Setting a new project up notes:

When stating a new project I spend some time researching the problem, and this time I have spend a fraction of what I would usually do.

I have had a brief scan at the following links:

* <https://engineering.riotgames.com/news/chat-service-architecture-servers>
* <https://softwareengineering.stackexchange.com/questions/339882/system-design-scalable-chat-server>
* <https://www.isode.com/whitepapers/xmpp-bosh.html>
* https://codeabout.wordpress.com/2011/03/06/building-a-simple-server-client-application-using-c/

Have a look at the technologies available and decide what to use, in this case I would use a multi layer application compose of a UI using MVC, the UI would use SignalR to talk to the controllers, this would communicate with the server using WCF and this would talk to a business layer that in terns would talk to a repository layer, and there would be an interface between each layer so we can do mocking and use DI.

Then I create mocks using balsamiq or a similar UI modelling tool.

I then think about the entities that will be involve in the solution, essentially the problem domain and try and find a domain expert so I can get all the detail and exemptions in the system.

I will pick up the task from the instructions give I have copy here for ease of reading and as I will be updating this as I go “normally” so here goes:

Task 3 description:

- is the original task

-Write the domain model for a chat service.

-Designing a chat service is certainly far beyond the scope of what could be completed in a recruitment test.

-Please focus only in what is a fair representation of its model.

Entities:

- Users

User

Id

UserName

Email

Status

UserId

Status

StatusMessage

- Conversations

Group

GroupId

GroupName

OwnerUserId

DateCreated

GroupUserMap

GroupId

UserId

DateCreated

ActiveConversations

Id

ConversationType (group/private)

Message

MessageSent

DateTimeCreated

ActiveUser

UserId

ActiveConversationId

MessageReceived

DateTimeCreated

- Contacts

Contact

UserId

TargetUserId

TargetAccepted

DateTimeCreated

-Behaviour:

- Get user profile.

- Add contact request.

- Update status message (user is online, offline, custom message)

- Creating private and group conversations.

- Send messages to private and group conversations.

-Code requirements:

-1. The code should fulfil OOP and SOLID principles.

-2. The code should be maintainable.

-Hint:

- This task evaluates desing & clean code over algorithmic.

- There is not exact correct answer. Feel free to add more Entities and/or Behaviour