

DGU Chat with WebRTC

Prof. Dongho Kim



3조

석정한, 심희오, 강정석, 천혜

WebRTC 소개

WebRTC (Web Real-Time Communication)는 웹 브라우저 간에 플러그인 도움 없이 상호 통신할 수 있도록 설계된 API이다.

WebRTC는 구글이 오픈소스화한 프로젝트에서 기원하였으며, 그 뒤로 국제 인터넷 표준화 기구(IETF)가 프로토콜 표준화 작업을, W3C가 API 정의를 진행하였다.

음성 통화, 영상 통화, 파일 공유 등으로 활용 될 수 있다.

WebRTC 를 주목해야하는 이유 (유저)

Easy to Use

No PlugIn

No Install

Any OS

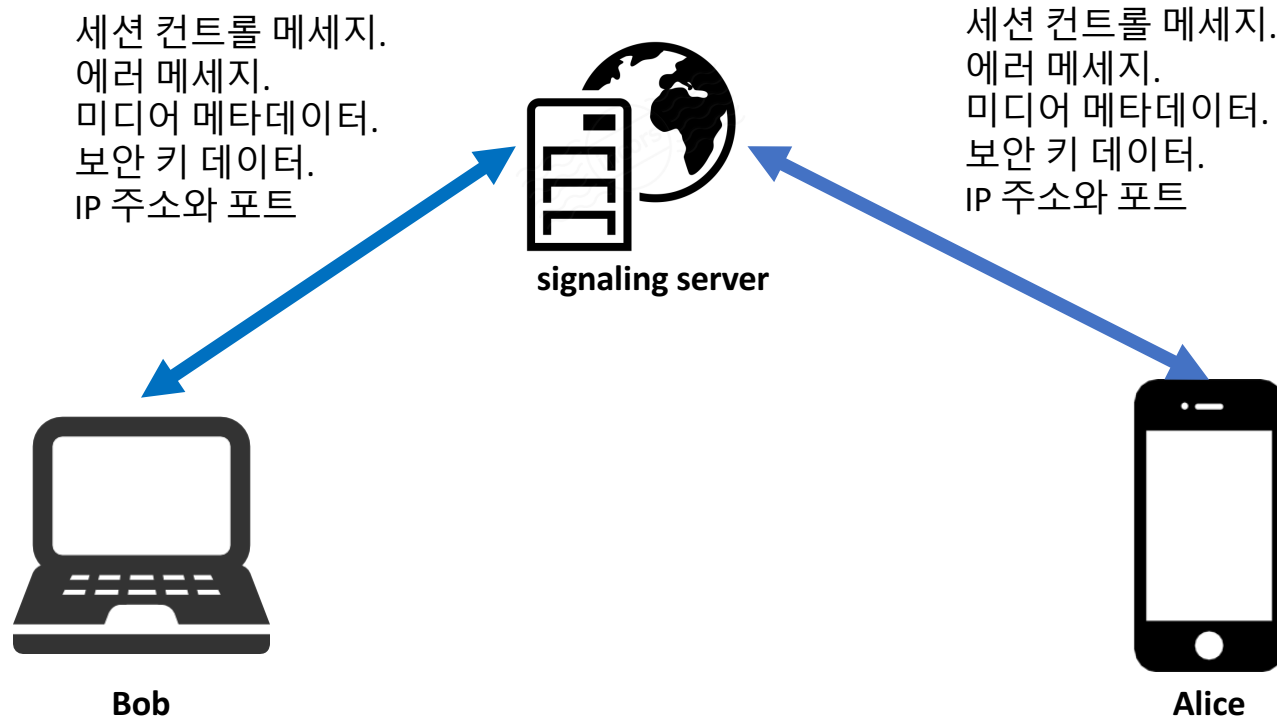
WebRTC 를 주목해야하는 이유 (개발자)

Easy to Build and Save Money

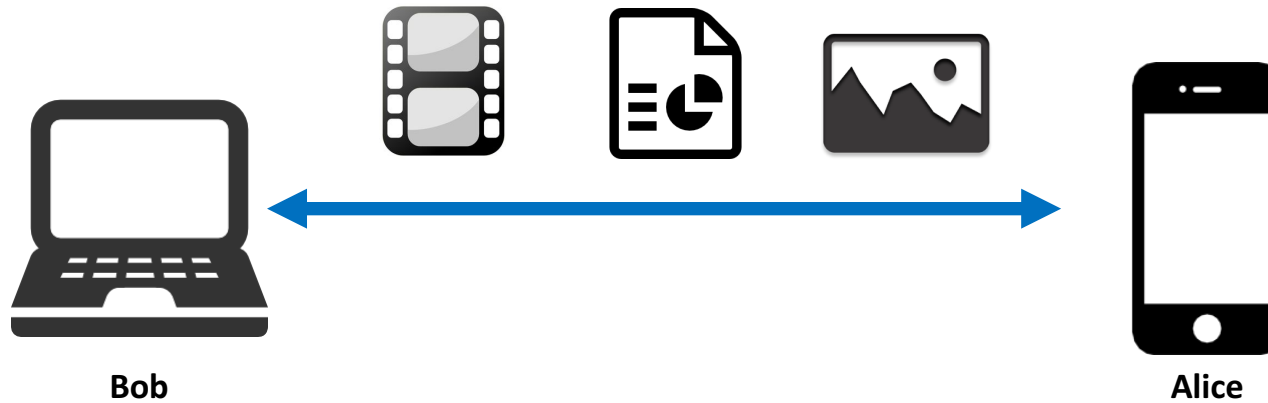
Javascript API

Less server traffic

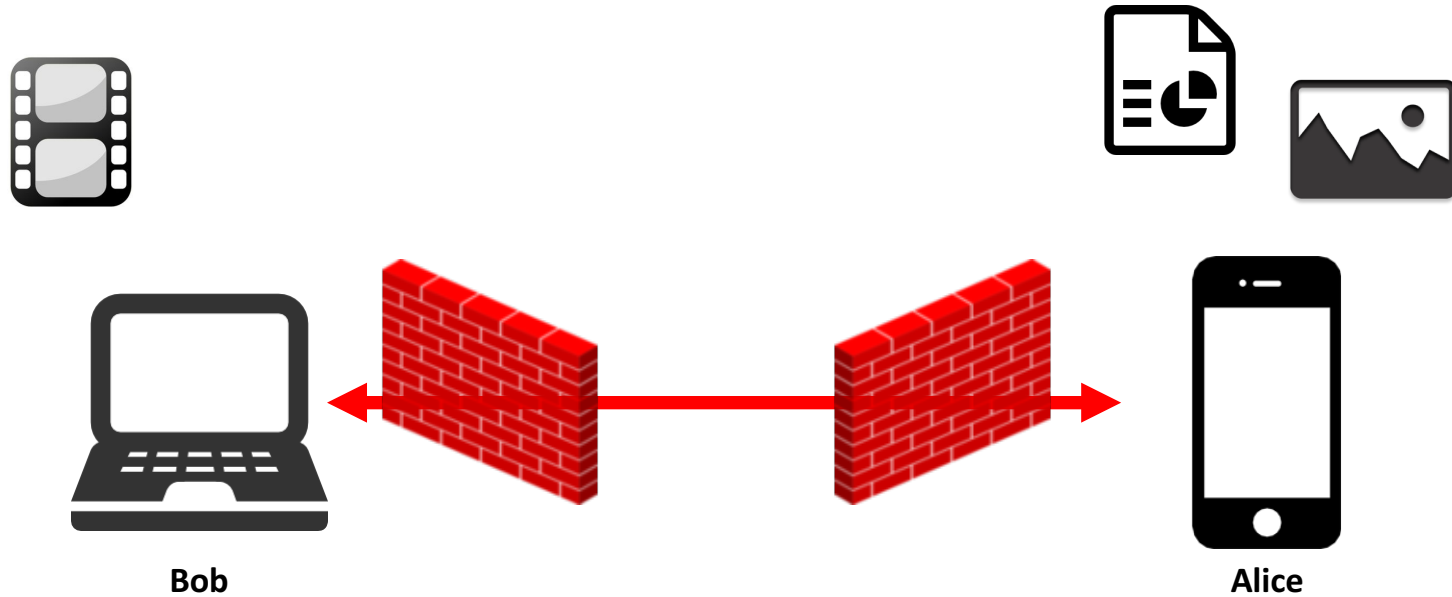
WebRTC 통신 방식



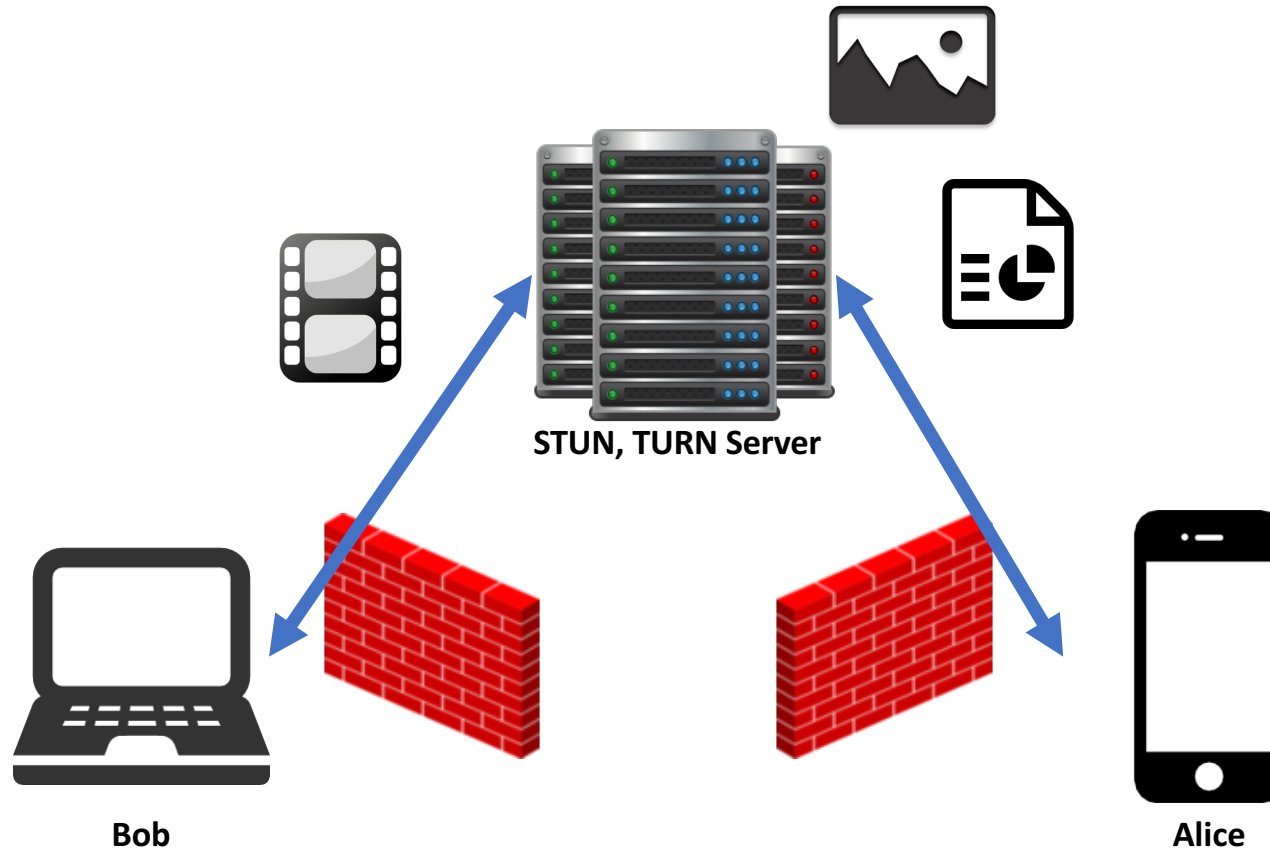
WebRTC 통신 방식



WebRTC 통신 방식



WebRTC 통신 방식



WebRTC 통신 방식 : STUN, TURN Server

STUN (Simple Traversal of UDP Through NAT) 서버

사내망 환경에 NAT를 통해 공인IP, Port를 알아내는 역할

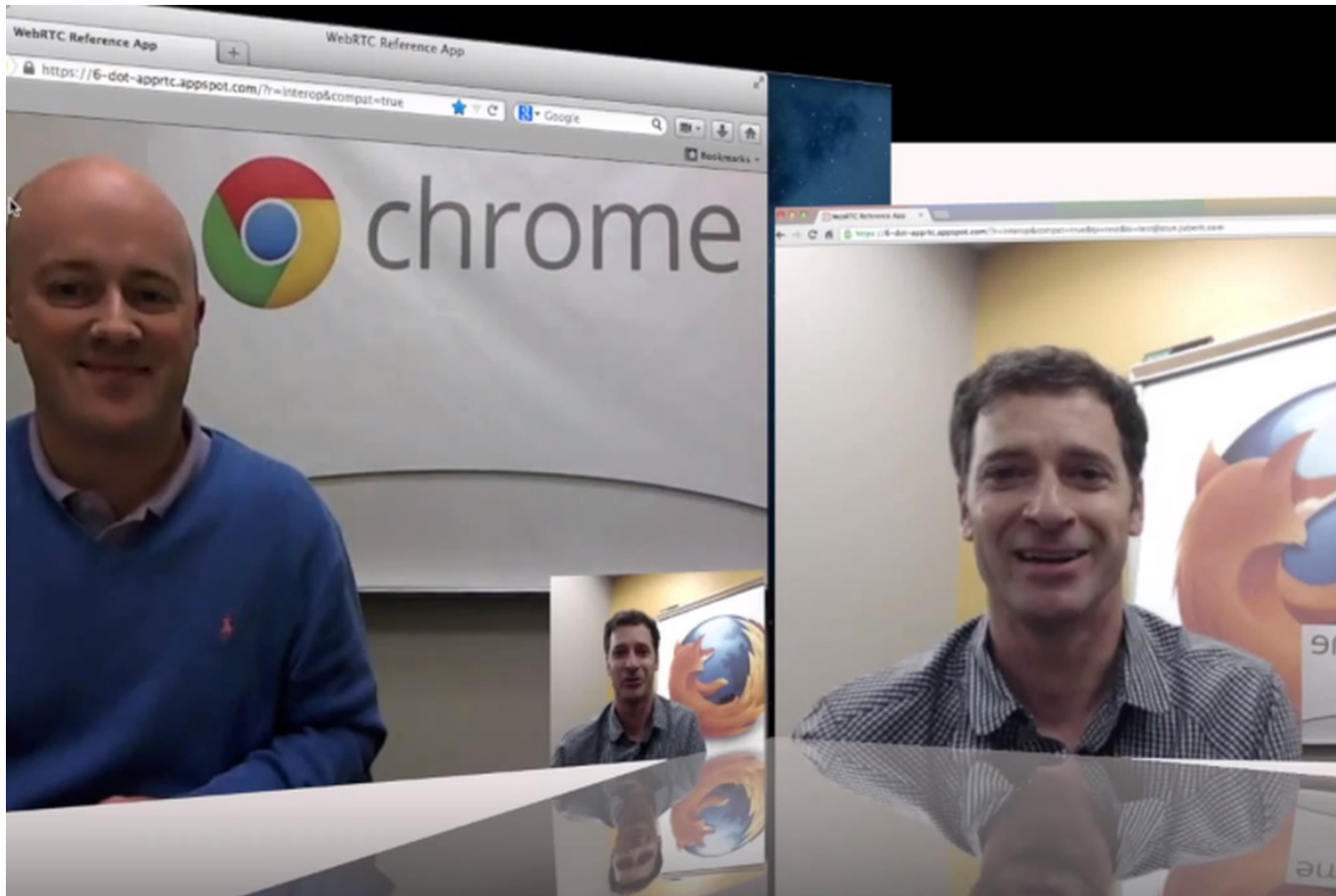
TURN (Traversal Using Relay NAT) 서버

P2P 연결이 안되는 환경일때 트래픽을 중계

WebRTC 통신 방식 : STUN, TURN Server

```
{url: 'stun:stun01.sipphone.com'},  
{url: 'stun:stun.ekiga.net'},  
{url: 'stun:stun.fwdnet.net'},  
{url: 'stun:stun.ideasip.com'},  
{url: 'stun:stun.ipstel.org'},  
{url: 'stun:stun.rixtelecom.se'},  
{url: 'stun:stun.schlund.de'},  
{url: 'stun:stun.l.google.com:19302'},  
{url: 'stun:stun1.l.google.com:19302'},  
{url: 'stun:stun2.l.google.com:19302'},  
{url: 'stun:stun3.l.google.com:19302'},  
{url: 'stun:stun4.l.google.com:19302'},  
{url: 'stun:stunserver.org'},  
{url: 'stun:stun.softjoys.com'},  
{url: 'stun:stun.voiparound.com'},  
{url: 'stun:stun.voipbuster.com'},  
{url: 'stun:stun.voipstunt.com'},  
{url: 'stun:stun.voxgratia.org'},  
{url: 'stun:stun.xten.com'},
```

프로젝트 소개



프로젝트 선정이유

무료이면서 매우 강력하고 간편한 채팅 앱 개발

프로젝트 기대 효과 (사용자)

용량 제한 없는 빠른 데이터 교환

인터넷 회의, 강의, 상담 등 다양한 활용

프로젝트 기대 효과 (개발자)

간편한 앱 개발

강력한 기능 구현

유료 서비스 보다 저렴한 비용 효과

Ex) SKT PlayRTC – 1년 계약 1천만원

프로젝트 진행 방식



석정한










심희오
강정석



천혜

WebRTC 지원 브라우저

Browser support scorecard

							
	Canary	Chrome 33	Nightly	Firefox 28	IE	Safari	Opera 20
PeerConnections	Green	Green	Green	Green	Red	Red	Green
getUserMedia	Green	Green	Green	Green	Red	Red	Green
mediaConstraints	Yellow	Yellow	Yellow	Red	Red	Red	Yellow
TURN support	Green	Green	Green	Green	Red	Red	Green
MediaStream API	Green	Green	Yellow	Yellow	Red	Red	Green
WebAudio	Green	Green	Green	Green	Red	Red	Green
Integration	Green	Green	Green	Green	Red	Red	Green
reliable dataChannels	Green	Green	Green	Green	Red	Red	Green
unreliable dataChannels	Green	Green	Green	Green	Red	Red	Green
Screen Sharing	Green	Yellow	Red	Red	Red	Red	Red
Stream re-broadcasting	Yellow	Yellow	Red	Red	Red	Red	Red
Solid interoperability	Yellow	Yellow	Yellow	Yellow	Red	Red	Yellow
Echo cancellation	Green	Yellow	Yellow	Red	Red	Red	Yellow

WebKit (웹킷)



**Web Browser를 만들 수 있는 오픈소스 개발 엔진
(WebRTC 지원)**

GUI Tool Kit



GTK

+



WebKit

=

어려운 빌드
많은 에러

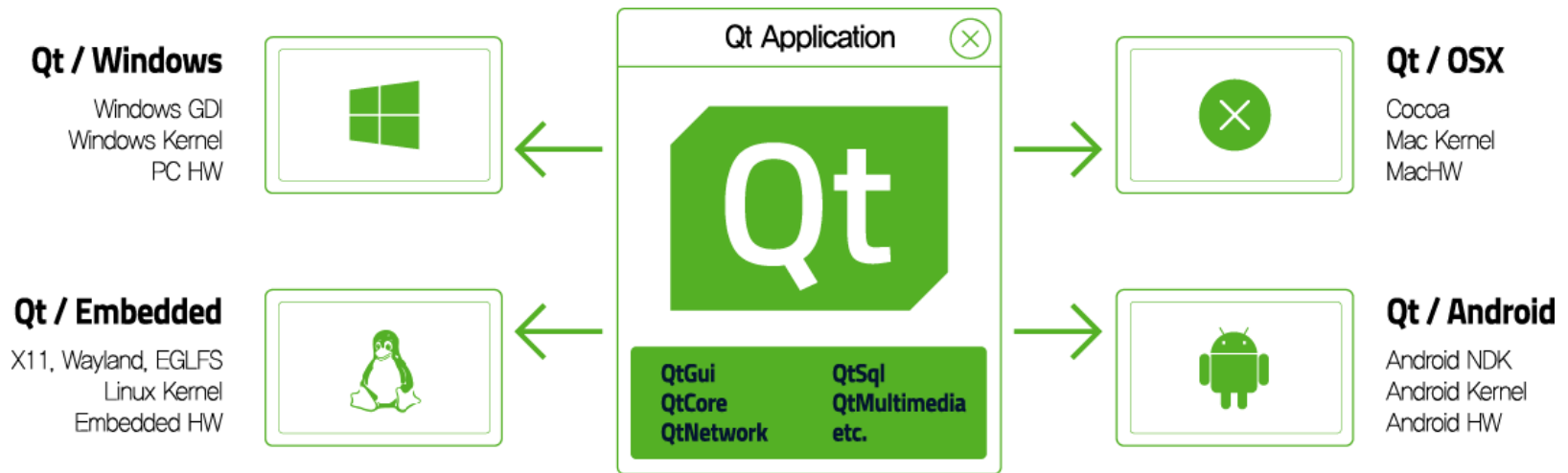


Qt5 (WebKit, WebEngine)

=

Just
Install
once
Success!

Qt



"write once, compile anywhere"

GUI 개발 프레임워크, 크로스 플랫폼 지원

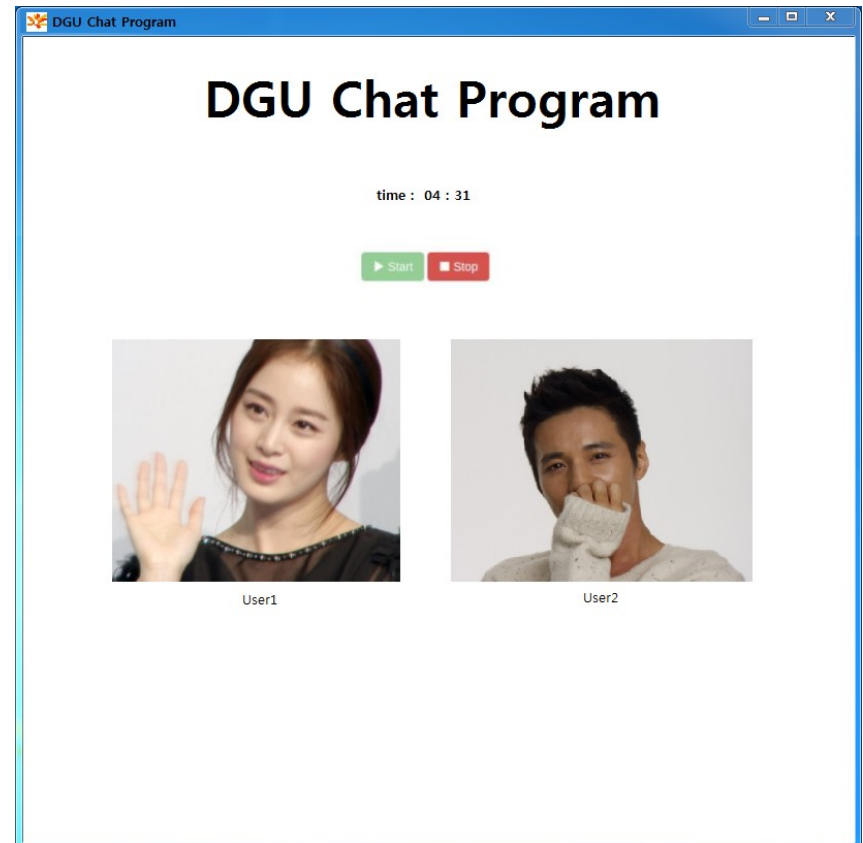
Qt 예상 결과물, 기대효과

브라우저가 없어도,

OS 상관 없이,

플랫폼 상관 없이,

Just Run It!



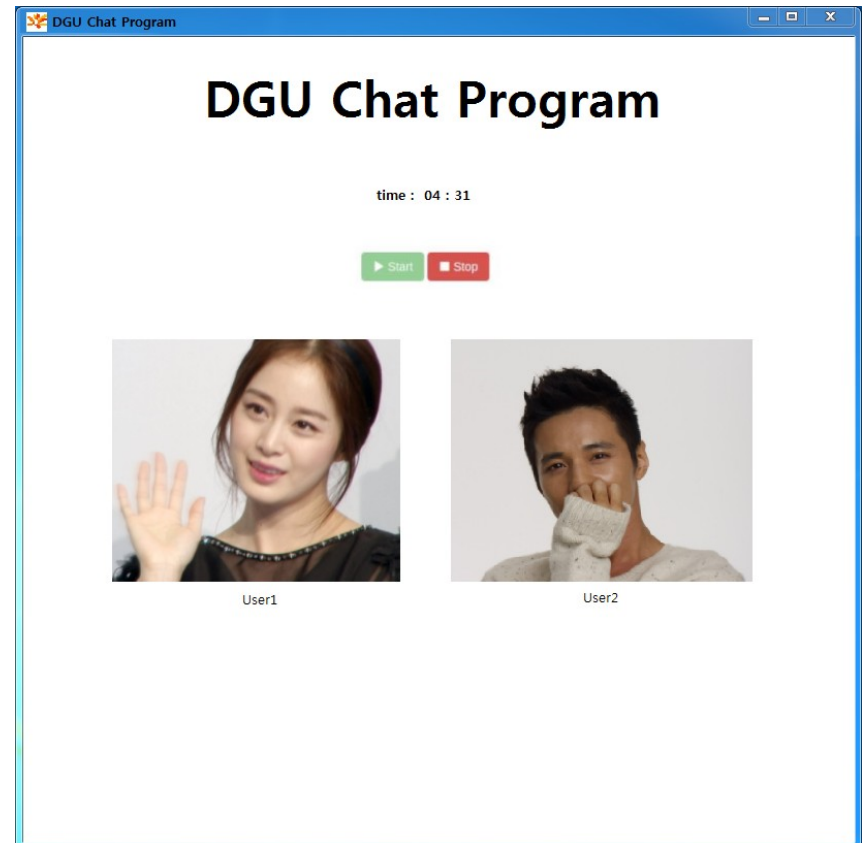
Qt 예상 결과물, 기대효과

브라우저가 없어도,

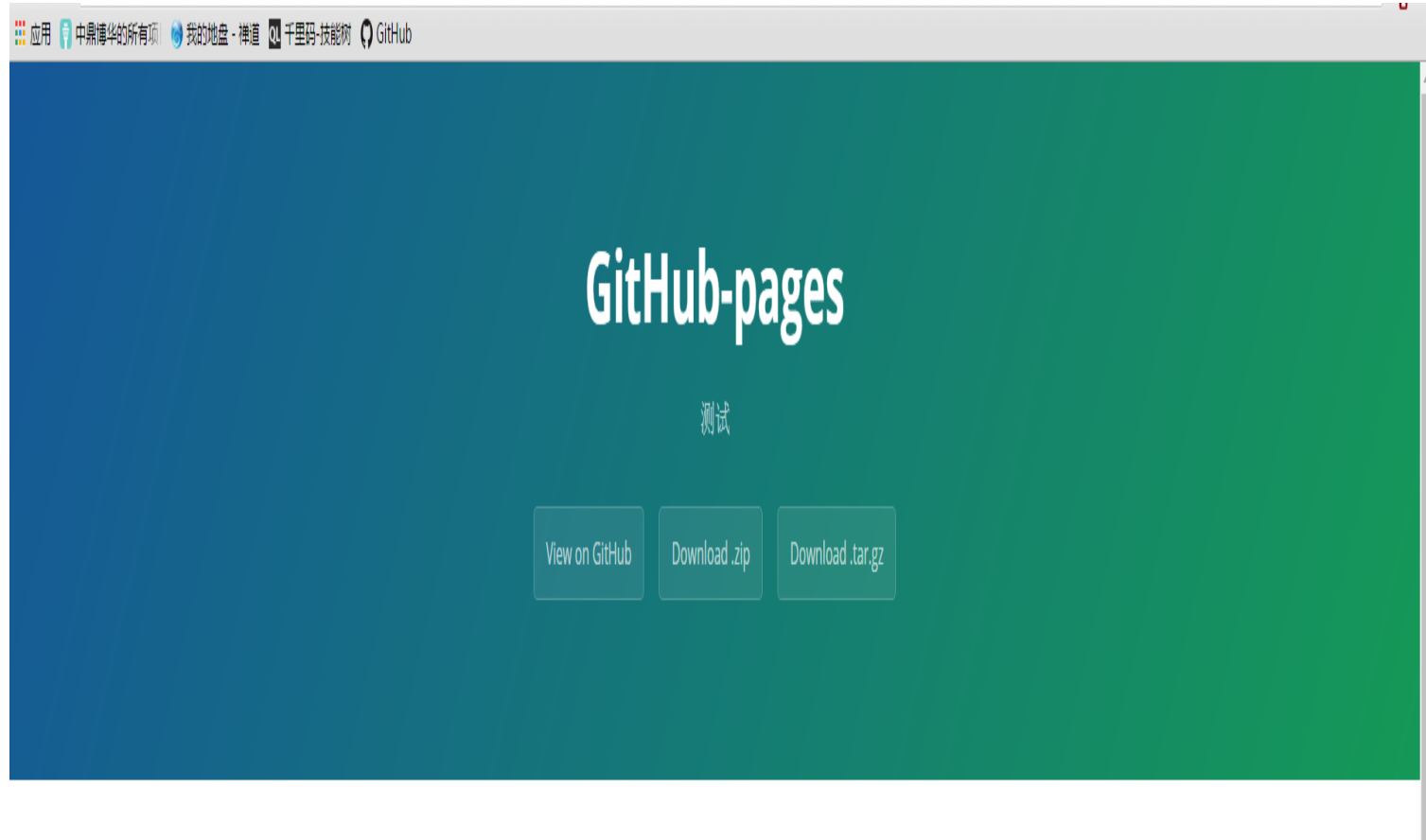
OS 상관 없이,

플랫폼 상관 없이,

Just Run It!



Github Pages



Github Pages를 사용하는 이유

1. 쉽고 무료로 설정 할수있다.
2. 정적 스크립트 를지원 하다.
3. git, markdown, Jekyll. 이런거를 마음대로 사용할수있다.
4. 도메인 이름을 바인딩할수있다.

Github Pages 자세한 내용 설명


1. repository 를 만들고 프로젝트 이름의 사용자를 생성하고 readme를 만들면 더 좋을 것 같다.

Create a new repository


A repository contains all the files for your project, including the revision history.

Owner

Repository name


 CHEN HUI

 /


github-pages 

Great repository names are short and memorable. Need inspiration? How about **probable-computing-machine**.

Description (optional)

☒  **Public**

Anyone can see this repository. You choose who can commit.

☐  **Private**

You choose who can see and commit to this repository.

☒ **Initialize this repository with a README**
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

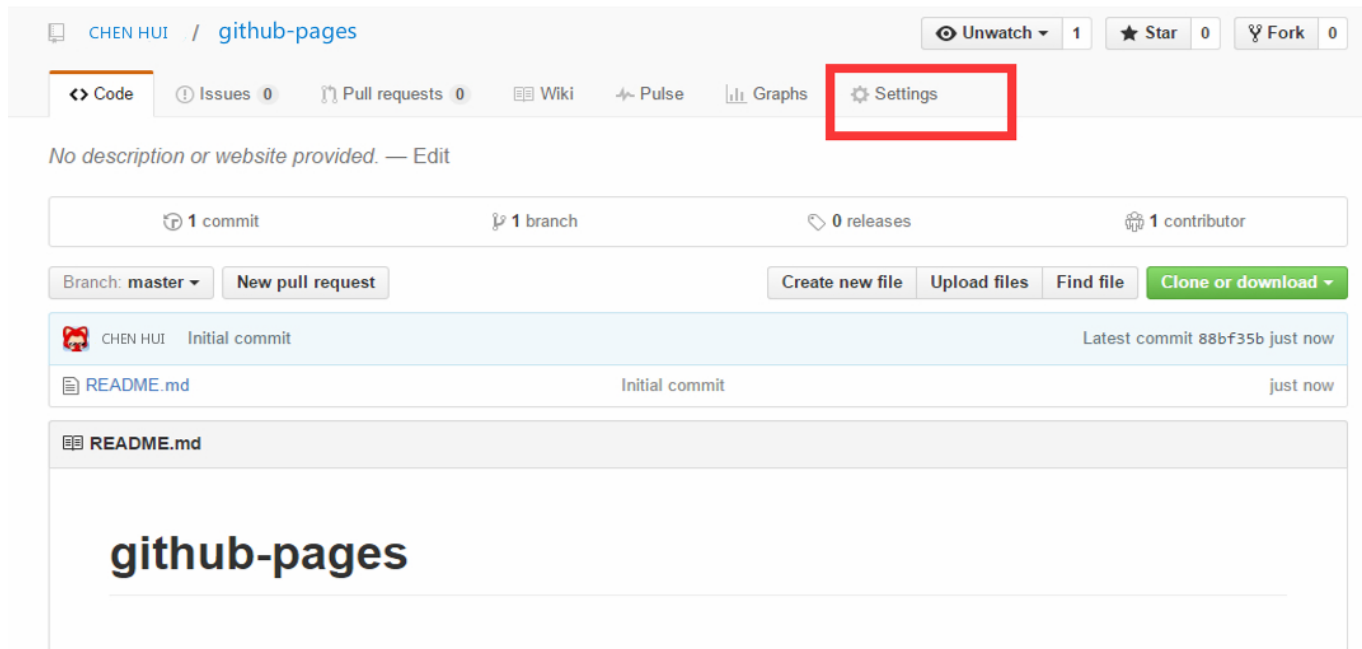
Add .gitignore: **None**

 |

Add a license: **None** ⓘ

Create repository

2. Setting



CHEN HUI / github-pages

Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Wiki Pulse Graphs **Settings**

No description or website provided. — Edit

1 commit 1 branch 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

CHEN HUI Initial commit Latest commit 88bf35b just now

README.md Initial commit just now

README.md

github-pages

Settings

Repository name

github-pages

Rename

Features

☒ Wikis

GitHub Wikis is a simple way to let others contribute content. Any GitHub user can create and edit pages to use for documentation, examples, support, or anything you wish.

☒ Restrict editing to collaborators only

Public wikis will still be readable by everyone.

☒ Issues

GitHub Issues adds lightweight issue tracking tightly integrated with your repository. Add issues to milestones, label issues, and close & reference issues from commit messages.

Merge button

When merging pull requests, you can allow merge commits, squashing, or both.

☒ Allow merge commits

Add all commits from the head branch to the base branch with a merge commit.

☒ Allow squash merging

Combine all commits from the head branch into a single commit in the base branch.

GitHub Pages

Automatic page generator

Create a beautiful site for your project with our automatic [GitHub Pages](#) generator. Author your content in our Markdown editor, select a theme, then publish.

Launch automatic page generator

3. 정보를 입력

Project name

GitHub-pages

Tagline

测试

Body

h1 **h2** **h3**



B

i



Load README.md

Undo

Markdown supported

Block Elements

Span Elements

Miscellaneous

Paragraphs & Breaks

Headers

Blockquotes

Lists

Code Blocks

Horizontal Rules

To create a paragraph, simply create a block of text that is not separated by one or more blank lines. Blocks of text separated by one or more blank lines will be parsed as paragraphs.

If you want to create a line break, end a line with two or more spaces, then hit Return/Enter.

Welcome to GitHub Pages.

This automatic page generator is the easiest way to create beautiful pages for all of your projects. Author your page content here [using GitHub Flavored Markdown](https://guides.github.com/features/mastering-markdown/), select a template crafted by a designer, and publish. After your page is generated, you can check out the new 'gh-pages' branch locally. If you're using GitHub Desktop, simply sync your repository and you'll see the new branch.

Designer Templates

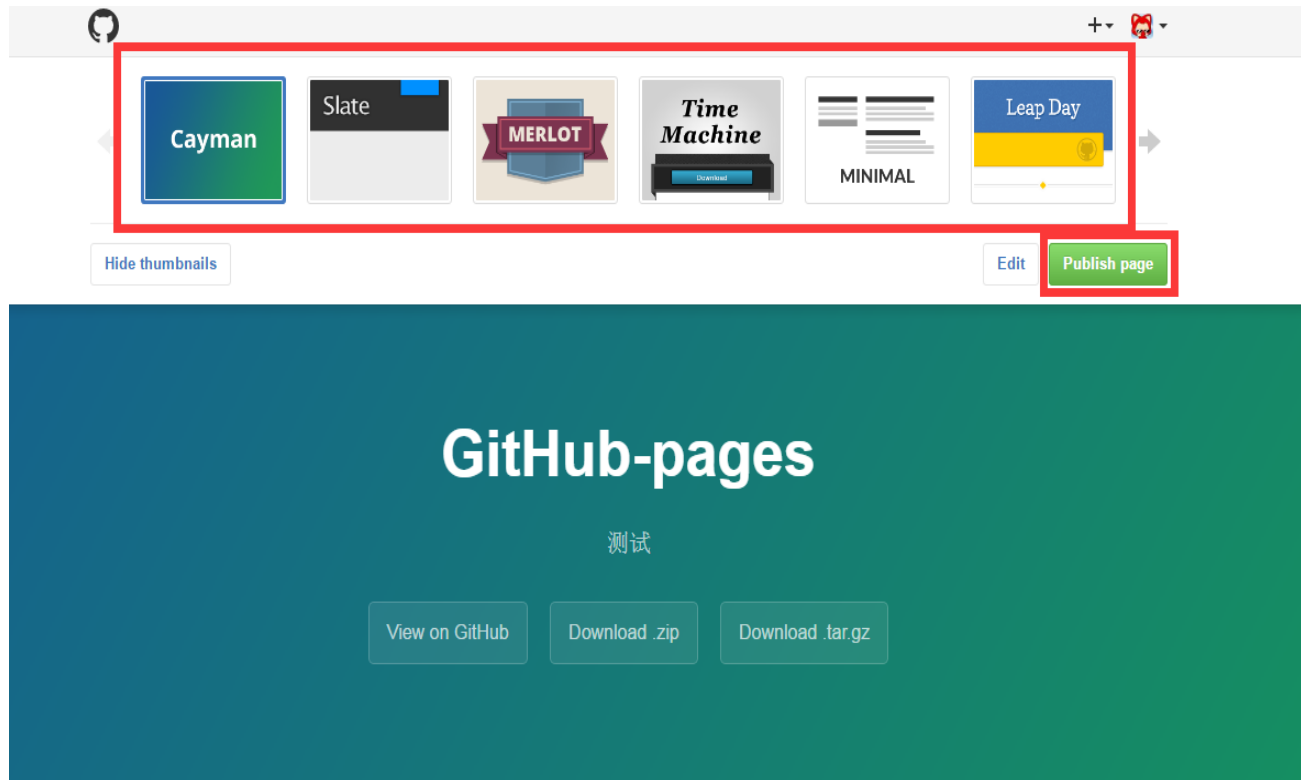
We've crafted some handsome templates for you to use. Go ahead and click 'Continue to layouts' to browse through them. You can easily go back to edit your page before publishing. After publishing your page, you can revisit the page generator and switch to another theme. Your Page content will be preserved.

Creating pages manually

If you prefer to not use the automatic generator, push a branch named 'gh-pages' to your repository to create a page manually. In addition to supporting regular HTML content, GitHub Pages support Jekyll, a simple, blog aware static site generator. Jekyll makes it easy to create site-wide headers and footers without having to copy them across every page. It also offers intelligent blog support and other advanced templating features.

Cancel

Continue to layouts



템플릿을 선택 하고 publish page 를 클릭하면 된다

4. gh-pages를 나온다.

CHEN HUI / github-pages

Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Wiki Pulse Graphs Settings

No description or website provided. — Edit

1 commit 2 branches 0 releases 1 contributor

Branch: master New pull request

Create new file Upload files Find file Clone or download

Switch branches/tags

Find or create a branch...

branches tags

gh-pages

✓ master

Latest commit 88bf35b a minute ago

Initial commit a minute ago

github-pages

5. 사이트 나온다

HUI / github-pages

Unwatch 1 Star 0 Fork 0

Issues 0 Pull requests 0 Wiki Pulse Graphs Settings

Settings

Repository name

github-pages Rename

Features

- ☒ Wikis
GitHub Wikis is a simple way to let others contribute content. Any GitHub user can create and edit pages to use for documentation, examples, support, or anything you wish.
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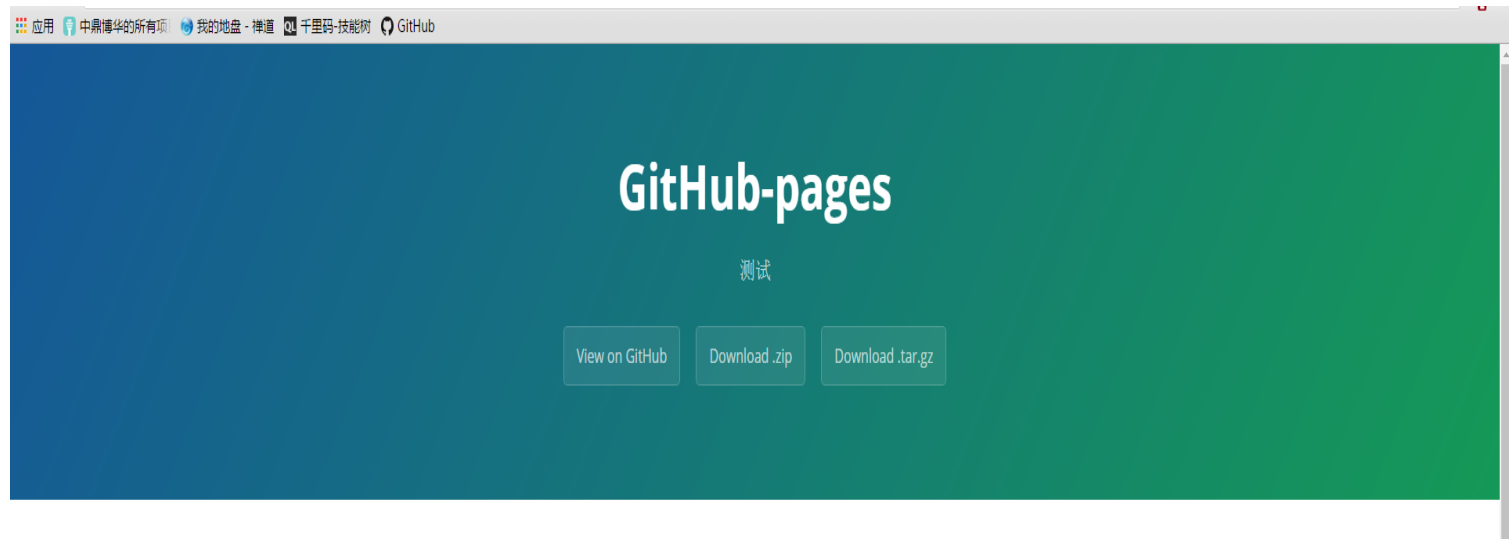
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Combine all commits from the head branch into a single commit in the base branch.

GitHub Pages

✓ Your site is published at <http://CHEN HUI.github.io/github-pages>



구성 : <http://+github> 이름+github.io/+(Project 이름)

감사합니다.