SW Engineering CSC648/848 Milestone 1

Project title: Momentus
Team 4

03/04/2021

Version History

Milestone/Version	Date
M1V1	03/04/2021

Contents

1 Executive Summary

Introducing Momentus, a platform made for those that want to connect and share their work in a customizable, relaxed, and friendly environment. Our goal for our platform is to give a space to those people that want to share their work on their terms and display and organize it how they want to. Whether it be videos, photos, or writings, Momentus allows for creative freedom and expression on your terms - display and organize your work how you want, and share it with who you want. Want to share your fleeting thoughts or a casual moment? Post to your stream. Want to share your creation or save your content for prosperity? Add an entry to your gallery, and organize it how you want. With Momentus, the power and choice is yours. Momentus also also allows you to connect with other creatives and users around the world to discover new ideas and share your own.

Our team consists of 6 undergraduate students, each with their own variety of interests and skill sets. We've seen how tricky it can be to have creative control and still connect with you audience, and we're here to help with that.

2 Personas and User Stories

2.1 Persona 1

Name	Ahmad Ali
Blurb	"I'm looking for a platform that's a cross between Twitter and Instagram, in that I want high quality pictures along with photo posts. Not like Facebook, but the pictures should be similar to the Instagram style format."
Age	25
From	California
Occupation	Student/Photographer
Skills	Internet: 4/5 Social Media: 5/5 Outdoorsmanship/Adventurous: 4/5 Gadgets: 4/5
Bio	Lives at home with his parents and siblings, while attending college and pursuing a passion in photography on the side. Enjoys taking pictures of people, nature, events, and more. Ahmad is looking for a platform to better show off his portfolio and grow his brand, while also being able to engage directly with his followers.
Frustrations	Enjoys the current theme of Instagram and Twitter, but is looking for a platform that'll be more of a hybrid of the two. He also wishes that his profile had a folders section to subdivide different pictures he may have taken while also including text-based posts as well.
Intended Use	He intends to use the app to grow his photography business as well as use it to hold a portfolio with all of his best work. He also intends to use this platform for a more social environment so he may interact with friends and family while also being able to promote his brand and business.

2.2 Persona 2

Name	Samantha Vergara
Blurb	"I'm not the biggest on social media, but I look for a platform that will show me what I want to see, rather than bombarding me with information that I do not like nor did ask to be shown."
Age	21
From	California
Occupation	Environmental Studies student
Skills	Internet: 4/5 Social Media: 3/5 Environmental Awareness 5/5 Gadgets: 5/5
Bio	Currently lives at home with her cat and parents, while attending college in the Bay Area. Cares strongly about environmental awareness and advocating for protection of the environment. Samantha is looking for a platform as an escape from reality to unwind and explore engaging relevant to her interests.
Frustrations	Currently enjoys apps such as Instagram and TikTok but is looking for an app that caters more directly to her liking.
Intended Use	She is not too keen on posting on the website but she wants the freedom to explore and follow pages that she finds the most amusing and to her liking. She also intends to use the platform to stay connected to her friends and family in a more intimate and organized manner.

2.3 Persona 3

Name	Aaron Chan
Blurb	"I rarely use social media at all because I don't find many interesting things on it. I prefer to live in the moment. "
Age	29
From	California
Occupation	Works in the automotive industry
Skills	Internet: 4/5 Social Media: 2/5 Gadgets: 4/5
Bio	Lives with his wife in Tahoe. Enjoys playing with his dog outside of work. Some interests are cars and photography. Mostly uses social media to share his photographs.
Frustrations	Does not find social media particularly entertaining or useful enough to use regularly.
Intended Use	He mainly chats with people on social media, but he will also share his photos on the platform as well.

2.4   Persona 4

Name	Skye Gutiérrez
Blurb	"I am a very avid social media user! I love sharing photos and art, but I also have an extremely active online community. I want something that can maximize my artistic hobbies and following but also has the socialization aspect."
Age	22
From	Southern California
Occupation	Student / Content Creator
Skills	Internet: 5/5 Social Media: 5/5 Art: 4/5 Make-up/Design: 4/5
Bio	Skye is an avid social media user in her mid twenties. She grew up with technology her whole life and has cultivated a following online. She currently is an English major, but creates content online for a hobby. Being someone who is already wrapped up in social media, her interests are a platform that maximizes all of her hobbies/social life.
Frustrations	Feels many popular applications these days either make it difficult for people to see your content, have no sort of media-friendly functions, or make communication very difficult. She feels like she has to have a dozen apps to fill her needs, which can get a little overwhelming.
Intended Use	Skye will use this application to connect with friends and followers and share her passions, as well as document all of her artistic endeavors.

3 Data Definitions

- **Gallery** - The distinguishing feature of Momentus - allows for a more permanent collection of content. Content posted is not put into gallery by default, but can be if chosen by user. Gallery is highly customizable, allowing user to organize and display content in various user-defined collections.

- **Collection** - User-defined grouping of user content. Unique to that individual user.

- **Stream** - Where new content from users you follow appears. By default, all content is posted here. Content appears in chronological order. Content in the stream is not added to the gallery by default, but can be added when the post is created, or added to the gallery later.

- **Following** - Subscribing to a user's content. User content will appear in stream of those whole follow them.

- **Mutuals** - Users that both follow each other.

- **Verified User** - User who may have a greater public following who may need verification to prove user identity to prevent impersonation.

- **Posting** - Adding an item to either your stream, gallery, or both.

- **Favorites** - a list of content that a user has favorited for later viewing, and to show the content creator they like and appreciate the post. Public by default.

- **Saved Posts** - a private list of content saved by the user for later viewing that does not give the post a favorite.

- **Direct Message** - a private message sent directly to another Momentus user.

- **Comment** - a public message left on a post that appears under the post.

- **Tag** - a user-defined label attached to their post, used to find content via search, as well as sort content within the user's galleries and collections.

- **Repost** - posting non-original content with credit to user that originally posted it. Shows up in stream.

- **Share** - sending link to specific post / gallery / collection / user, whether on Momentus or outside of the platform (SMS, email, etc).

4 Initial List of Functional Requirements

1. **Posting** - allow users to add photo, video, or text content. Users can decide whether to post to stream, gallery, or both. Users can decide who can see the post, and can add tags and a description to it.
   See personas 1, 2, 3, and 4.

2. **Gallery and Gallery Customization** - make collection, hide, organize, show only to specific people, sort by video/photo/text. Complete customization.
   See personas 1 and 4.

3. **Stream** - this includes text posts, video, and photos. Chronological order for real-time interaction to simulate day-to-day socializing.
   See personas 1, 2, 3, and 4.

4. **Search** - User-friendly search function throughout site or specific profile to easily find your and other users' posts, and filter by tags, author, location, date, and other criteria.
   See personas 1 and 2.

5. **Reposting** - user can post another user's post on their stream, allowing the reposter to share the content with their follower. Original poster is visibly credited.
   See personas 1, 2, and 4.

6. **Commenting** - users can publicly comment on posts made by other users.
   See personas 1, 3, and 4.

7. **Direct Messaging** - users can privately message another user.
   See personas 1, 2, 3, and 4.

8. **Sharing** - users can send a link to a post to other Momentus users via direct message, or to anyone using outside methods like text messaging and email.
   See personas 1, 2, 3, and 4.

9. **Favoriting** - users can "favorite" a post, which shows the poster than this user likes said post. Favorites are saved and public by default.
   See personas 1 and 4.

10. **Saving** - users can save posts to their private collection without notifying or publicly signifying to other users.
    See personas 1, 2, 3, and 4.

5 List of Non-Functional Requirements

- Verification for larger based users to prevent fraudulent activity

- Guests can only view without posting

- Groups

- Storage Space

  - Photos: 10 Mb max
  - Videos: 500 Mb max
  - Text: 500 Kb max (500000 characters)

- Performance

  - Does not place a heavy load on user's device, and does not overuse memory
  - Does not take long to load
  - Does not send too much data to the user at once
  - Properly uses buffering and cache

- Application shall be compatible and usable on several mobile browsers including chrome and Mozilla Firefox and Safari

- Data shall be stored in AWS RDS database

- Mainly available in English

- Fault Tolerance

  - Error in loading data will be non intrusive to the user
  - Maximum number of users is expected to be 1,000, otherwise need to update database and server capability

- Communication between the website and the database shall be handled by the webserver AWS EC2

- Application shall be easy to use and intuitive

  - Easy to organize feed
  - Easy to distinguish feed and gallery posts
  - Easy to find and search for content
  - Easy to limit who your posts are seen by

- The code base should be well maintained in team's Github repo so that new engineers can easily read and continue building on the code

6   Competitive Analysis

Feature	Instagram	Twitter	Momentus
Profile	Gallery and profile are the same. Consists of profile photo, bio, and all posts made by user.	Chronological tweets or media, no organization available. Can view individual posts only.	Gallery and stream both exist on profile. Ability to sort how you want, organize into collections, and limit reach of posts to specific users.
Feed/Stream	Algorithm shows posts based on arbitrary means. Promotes content based on popularity, leading to feedback loops that make it difficult to reach new users if you do not already have an established following. No option to see posts chronologically.	Option of algorithm similar to Instagram, or chronological order.	Stream of chronological posts consisting of images, videos, and text posts. For more "temporary" content.
Gallery	Your photos, chronologically. No organization available. Can view in grid format or as individual posts.	Chronological tweets or media. No organization available. Can view individual posts only.	High level of customization available. Users can hide and display works they select and organize them into self-created collections.

7 High-Level System Requirements

- Server host/instance size: AWS T2.Micro, Intel Xeon up to 3.3Ghz, 1 vCPU, 1GiB Memory

- Operating System: Amazon Linux

- Database: MySQL v8.0.23 (latest)

- Web server: AWS

- Server-side language: JavaScript

- Web Application Framework: Express

- Front-end technology: React, HTML, CSS, Handlebars

- Other technologies:

  - NodeJS, NPM - packages include: BCrypt (encryption), Sharp (photo resizing etc), Photoswipe, Video.js
  - IDE: Visual Studio Code
  - Web Analytics: Google Analytics

8 Team

- Matt Bolles: Team Lead

- Raza Ali: Github Master

- Natalie Christie: Scrum Master

- Jo Ey Chong: Front End Lead

- Eric Chie: Back End Lead

- Adam Belaid: Back End

9 Checklist

- Team found a time slot to meet outside of the class - **DONE**

- Github master chosen - **DONE**

- Team decided and agreed together on using the listed SW tools and deployment server - **DONE**

- Team ready and able to use the chosen back and front end frameworks and those who need to learn and working on each technology, along with a proper study group/schedule - **ON TRACK**

- Team lead ensured that all team members read the final M1 and agree/understand it before submission - **DONE**