Media Mapper

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01 Project Objective

Media Mapper is a media diary app that allows you to track any and all media that you consume such as movies, television shows, books, anime, etc.

02 Cost Estimation

User Input: User reviews, user social posts, user list-making
User Output: Display media list, display social posts, export list, display messages
User Queries: Search media, search social messages, search users, search lists
Data files and Relational Tables: Media database, user data (reviews, list, social posts), media average rating, recommendations
External Interfaces: Media library, data servers

	Function Category	Count	Simple	Average	Complex	Count x Complexity
1	Number of user input	3	3	4	6	9
2	Number of user output	4	4	5	7	16
3	Number of user queries	4	3	4	6	12
4	Number of data files and relational tables	4	7	10	15	28
5	Number of external interfaces	2	5	7	10	10

02 Cost Estimation

PCA = .65 + 0.1(PC1 + PC2 + ... + PC14) = 1.098
FP = 75 * 1.098 = 82.35

Assuming 30 FP per person per week:
E = 82.35/30 = 2.75 which we would round up to 4-person weeks
D = E / team size = 2.75/4 = 0.6875, so we would round up to 1 week

	User Input	User Output	User Queries	Data files and Relational Tables	External Interfaces	**PC**
Q1	3	0	0	5	5	2.6
Q2	3	5	5	5	5	4.6
Q3	2	5	5	4	5	4.2
Q4	0	3	5	3	5	3.2
Q5	2	4	4	4	3	3.4
Q6	5	5	2	5	5	4.4
Q7	2	5	1	5	5	3.6
Q8	5	5	2	5	5	4.4
Q9	1	3	3	2	1	2
Q10	3	3	3	2	3	2.8
Q11	4	2	4	3	5	3.6
Q12	1	0	1	0	3	1
Q13	0	3	0	4	0	1.4
Q14	5	5	2	3	3	3.6

02 Project Timeline

June 3rd

Estimated Project Start Date

June 10th

Estimated Project End Date

02 Cost Estimation: Hardware

We assume the development team has capable computers.

Component	Price (USD)
Intel Xeon E-2300 Motherboard	464.99
Seagate 8TB NAS Hard Drive (x4)	959.96
Kingston 16GB DDR4 3200 Memory (x2)	89.98
Intel Xeon E-2334 Processor	299.99
SuperMicro 1400W Power Supply	378.99
Set aside for mount	200.00
Total	2,393.91

[2]

02 Cost Estimation: Software

Website costs:
Hosting, domain, and SSL certificate

IDE licenses:
Single person use at any given moment

SQL Server costs:
One CAL needed per device

Product	Price (USD)		
	1st Year	2nd Year	3rd Year
Hosting [3]	479.09	-	-
Domain [4]	-	21.99	21.99
IntelliJ License (x4) [5]	2396.00	1916.00	1436.00
DataGrip License (x2) [6]	458.00	336.00	274.00
SQL Server (License, 5 CALs) [7]	1,208.99	-	-
Total	4,542.08	2,273.99	1,731.99

Cost Estimation: Personnel

Type of Personnel	Salary	Count	Total
Developers	$60 / hr [8]	4	$9600
Customer Support	$19 / month [9]	5	$1140 per year
		TOTAL	$10,740

- Avg salary for Software Engineers in Texas $60/hr
- Development time 1 week (8 hours/day)
- Customer Support provided by ZenDesk

03 Functional Requirements

What will the user be able to do with Media Mapper?

Media Tracker

- Search, save, rate and review media.

Media Suggester

- Swipe through suggestions provided by our system.

Social Aspect

- Interact with other users on our platform
- View the content of other users.

User Personalization

- Select which types of media they'd like to track.

Account Controls

- Create and manage an account.

03 Non-functional Requirements

Usability

- Intuitive UI

Performance

- Launch and Load Times
- Server Requests
- Concurrent users
- Horizontal Scaling

Space

- 200 mb app size
- Cache size
- 1 million media records

Dependability

- Crash Rate
- Availability
- MTBF

Security

- ReBAC
- HTTPS

Environmental

- Works reliably across different OS and devices
- Battery consumption

Non-functional requirements

Ethical

- Data collection
- Deleting inactive users
- Algorithm

Development

- Framework
- Version Control

Accounting

- Ad impressions

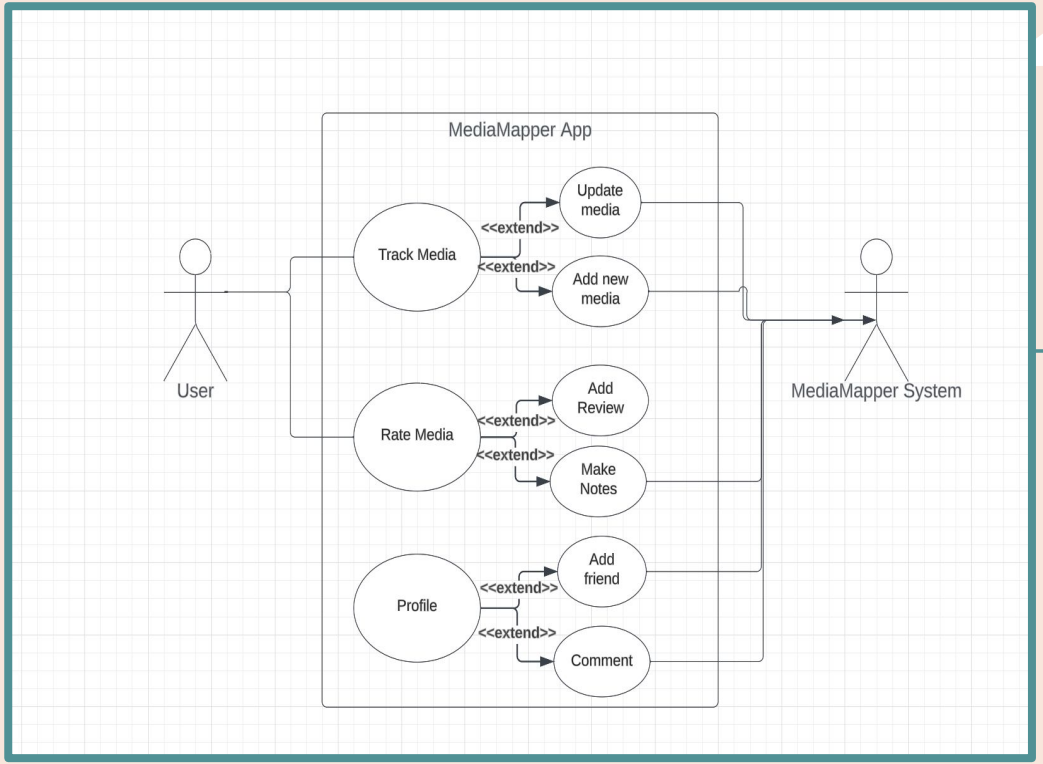
Regulatory

- GDPR
- TDPSA

04 Use-Case Diagram

User has three main functions that interact with the system:

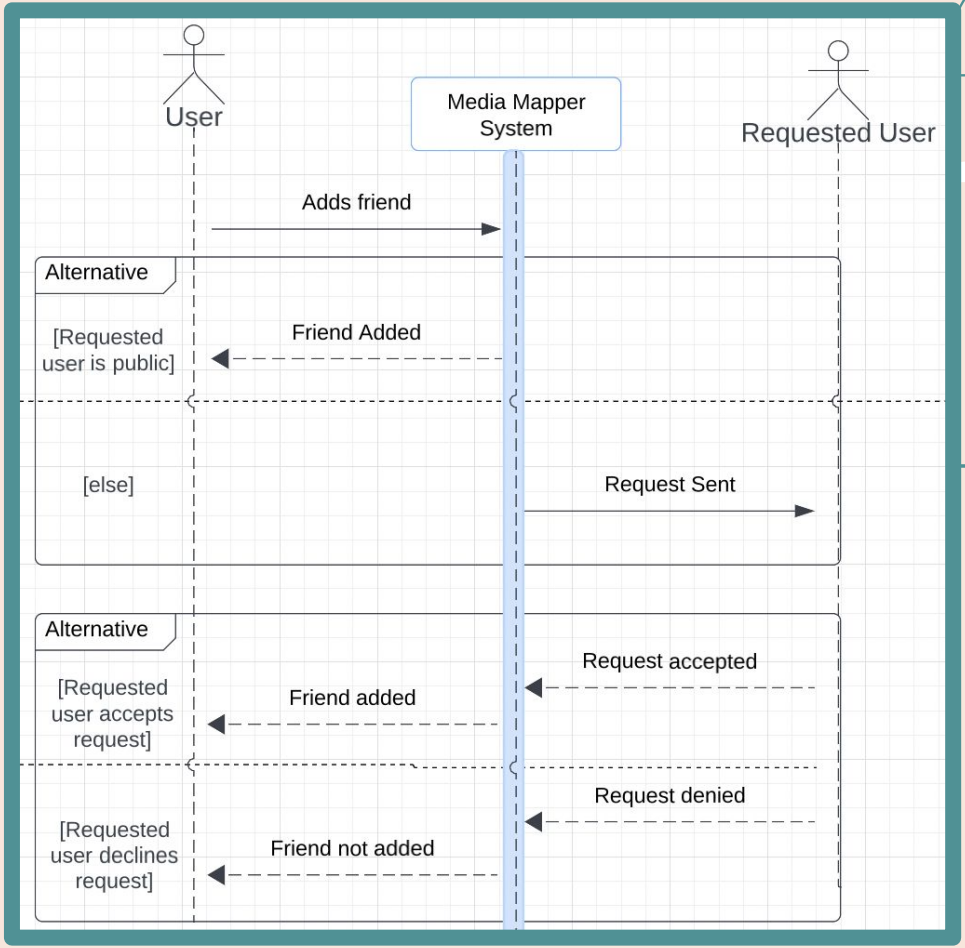
- Track Media
  - Update or add new media
- Rate Media
  - Add a new review or make notes upon an existing media
- Profile
  - Add a friend or comment on another profile



04 Sequence Diagram

The sequence of events that occur after the user adds a new friend.

- The friend request will be sent, and the system will wait for the requested user to respond.
- A new friend is added based on the requested users response.



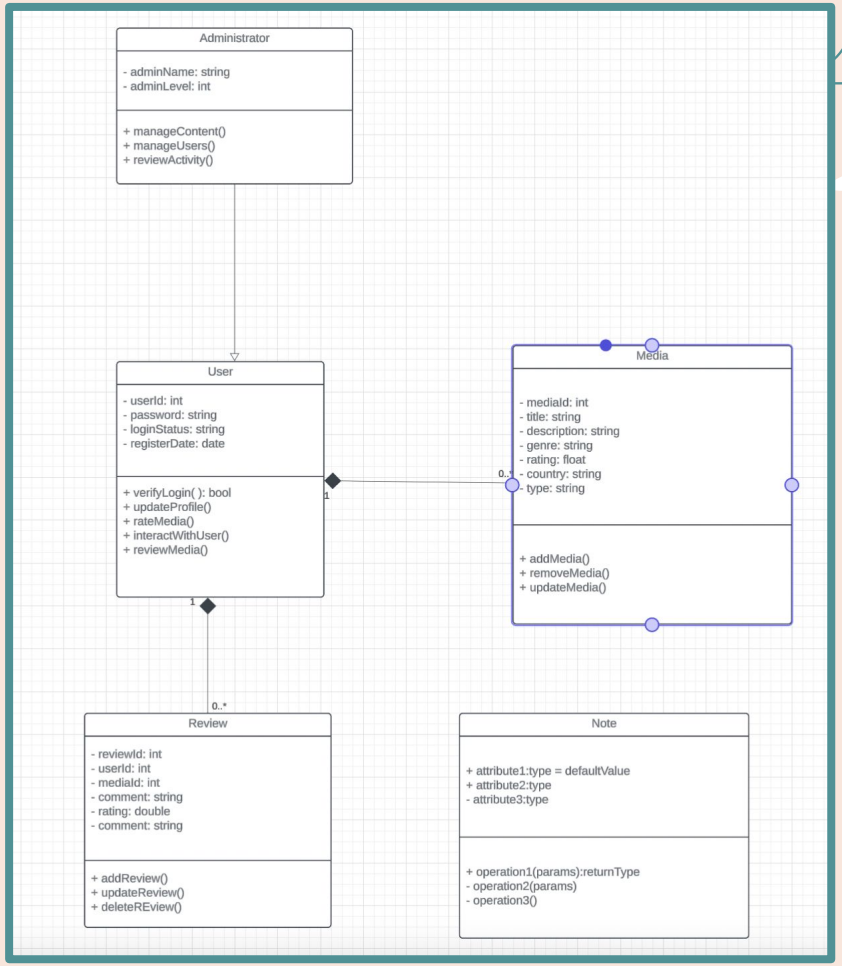
04 Class Diagram

Media
User and program generated attributes, functions for adding, removing, updating

User
Login/profile data, ratings, interactions

Review
Comments, ratings, functions to manage reviews

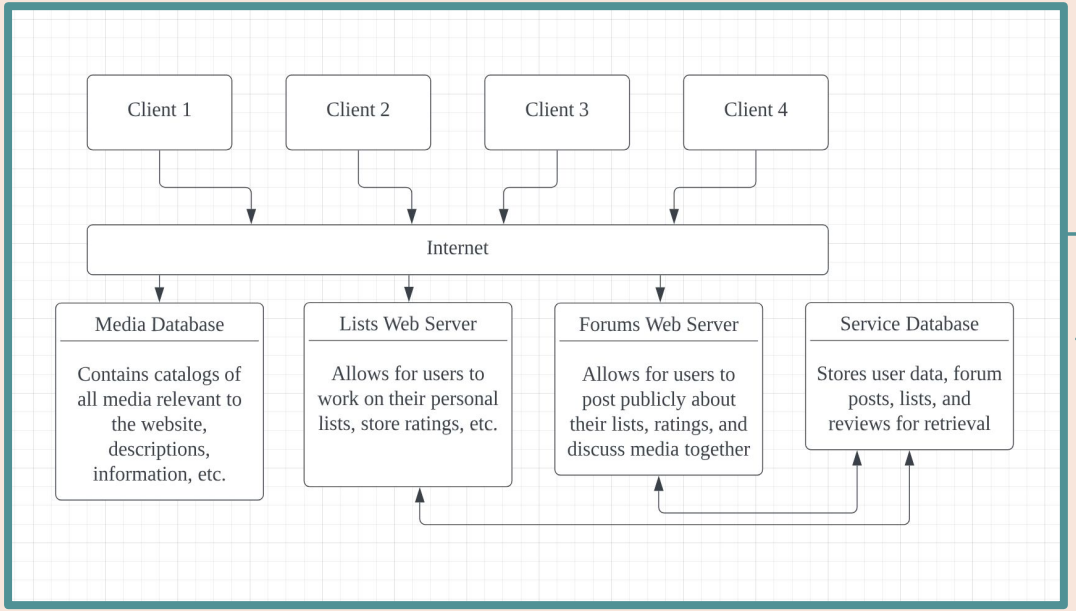
Administrator
Name, level, functions for managing site



04 Architectural Design

We are using the Client-Server Model.

- The clients connect to MM through the internet
- The servers communicate with the internet to deliver information and services to the users
- Service Database stores data and communicates.



05 Comparison with Other Designs

limited social aspect
no recommendations

letterboxd

myanimelist

industry news
limited to anime
and mange

addresses all the
gaps

Media Mapper

06 Changes and Challenges

S

Strengths

- Lots of useful user features
- Unique product idea

W

Weaknesses

- Lazy users

O

Opportunities

- Growing demand

T

Threats

- Existing competition

06 Conclusion

A Quick Recap

- Our team successfully used software engineering techniques to plan the development of a media based social platform.
- Along the way, we gained valuable insight on the process of software development and working with a team.
- In the end we came up with an idea for a product that we believe can be competitive in a saturated market.

Adaptations and Adjustments

- Because our team decided not to implement our project, few deviations were made from the original plan.
- We suspect if we were to implement, changes would need to be made during the development process.
- We made minor edits here and there to ensure consistency and correctness in our work.

References

[1] I. Sommerville, *Software Engineering*, 10th ed., Pearson, 2016, ISBN: 978-0-13-394303-0.

[2] “Newegg Business,” *Newegg Business*. [Online]. Available: https://neweggbusiness.com. [Accessed: Apr. 15, 2024].

[3] "Regular Rates Summary,” *Domain.com*. [Online]. Available: https://www.domain.com/help/article/regular-rates-summary. [Accessed: Apr. 15, 2024].

[4] “domain-pricing,” *Domain.com*. [Online]. Available: https://www.domain.com/domains/domain-pricing. [Accessed: Apr. 16, 2024].

[5] “Buy IntelliJ IDEA Ultimate,” *JetBrains*. [Online]. Available: https://www.jetbrains.com/idea/buy/. [Accessed: Apr. 16, 2024].

References

[6] "Buy DataGrip: Pricing and Licensing, Discounts - JetBrains Toolbox Subscription," *JetBrains*. [Online]. Available: https://www.jetbrains.com/datagrip/buy/. [Accessed: Apr. 16, 2024].

[7] Trusted Tech Team, "Microsoft SQL Server Standard," *Trusted Tech Team*. [Online]. Available: https://www.trustedtechteam.com/collections/microsoft-sql-server-standard. [Accessed: Apr. 17, 2024].

[8] ZipRecruiter, "Software Engineer Salary in Texas," *ZipRecruiter*, Mar. 11, 2024. [Online]. Available: https://www.ziprecruiter.com/Salaries/Software-Engineer-Salary--in-Texas.

[9] Zendesk, "A guide to the 11 best social media customer service software of 2024," *Zendesk*, Jan. 22, 2024. [Online]. Available: https://www.zendesk.com/service/ticketing-system/social-media-customer-service/.

Thanks!

Any questions?