

util.js

В модуль `util.js` вынесены вспомогательные функции

Исходный код модуля

Для анализа исходного кода возьмем версию модуля `util.js`, которая находится [здесь](#)

1. Исключение видео кодеков из SDP

`stripCodecs()` code

```
const stripCodecs = function(sdp, codecs) {
  if (!codecs.length) return sdp;
  var sdpArray = sdp.split("\n");
  var codecsArray = codecs.split(",");

  //search and delete codecs line
  var pt = [];
  var i;
  for (var p = 0; p < codecsArray.length; p++) {
    console.log("Searching for codec " + codecsArray[p]);
    for (i = 0; i < sdpArray.length; i++) {
      if (sdpArray[i].search(new RegExp(codecsArray[p], 'i')) !== -1 &&
sdpArray[i].indexOf("a=rtpmap") === 0) {
        console.log(codecsArray[p] + " detected");
        pt.push(sdpArray[i].match(/[0-9+]/)[0]);
        sdpArray[i] = "";
      }
    }
  }
  if (pt.length) {
    //searching for fmp
    for (p = 0; p < pt.length; p++) {
      for (i = 0; i < sdpArray.length; i++) {
        if (sdpArray[i].search("a=fmp:" + pt[p]) !== -1 ||
sdpArray[i].search("a=rtcp-fb:" + pt[p]) !== -1) {
          sdpArray[i] = "";
        }
      }
    }
  }

  //delete entries from m= line
  for (i = 0; i < sdpArray.length; i++) {
    if (sdpArray[i].search("m=audio") !== -1 ||
sdpArray[i].search("m=video") !== -1) {
      var mLineSplitted = sdpArray[i].split(" ");
```

```

        var newMLine = "";
        for (var m = 0; m < mLineSplitted.length; m++) {
            if (pt.indexOf(mLineSplitted[m].trim()) === -1 || m <= 2)
            {
                newMLine += mLineSplitted[m];
                if (m < mLineSplitted.length - 1) {
                    newMLine = newMLine + " ";
                }
            }
            sdpArray[i] = newMLine;
        }
    }
}

//normalize sdp after modifications
var result = "";
for (i = 0; i < sdpArray.length; i++) {
    if (sdpArray[i] !== "") {
        result += sdpArray[i] + "\n";
    }
}
return result;
}
}

```

2. Исключение всех видео кодеков из SDP, кроме указанного

`stripVideoCodecsExcept()` code

```

const stripVideoCodecsExcept = function (sdp, codec) {
    let actualStripCodec = "rtx";
    if (codec === "VP8") {
        actualStripCodec += ",H264";
    } else if (codec === "H264") {
        actualStripCodec += ",VP8";
    } else {
        return sdp;
    }
    return stripCodecs(sdp, actualStripCodec);
}

```

3. Формирование websocket URL сервера

`setURL()` code

```

const setURL = function () {
    var proto;
    var url;
    var port;
    if (window.location.protocol == "http:") {
        proto = "ws://";
        port = "8080";
    } else {

```

```

    proto = "wss://";
    port = "8443";
  }

  url = proto + window.location.hostname + ":" + port;
  return url;
}

```

4. Получение параметра из URL

`getUrlParam()` code

```

const getUrlParam = function (name) {
  var url = window.location.href;
  name = name.replace(/[\[\]]/g, "\\$&");
  var regex = new RegExp("[?&]" + name + "=(^[^&]*)|&|#|$", "");
  results = regex.exec(url);
  if (!results) return null;
  if (!results[2]) return '';
  return decodeURIComponent(results[2].replace(/\+/g, " "));
}

```

5. Генерация UUID

`createUUID()` code

```

const createUUID = function (length) {
  var s = [];
  var hexDigits = "0123456789abcdef";
  for (var i = 0; i < 36; i++) {
    s[i] = hexDigits.substr(Math.floor(Math.random() * 0x10), 1);
  }
  s[14] = "4";
  s[19] = hexDigits.substr((s[19] & 0x3) | 0x8, 1);
  s[8] = s[13] = s[18] = s[23] = "-";

  var uuid = s.join("");

  return uuid.substring(0, length);
}

```

6. Объект для определения браузера

`Browser()` code

```

const Browser = function() {
  const isIE = function () {
    return /*@cc_on!*/false || !!document.documentMode;
  }

  const isFirefox = function () {

```

```

    return typeof InstallTrigger !== 'undefined';
}

const isChrome = function () {
    return !!window.chrome && /Chrome/.test(navigator.userAgent) &&
    /Google Inc/.test(navigator.vendor) && !/OPR/.test(navigator.userAgent);
}

const isEdge = function () {
    return !this.isIE() && !!window.StyleMedia;
}

const isOpera = function () {
    return (!!window.opr && !!opr.addons) || !!window.opera ||
    navigator.userAgent.indexOf(' OPR/') >= 0;
}

const isiOS = function () {
    return /iPad|iPhone|iPod/.test(navigator.userAgent) &&
    !window.MSStream;
}

const isSafari = function () {
    let userAgent = navigator.userAgent.toLowerCase();
    return /(safari|applewebkit)/i.test(userAgent) &&
    !userAgent.includes("chrome") && !userAgent.includes("android");
}

const isAndroid = function () {
    return navigator.userAgent.toLowerCase().indexOf("android") > -1;
}

const isSafariWebRTC = function () {
    return navigator.mediaDevices && this.isSafari();
}

const isSamsungBrowser = function () {
    return /SamsungBrowser/i.test(navigator.userAgent);
}

const isAndroidFirefox = function () {
    return this.isAndroid() && /Firefox/i.test(navigator.userAgent);
}

const isMobile = function () {
    return this.isAndroid() || this.isiOS();
}

return {
    isIE: isIE,
    isFirefox: isFirefox,
    isChrome: isChrome,
    isEdge: isEdge,
    isOpera: isOpera,
    isSafari: isSafari,
    isSafariWebRTC: isSafariWebRTC,
    isSamsungBrowser: isSamsungBrowser,
    isAndroid: isAndroid,

```

```
    isiOS: isiOS,  
    isAndroidFirefox: isAndroidFirefox,  
    isMobile: isMobile  
  }  
}
```

7. Обход для проигрывания звука в Safari 12 при помощи прелоадера

`playFirstSound()` [code](#)

```
const playFirstSound = function (parent, preloader) {  
  return new Promise(function (resolve, reject) {  
    let audio = document.createElement("audio");  
    audio.controls = "controls";  
    audio.muted = true;  
    audio.hidden = true;  
    audio.preload = "auto";  
    audio.type="audio/mpeg";  
    if (preloader) {  
      audio.src = preloader;  
      parent.appendChild(audio);  
      audio.play().then(function() {  
        audio.remove();  
        resolve();  
      }).catch(function (e) {  
        console.error("Can't play preloader: " + e);  
        reject();  
      });  
    }  
    return;  
  }  
  resolve();  
});  
}
```

8. Получение короткого идентификатора участника комнаты

`getShortUserId()` [code](#)

```
const getShortUserId = function (userId) {  
  return userId.substring(0, 4);  
}
```