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- **Vision:** In one paragraph, what is your current vision for the system you are building? How has it evolved from previous sprints?

We think that given how we had to change our topic halfway through reaching the deadline for MS1, we are really proud of what we have researched, learned, and accomplished. Having to change our project from an interpreter from our own language to an online messenger platform hindered our progress a lot and we ended up successfully creating a mini, unaesthetic, communication platform so far, which we would like to expand on in the future. We have further added a security encryption system that has developed from our MS1 submission and evolved the messenger in terms of making it more secure. We will end off MS3 with everything stated below and hopefully improving aesthetics of the messenger itself.

- **Summary of progress:** Write a one or two paragraph description of what your team accomplished during the previous sprint. What functionality did you work on? What did you show off in your demo?

In the demo, we showed the basic utility of RSA with numbers, which we then tried to encrypt text using unicode and ASCII. We tried unicode because it would be easier to encrypt audio files, but for now, we are working with ASCII codes. We added another feature that is "recent", that only shows the most recent line in the messenger since we thought that a long chat printed every time would be really cumbersome for the user experience as well. In our demo, we only showed the encryption working with numbers, but here, in this submission, we have fixed it such that it'd work for the messages too.

- **Activity breakdown:** For each team member, give a bulleted list of the responsibilities that team member had and the activities in which they participated during the sprint.

Oscar:

- Combining encryption with messages (ASCII for now by Characters)
- Updated makefile
- Learnt more about online servers in OCaml

- Progress Report

Tushar:

- Created RSA code
- Generated txt files that contained larger primes for encryption
- Converted messages into ASCII/Unicode
- Updated makefile

Aidan:

- Added file that tried using UNIX sockets for messenger
- Progress Report

- **Productivity analysis:** As an entire team, how productive were you? Did you accomplish what you planned? Were your estimates of what you could do accurate, or far off? Write a paragraph addressing those questions.

Overall, we think we veered off track a bit and decided to work on security of messaging. Since we still had many prelims, we were not able to be as productive as we wanted to. However, we did work out an RSA method that worked with our messages. Our estimates were far off given the amount of time we had for the project and how our trajectory went towards a different route. However, we aim to go back and complete all the scopes we set last week, since we just switched the timeline of our project only.

- **Scope grade:** Give your team a scope grade for this sprint—Satisfactory, Good, or Excellent—based on your experience of those levels of scope in the assignments thus far in this course. Write a paragraph or two providing a detailed justification of why you gave yourself that grade. Please be honest: we want you to reflect candidly on your progress. Your sprint grade is not going to be based on what you self-assign here.

Scope Grade: Satisfactory. We feel like we could've done more if we had more time to work on the project. During the demo, we only had the RSA to demo itself on utop and

did not integrate it with the messaging app. We are glad that we could at least finalize it and integrate it together (in a really simple method) inside the messaging app.

- **Goals for next sprint:** Set three goals for your next sprint, corresponding to what you believe would constitute Satisfactory, Good, and Excellent scope for that sprint. (You may omit this section in your final report.)

Since we worked on security instead of improving the messaging system this week, the goals for next week will be similar as last weeks. We will want to enhance user experience with the connection and be able to send messages online (which is really hard to do, but we'll try to find a way).

We want to improve many aspects of our system. They are listed below.

Satisfactory Scope:
- Currently any user in the system can send messages as any other user. Fix this bug.
- Implement direct messaging (Or keep it a giant messaging global server)

Good Scope:
- Make sockets communicate with each other over an **internet** connection, not just on one computer's localhost.
- Improve group messaging by adding channels

Excellent Scope:
- Improve aesthetics. This involves adding colors to users, making a nicer terminal format, and hiding all information that isn't necessary for the user.
- Be able to send files (using unicode encryption).

Other Goals:
- Testing Files
- Make Document <HTML>
- Add LOC (Duh!) :)
- Try to get into Oscar's room with shoes.