/global.js 488 bytes {0} [built]
 - [3] (webpack)/buildin/module.js 495 bytes {0} [built]

webpack: Compiled successfully.