# Comment Anywhere

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# 1   Motivation

Internet denizens have long found ways to have vibrant communications about a wide variety of content. In the past, more websites supported these conversations through comment sections, but many have shuttered their comments in recent years. Instead, the avenues of discourse have become social media sites such as Facebook, Reddit, and bulletin board style forums, decoupling the conversation from the content itself.

Tying comments to social media posts rather than the content has the effect of fragmenting the conversation and diluting the information available to viewers. Comment Anywhere will bring the discussion back to where the content is at, traveling with the content as it is shared across platforms and accessible to all users of Comment Anywhere. By being able to open Comment Anywhere and immediately jump into a discussion about the content they are viewing, our users will be able to find information from outside their social network and contribute their own relevant information that will stick to that content wherever it goes.

At their best, comments are a forum for lively debate of the issues reported on or expressed in a piece, as well as a source for personal experiences and further information related to the story. The idea that information should be freely accessible runs deep within the ideology of the internet.

Comment Anywhere will make conversation available and accessible for all content, increasing the public's access to information, and thereby improving the internet.

# 2   Objectives

## 2.1   Browser Extensions

Users will interact with Comment Anywhere through browser extensions that can be downloaded and installed on popular browsers, such as Google Chrome and Mozilla Firefox. These extensions will comprise the majority of the "front end" component of the software.

## 2.2   Human Moderation

Comments will be subject to human moderation through several means.

1. User Ratings - Similar to Likes or Upvotes, users should be able to rate the relevancy of a comment. Higher rated comments rise to the top.

2. User Reports - Comments that are off topic, violate community guidelines or standards, or contain offensive material can be reported for manual moderation.

3. Moderator Review - Designated volunteer moderators will evaluate comments that are flagged by users and by the automoderation system and determine appropriate actions to take based on commenting rules.

## 2.3   Automated Moderation

Human moderation has high overhead and it is infeasible to have a human to review every single comment that is posted. To reduce costs and catch more rule-breaking comments, comments will be subject to automatic evaluation at the time of submission. Sentiment Analysis, keyword searches, and machine learning can all be applied to analyze comments upon submission to find rule breaking behavior and take direct action or flag the comment for human review.

## 2.4   Backend Services

Comment Anywhere will rely on a number of backend services including:

- Comment Database and API

- Comment Analysis and Moderation

- Comment Delivery

- User Authentication

- Security, Password encryption

- Metrics

- User Information

- Moderation and Administration Services

# 3    Implementation Techniques

## 3.1    Browser Extensions

Browser Extensions will be designed according to the extension specifications of supported browsers. They will use HTML and Javascript and other components as necessary to implement the extension.

The WebExtension Polyfill library may help eliminate duplicate code between each platform.

## 3.2    Backend Services

A number of Implementation options exist for the backend services:

- Golang

- C#, ASP.NET

- Java, Spring

- Python, Django/Flask

- Javascript/Typescript, Node.JS

    A relational database is likely to fit best, such as PostgreSQL.
    Analysis of the benefits of each technology stack is ongoing.

## 3.3    Project Homepage

A homepage detailing information about the project will utilize a simple stack to present a static web page.

# 4    Potential Users

Comment Anywhere is aimed at being accessible to all people. Information is a crowd sourced effort.

# 5    Features, Deliverables

## 5.1    Browser Extensions

Platform specific extensions for major browsers will be populated with comment data served from the backend particular to the site the user is viewing. The extension is the user interface for the product, and supports:

- Login and Register

- Parent-Child comment relationships

- Comment Ratings

- Comment Reporting tools

- Moderation Tools

## 5.2   Database and API

A collection of backend services supporting the submission and retrieval of comments, user authentication, and comment moderation.

## 5.3   Automated Moderation

A backend service that analyzes comments upon submission to flag or remove comments that may not match guidelines.

## 5.4   Project Homepage

A static webpage detailing the project.