

config.js

В модуль `config.js` вынесены функции для конфигурации комнаты и доступа к локальным медиа устройствам в соответствии с файлом конфигурации. Пример файла конфигурации:

```
{
  "room": {
    "url": "ws://127.0.0.1:8080",
    "name": "ROOM1",
    "pin": "1234",
    "nickName": "User1",
    "failedProbesThreshold": 5,
    "pingInterval": 5000
  },
  "media": {
    "audio": {
      "tracks": [{
        "source": "mic",
        "channels": 2,
        "type": "mic1"
      }]
    },
    "video": {
      "tracks": [
        {
          "source": "camera",
          "width": 1280,
          "height": 720,
          "codec": "H264",
          "constraints": {
            "frameRate": 25
          },
          "encodings": [
            { "rid": "180p", "active": true, "maxBitrate": 200000,
              "scaleResolutionDownBy": 4 },
            { "rid": "360p", "active": true, "maxBitrate": 500000,
              "scaleResolutionDownBy": 2 },
            { "rid": "720p", "active": true, "maxBitrate": 900000 }
          ],
          "type": "cam1"
        }
      ]
    }
  }
}
```

Исходный код модуля

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

1. Получение конфигурации комнаты

`getRoomConfig()` [code](#)

```
const getRoomConfig = function(config) {
  let roomConfig = {
    url: config.room.url || "ws://127.0.0.1:8080",
    roomName: config.room.name || "ROOM1",
    pin: config.room.pin || "1234",
    nickname: config.room.nickName || "User1"
  };
  if (config.room.failedProbesThreshold !== undefined) {
    roomConfig.failedProbesThreshold = config.room.failedProbesThreshold;
  }
  if (config.room.pingInterval !== undefined) {
    roomConfig.pingInterval = config.room.pingInterval;
  }
  return roomConfig;
}
```

2. Получение списка видео потоков с доступом к локальным медиа устройствам

`getVideoStreams()` [code](#)

```
const getVideoStreams = async function(config) {
  let streams = [];
  if (config.media && config.media.video && config.media.video.tracks) {
    streams = await getStreams(config.media.video.tracks);
  }
  return streams;
}
```

3. Получение списка аудио потоков с доступом к локальным медиа устройствам

`getAudioStreams()` [code](#)

```
const getAudioStreams = async function(config) {
  let streams = [];
  if (config.media && config.media.audio && config.media.audio.tracks) {
    streams = await getStreams(config.media.audio.tracks);
  }
  return streams;
}
```

4. Получение доступа к медиа устройствам и добавление потока в список

`getStreams()` code

```
const getStreams = async function(tracks) {
  let streams = [];
  for (let track of tracks) {
    let stream = await getMedia(track);
    if (stream) {
      streams.push({
        stream: stream,
        encodings: track.encodings,
        source: track.source,
        type: track.type
      });
    }
  }
  return streams;
}
```

5. Получение доступа к медиа устройствам в соответствии с заданными ограничениями

5.1. Настройка ограничений аудио

`getMedia()` code

```
const getMedia = async function(track) {
  //convert to constraints
  let screen = false;
  const constraints= {};
  if (track.source === "mic") {
    //audio
    constraints.audio = {};
    if (track.constraints) {
      constraints.audio = track.constraints;
    }
    constraints.audio.stereo = track.channels !== 1
    if (track.channels && track.channels === 2) {
      constraints.audio.echoCancellation = false;
      constraints.audio.googEchoCancellation = false;
    }
  } else if (track.source === "camera") {
    ...
  } else if (track.source === "screen") {
    ...
  }
  ...
  return stream;
}
```

5.2. Настройка ограничений видео

`getMedia()` code

```
const getMedia = async function(track) {
  //convert to constraints
  let screen = false;
  const constraints= {};
  if (track.source === "mic") {
    ...
  } else if (track.source === "camera") {
    constraints.video = {};
    if (track.constraints) {
      constraints.video = track.constraints;
    }
    constraints.video.width = track.width;
    constraints.video.height = track.height;
  } else if (track.source === "screen") {
    ...
  }
  ...
  return stream;
}
```

5.3. Настройка ограничений для захвата экрана

`getMedia()` code

```
const getMedia = async function(track) {
  //convert to constraints
  let screen = false;
  const constraints= {};
  if (track.source === "mic") {
    ...
  } else if (track.source === "camera") {
    ...
  } else if (track.source === "screen") {
    constraints.video = {};
    if (track.constraints) {
      constraints.video = track.constraints;
    }
    constraints.video.width = track.width;
    constraints.video.height = track.height;
    screen = true;
  }
  ...
  return stream;
}
```

5.4. Получение доступа к локальным медиа устройствам

`getMedia()` code

```
const getMedia = async function(track) {
  //convert to constraints
  let screen = false;
  const constraints= {};
  if (track.source === "mic") {
    ...
  } else if (track.source === "camera") {
    ...
  } else if (track.source === "screen") {
    ...
  }

  //get access to a/v
  let stream;
  if (screen) {
    stream = await navigator.mediaDevices.getDisplayMedia(constraints);
  } else {
    stream = await navigator.mediaDevices.getUserMedia(constraints);
  }
  return stream;
}
```