

LiveLight

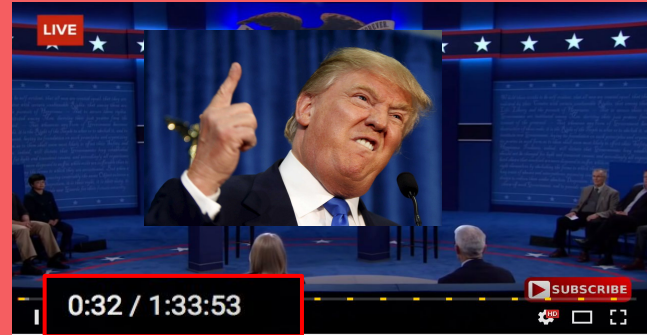
Crowd Generated Highlights
for Live Stream Videos

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Why Highlights?

Live stream videos are long and usually contain **uninteresting** and **boring** moments.



Donald Trump vs Hillary Clinton 2nd Debate Highlights

G4ViralVideos

1 week ago • 24,845 views

Trump vs Clinton is full of insults, jokes and one-liners during the second Presidential Debate at Washington University. Trump ...

NEW



Donald Trump vs. Hillary Clinton | Presidential Debate Highlights

Gabbee

2 weeks ago • 46,656 views

The best moments from the highly anticipated first debate between Hillary Clinton and Donald Trump.



Donald Trump vs Hillary Clinton - 2nd Presidential Debate Highlights - 10/9/16

Donald Trump vs Hillary Clinton

1 week ago • 55,929 views

Full highlights of Donald trump vs hillary Clinton 2nd presidential debate who won the presidential debate second presidential ...

NEW

Problem - Generating Highlights

- Highlights are **not generated instantly**.
- Generating highlights **costs time and money**.
- **Experts are needed** for creating highlights.
- High quality highlights are **not generated for long-tailed videos**.
- Generated highlights **can be biased** by the creators.

Task

- Mr. Chulbul, a 24-year-old student at KAIST loves **watching** NBA.
- Suddenly, he has to leave for some important work.
- Upon coming back he realizes that he has **missed** the whole game.



Viewersourcing: Crowdsourcing with Viewers as a Crowd

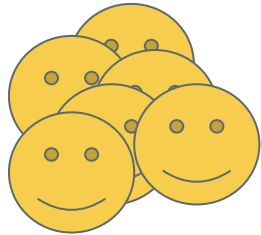
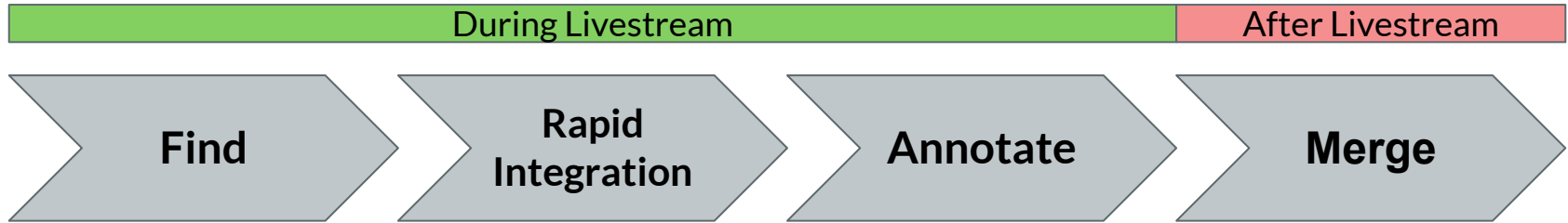
- **Viewersourcing** uses a large group of viewer's input to refine contents of the videos.
- In Viewersourcing crowd is **intrinsically motivated** to watch the video.
- The viewer watches the video and generate **instant highlights**, provide their emotions.
- The system processes these activities to **dynamically generate highlights** for current and future viewers.



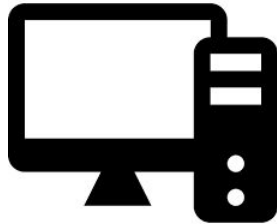
Motivation

- Viewers are interested in watching **instant highlights** of the key moments as soon as live stream ends.
- Viewers want to **bookmark key moments** for themselves.
- Viewers want to **express their feelings** and **share very moments they love**.
- Viewers may want to see what **other views liked and disliked**.
- Viewers may have an altruism and they might be **interested in contributing highlights** by themselves.

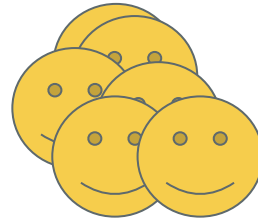
Solution - system workflow



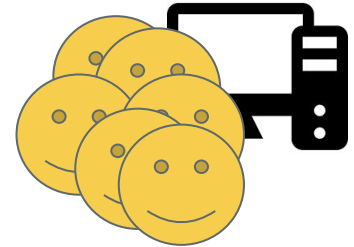
Get candidates of highlights



Generates highlights during livestream

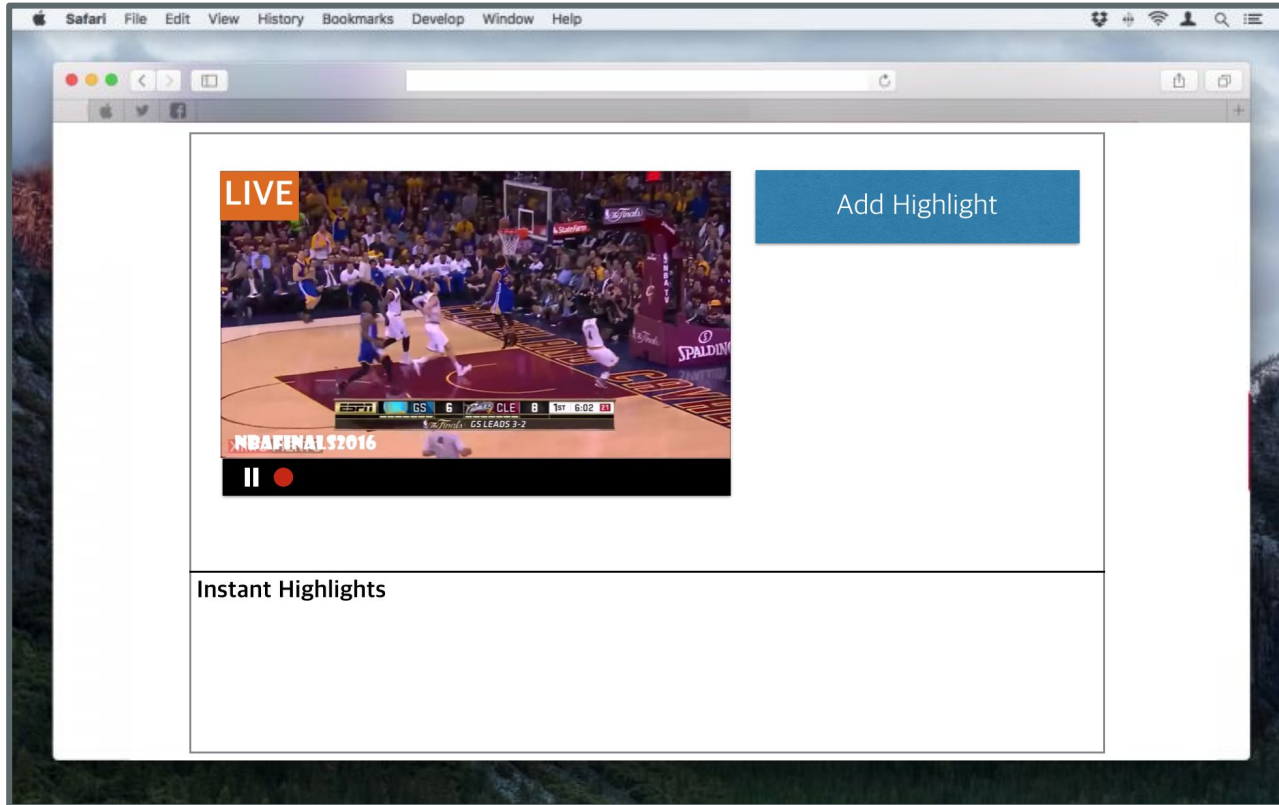


Watch highlights & Add additional meta-data

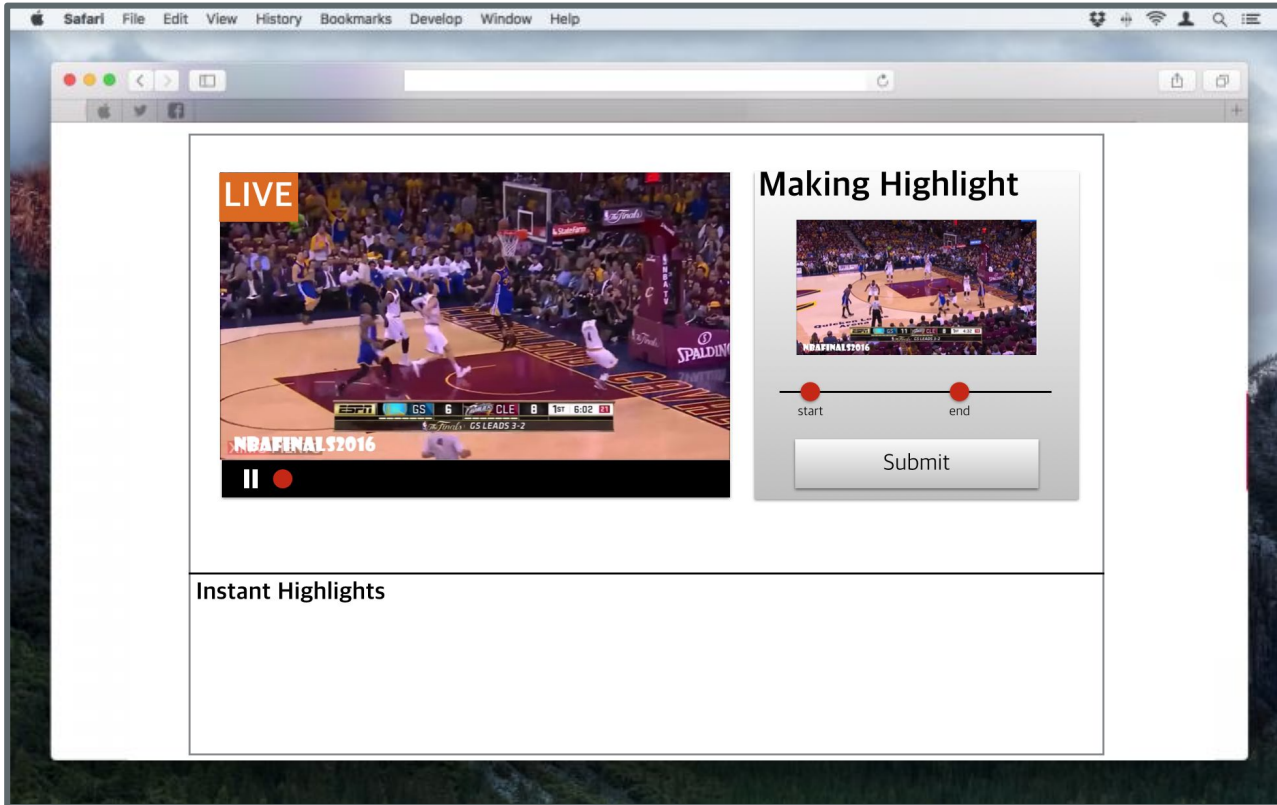


Merge the highlights into full highlight video

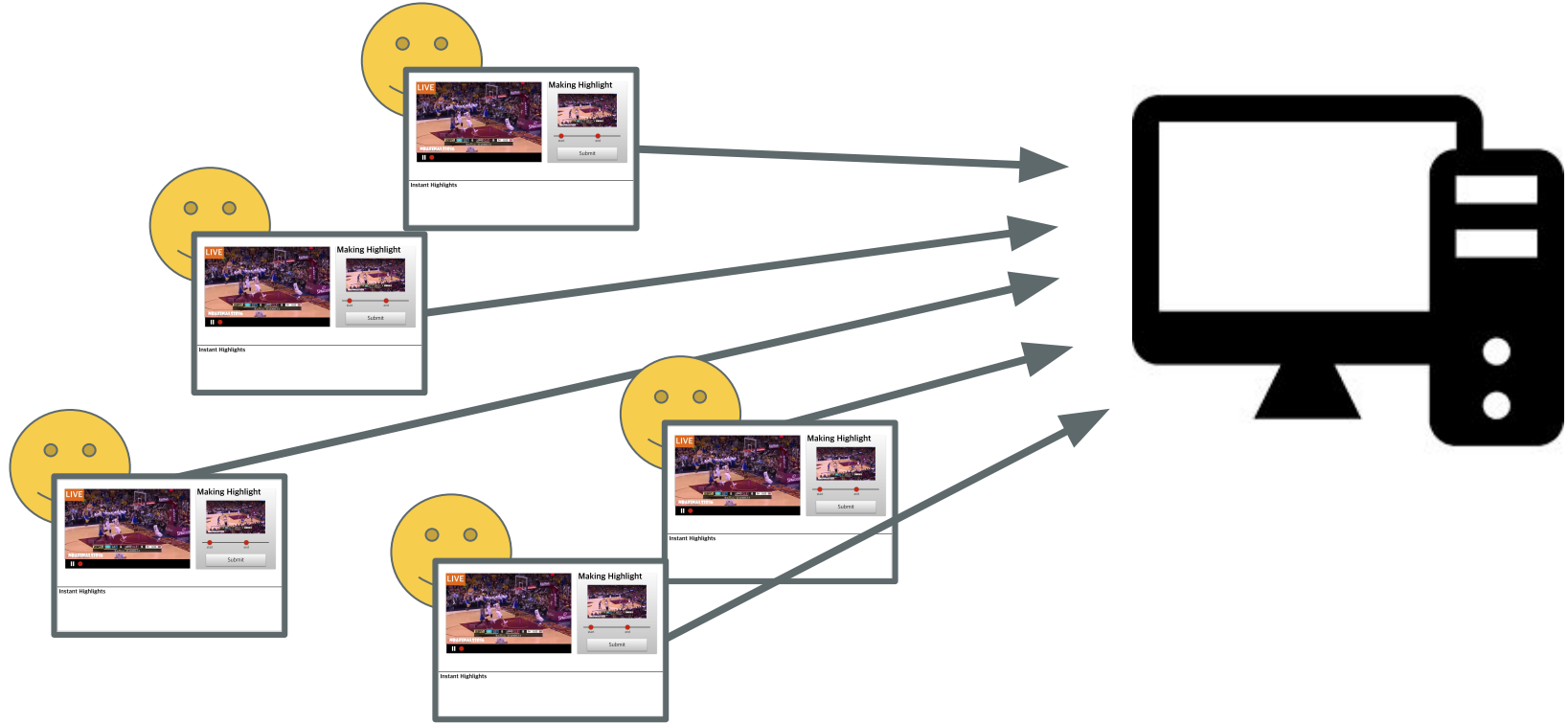
Solution - mock up



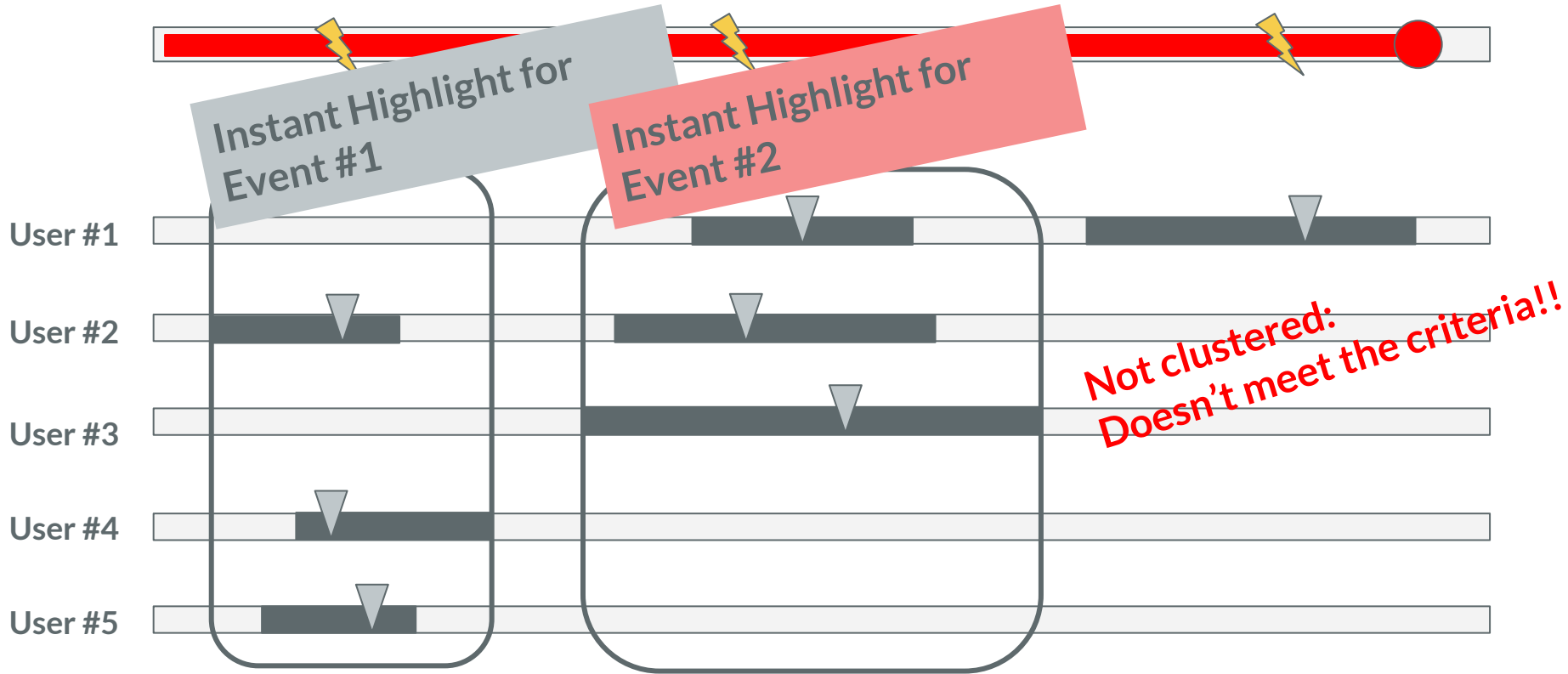
Solution - mock up



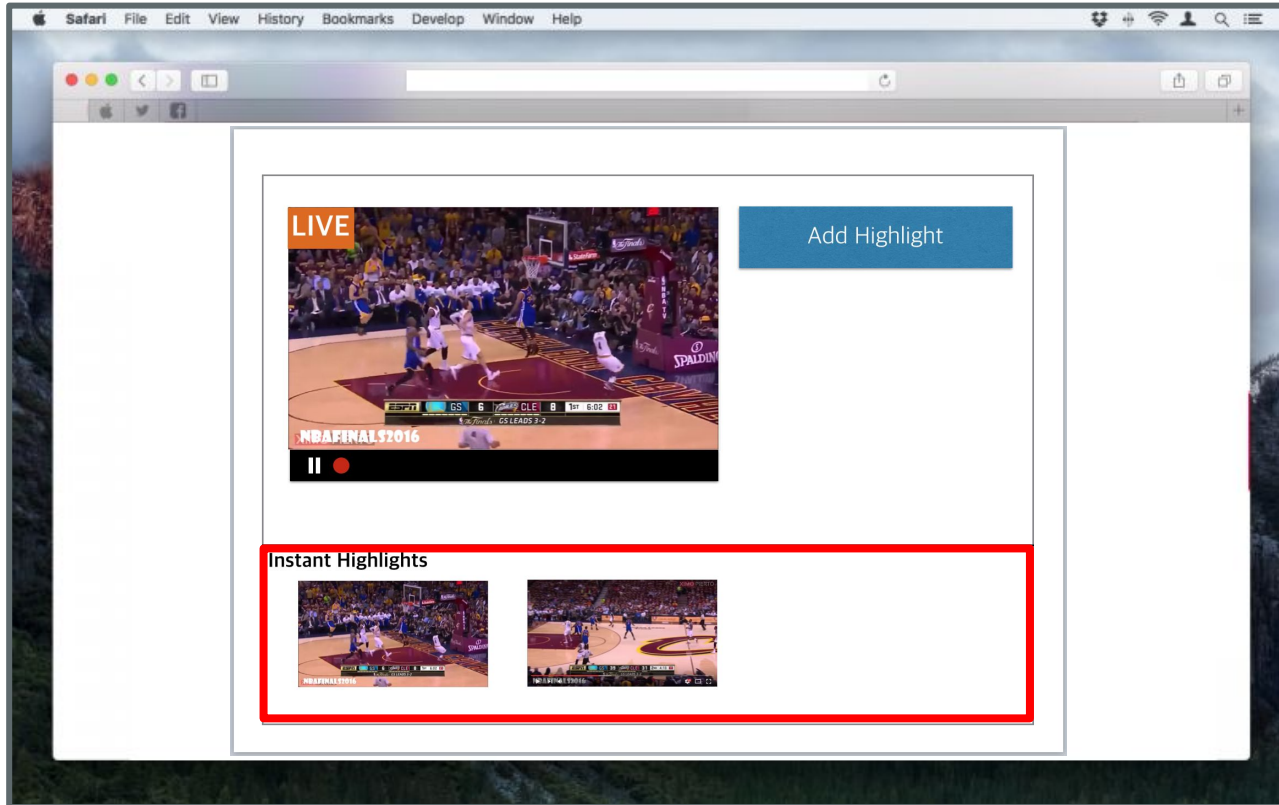
Solution - Rapid integration



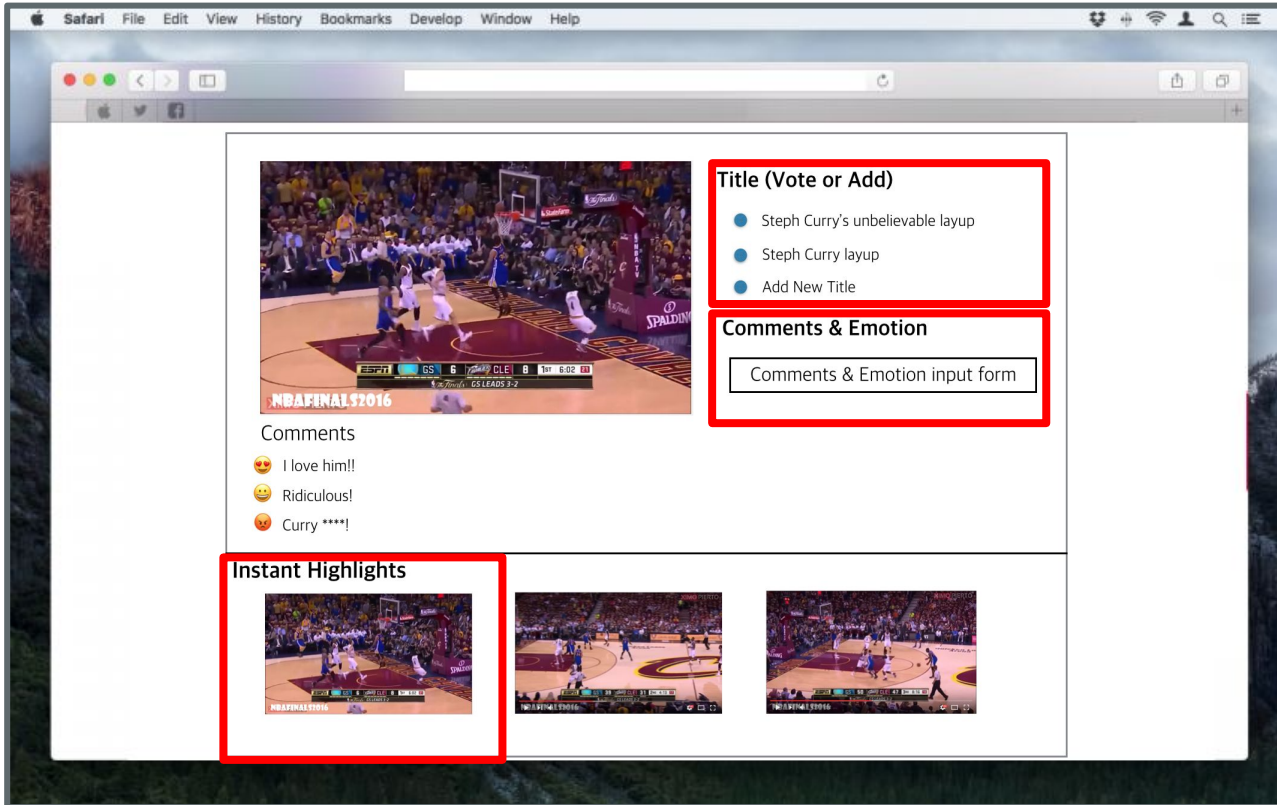
Solution - Rapid integration



Solution - Mock up



Solution - Mock up



Deployment Plan

Finding crowd to use / Testing our system

- In CS492
- **Prof. Juho Kim** will deliver the lecture with youtube live stream.
- **Students** become workers and will **generate highlights** of the class.

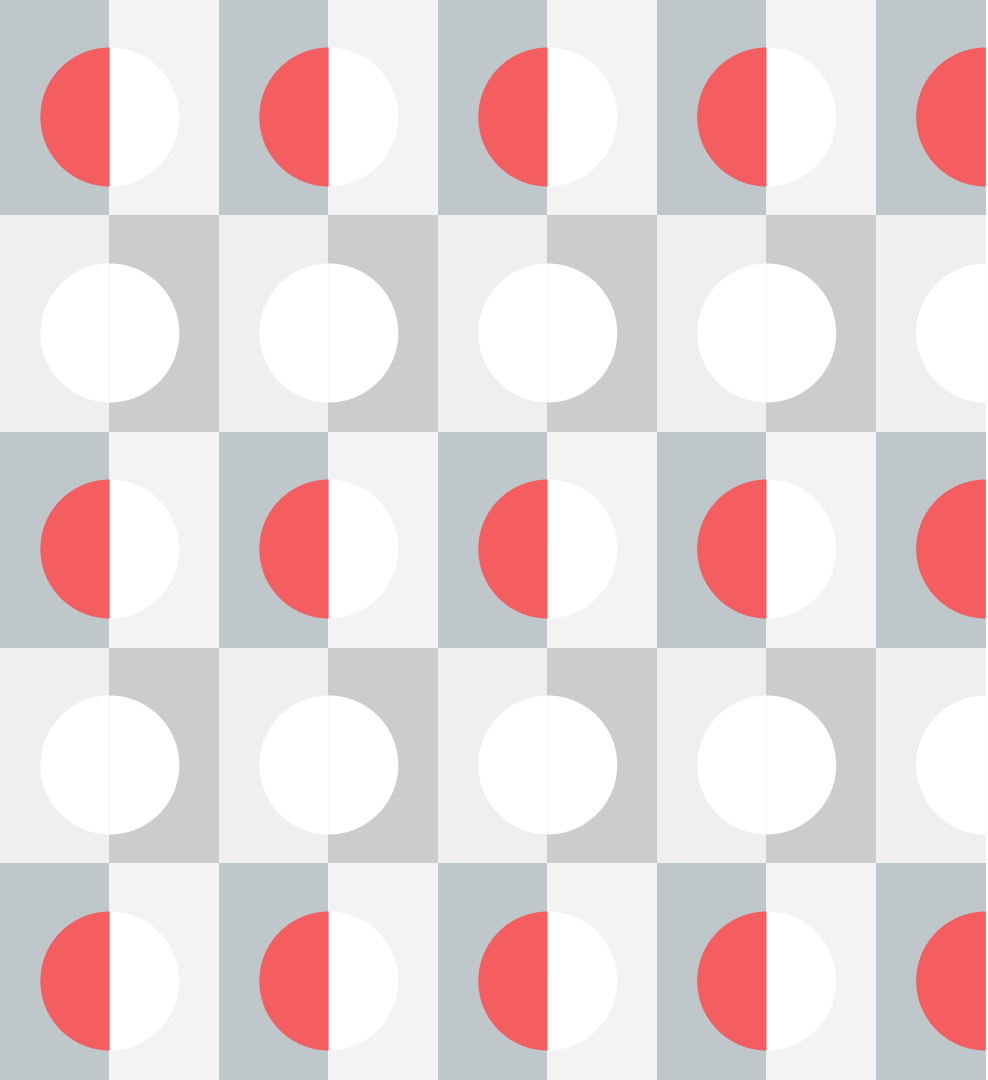
Task Assignment

Together

- Server deployment, Writing paper, Making user instruction, Testcase

Parallel

- **Yungi** : Youtube API integration, Helping Front/Backend Dev
- **Jiwoo** : Robust Back-end Server Dev
- **Muhammad** : Interactive Front-End Dev



Thank You