wFormat of Project

- Name & Team members
- Describe the problem you are solving
- Describe various solutions
- Outline the skills of each team member
- Outline a 3 week plan (6 sessions of one hour each) to complete
    - Tasks : Research, Analysis, Development/Summary, Presentation

Pineapple Team(Vikram Nandi,Sheila Nguyen)

Problem: Cyber Bullying

Cyberbullying is a very common thing. Rude comments are made and rumors are spread. This is a problem because it cannot be contained. The post or comment cannot be taken down by anyone but the original user unless it is reported. Even with it reported, it'll take a very long time and by then there are several copies of the post or comment.

To solve the problem, we decided to make a censorship system called "Secure Cyber Protection" which is first checked by machines and humans, then if the comment and/or image(s) is mean or offensive, then it will be blocked from posting and the person who made the comment and/or image(s) will get a notification saying what has happened, this will let the user know what had happened. This system would only work if the social media company agrees to use the system.

Skills:

- Sheila: Stays organized and hard-working. Good at problem-solving and is supportive.
- Vikram: I can do a lot of work if I am in the mood and not lazy when I am doing work.

To-Do

- Do more research about cyber bullying
- Its effects
- Ways to solve it

Comments: This could be a good concept for more of a research poster board presenting a possible solution to a problem but not actually implementing it. However, they need to dig a little deeper into how their system is different than the one already implemented by social media sites already.

Slyther-in-Code (Andrew Khadder, Ryan Hoang, John Lee, Ryan Jin Parnaso)

1. The project is Clue-hacker edition, and it informs about cyber security and hacking. In the game of Clue, there is one murderer, one weapon, and the room where it happened. Our version of Clue will include a hacker, method of attack, and the IP address of the hacker. The game raises awareness for cyber attacks; potentially, it has a positive effect on players. The goal is to make people aware of where they are putting their personal information. Our project will provide clues to a player to help solving the mystery of who, how, and where they got hacked.

2. The average person usually doesn't know how their security can be broken through. Most people just download files from the internet thinking it's just an innocent file like a game or something. Most of the time files from these untrusted sources can harm the person's computer and in some cases ruin their entire livelihood. The problem is that some people would just give up their personal information either willingly through phishing scams, or unwillingly through malware. This is becoming a much bigger problem as computers are becoming more and more part of people's daily lives.

3. John Lee - Good at debating, by relentlessly arguing with anyone and not backing down until he wins.

Ryan Hoang - Good at catching errors, usually finds them and helps out other teammates. Also a good motivator.t

Andrew Khadder - Good with computers, and troubleshooting problems. "a god" - Ryan Hoang

Ryan Jin Parnaso - Good and fastworker, can strategize very well, analyzes things deeply, leads well

Version 2.0

Hackers: John, Ryan, Andrew, Jamie, Michelle, Ellie

Methods of Hacking: Weak Password, Phishing Scams, Clickjacking, Keystroke logging, Social Engineering, and Bait and Switch.

Storyline: Your friend, Caleb Chung, is the owner of a manufacturing company. He isn't well educated in the field of computers. One day the computers on his network started acting very strange, deleting files, getting sent random emails. He asks you and your cyber security company if you can help his company out and find out what went wrong. Your task to explore the company building in which the hack took place, to find clues of where, when, and how the attack happened.

IP Addresses

- 170.91.5.13
- 170.91.5.14
- 170.91.5.15
- 170.91.5.16
- 170.91.5.17
- 170.91.5.18

3 Week Plan:

- Week 1: Visuals
    - Game Board - Ryan Hoang and Andrew Khadder
    - Cards - Ryan Parnaso
    - Pieces - John Lee
- Week 2: Prototype
    - Working and playable version of the game
    - Making sure it plays smoothly and easy to understand
    -
- Week 3: Finished Version of the game

Comments: I like the idea of the CLUE cybersecurity. Their next step should be to detail how they can impart cybersecurity knowledge throughout the game. What topics will they highlight? How can they add more value to the game idea than just a reskin of CLUE.

VOLDEMORT (all caps) (Jenny Le, Elysia Oh, Enya Do)

Problem

1: Our project is a game based on the Oregon Trail. We will have levels of difficulty and there will be 6 players maximum. The origin story will be that there are 2-6 co-founders who start a company. The levels of difficulty will be the amount of money that you start off with your company. How little money the player starts off with will determine how difficult the game will be. As the players profit from the company, the company can also go through struggles,cyber security-wise. The challenges the players can face are cyber security threats to their company database, personal information stolen from their employees and also money can be stolen from the company. After all these misfortunes, the company may go bankrupt or the player will have to resign from being and lose the game. The goal of the game is to make it out of their start up phase successfully and become a steady company.

Project Description

2: This Cyber Security based Oregon Trail game will teach players about cyber threats, the importance of having secured systems, and difficulties new businesses face. Along the way, players will also gain valuable teamwork, leadership, management, and communication skills.

GOAL TIMELINE:

	Week 1	Week 2	Week 3
Tuesday	Progress on logistics - instructions, rules, planning, etc. (75%)	Continue working on board (50%), physical game (50%), and designs (66%)	Finish up board, physical game, and presentation (95%)
Thursday	Finish Up Logistics and start working on board (25%), physical game (25%), and designs for both (33%)	Finish designs and be 75% done with board and physical game. Start on presentation (50% completion)	Polish presentation and nail the presentation

Harry Python (Maheswari Bajji, Alexa Mesh, Simran Kaur)

What we have to do to get this done: We have to write the rules and make the game board. We also have to make up situations
for the different color groups.
New IDeas:

Format of Project

- Name and group members: **Harry Python (Maheswari Bajji, Alexa Mesh, Simran Kaur)**
- Describe the problem you are solving The problem that this game revolves around people being oblivious to messages encrypted in their online accounts. People tend to take lasting time to figure out these clues. The game will test abilities to think quickly and
- People also tend to click on random crypted messages without reading/thinking twice leading to hacked computers. Many people also don't know about encoding and decoding messages/emails. This game will teach players that simple popups can have hidden codes in them warning them to be careful on the web and will also teach them computer related hacks.
- Describe various solutions:
- **The board is a circle and the whole game is timed. Ex:4 round**
- A board game where everyone is a hacker. The board has different colored spaces with each color having a different group of scenarios (ex: blue spaces=cryptography,red spaces= steganography, white spaces = linux codes etc.)

- All scenarios will be timed. The player who rolled the dice decodes the messages/answers the computer related question. The winner would be the one who had had the most amount of cards (hacked accounts)done at the end of after everyone's turn is done .
- Outline the skills of each team member
    - Simran is skilled in art. She is a great group member and fun to be around.
    - Maheswari is skilled in being a group member/leader. She is organized and willing to stay on task(focused). She
    - Alexa is skilled in dance. She is a great youtuber. She is also organized and very kind.
- Outline a 3 week plan (6 sessions of one hour each) to complete
    - Day 1: Make the rules and start the presentation slides/speech Research on cryptography and steganography.
    - Day 2: outline of the board continue presentation slides
    - Day 3: Think up situations for cryptography and steganography cards by researching previous hacked computers by encoded/hidden info
    - Day 4: Think up situations for other computer related problems. Practice the presentation and finish the slides
    - Day 5: Start game board and cards. Practice presentation
    - Day 6:Finish all and try to play game Be very good in the presentation
    - Tasks : Research, Analysis, Development/Summary, Presentation

2: A problem our world faces today is security within social media/security online. There have been various scammers on social media who have stolen numerous info/money due to hacked accounts and leakage of private information. Over the years people have installed various stuff trying to save their computers. One of them is mcafee for example. Even with these softwares there have been various hacked computers.That's why we want to teach people what a hacked computer is and how to prevent being hacked.

Simran is skilled in art. She is a great group member and fun to be around.
Maheswari is skilled in being a group member/leader. She is organized and willing to stay on task(focused).
Alexa is skilled in debating. She is also organized and very kind.

We will finalize for our final ideas, decide on whether we want a game or a way to prevent hacks.

Team CVariant: (Govind Pimpale, Marek Pinto, ~~Jayden Stahl~~)

- Team Members:

    - Govind Pimpale
        - Competent with programming, especially C
        - Wishes to learn assembly.
    - ~~Jayden Stahl:~~
        - ~~Capable of learning~~
        - ~~Decent Googler?~~
- Problem:
    - C, while being a very useful and versatile language, can be difficult to work with in some cases. Part of it can be attributed to its old origins, where many concepts in computing were yet to be explored to their full power.
- Solution:
    - It is possible to create a C based language which attempts to solve at least a few issues of the language. The chief difference will be that the language will be expression based, with no statements, much like Rust. Also, we will create a separate frontend and backend. The frontend produces an intermediate representation that can be fed into several backends, which include an immediate interpreter, LLVM, or the default backend, which produces assembly.
- Project: GovinDOS
    - Create a simple x86 OS that can boot itself, print to the screen, and accept keyboard input to a simple shell. If time, interpret FAT32 format If time, create executable loader. If time, create simple VESA driver to display basic graphics upon the screen.
- Project: CompuGenesis
    - Create a simulator which can model the growth and death of plants accurately and speedily. Utilize vulkan to do GPGPU in order to speed up computation. Create GUI so that farmers and researchers can use it.
- Project: Crack Embedded software
    - Analyze embedded software in order to discover software vulnerabilities and flaws.

Comments: A lot of these are cool ideas for projects but most if not all are missing a security aspect. The C project and GovinDos look the most interesting and there can be ways to add security aspects to those without changing the entire project.

.Desaipher: (Niklesh Giragama, Mohid Fawad, and Kasey Doan)

1. Our project is a Caesar cipher. But it is a more too. The shift would be a word. The letters in the word would represent a number. Bu complex version. Instead of only using numerical values. We use the alphabet the first letter will be 26 and the last letter would be 1 For example, Z=1, B=25, Y=2, and A=26. The shift could be a word such as BOY. The shift would then be 25, 12, and 2. If the phrase is “Desai”, D would be C, E would be Q, S would be U, A would be Z, I would be U. The final phrase would be C Q U Z U. The

first letter would be shifted by 25, the second letter would be shifted by 12, and the third letter would be shifted 2. Then you would repeat it since you have gone through three letters. If the word is BOY, then you would repeat after 3 letters. But the catch is we can quse symbols such as emojis. THe heart emoji could be titled HRT and then you have to cipher and the word

2. Sierra stole Rushesh's phone and changed the password. She wanted to send the password to Rushesh without anyone else finding out. She changed the password to WFPB. The shift word is XD. The shift numbers would be 3 and 23. She wrote down the shift word and the code TIME. He shifted T by 3 and got W. He shifted I by 23 and got F. He shifted M by 3 and got P. He shifted E by 23 and got B. Rushesh found out the password was WFPB. He could then unlock his phone and he became very ecstatic.

3. Mohid is a good presenter and sometimes creative.
Niklesh - a very bright and good teammate
Kasey - a critical thinker that think everything through
4. Find 10 password using John the Ripper

New Idea: Create a website that holds people passwords, once you open and log into the website you can not access your passwords by using a code th

OC High Council:

Idea 2: Compilation of the number of computations required to break certain ciphers changing various inputs aided by images of graphs. Graphical analysis helps humans.
Problem: Some people are visual learners and need images to supplement learning. Some people cannot grasp th

Comments: The cipher is an interesting idea but on the simple side. The project needs to be more encompassing than just a cipher rule.
Nnw Idea, we also add emoji the way emoji encription works is that lets say we have this emoji (❤). **And that is the shift key. So if you go to our website that we will also be creating that each day it changes the code for the hear. One day will the code will be (wew) and maybe the could be (eaa) so you dont know what the code will be . And if we use the code (eaa) you would have to find each letters place in the elphabet such as e would 5. And a would be 1 so you would add them together and the total would be 7 . So 7 would be your shift key and then you could decrypt any word with the shift which in this case it would be 7**

Week 1:
Create the website and layout for the cipher

Start creating the program
Week 2
Create a randomizer for the emoji's
Week 3
Finish the program that decodes the secret text
Week 4
Make a program that Continuously the randomizes the emojis

We have created the random number generator. It will give us 3 random letters that will translate to a different

We need to find more background information. We also need feedback on our cipher. To get feedback we will

Complete Lockdown(Rushil Desai, Yagnesh Veeraraghavan, Aaron M):

Our project is a cyber security software that locks down your computer when the software senses anything malicious activity from anything you might have downloaded. If and when the software senses something bad, the software will immediately back up files of your choice to its a cloud. The software then locks down the computer blocking you out and trying to remove the virus or a malicious file. If the software is successful or is unable to do it then it would send an email to you and show a message on the screen.

Problem - Our problem is that people download malicious thing or get hacked and lose extremely important files or anything they value on their computer.

Rushil-Really good at being creative, has good ideas and really good at math
Yagnesh-Really good at programming, debating and really good at math
Aaron-Being really smart, programming and really good at math

Comments: This project may be too large for the time we have depending on how they scope it. If they want to just do a simple prototype it could work. Something like a file recognition system that will have a simple check for whether a site is malicious based

on only a couple factors as a proof of concept. A more complex way would be to use an external malicious file database to check the file against.

New Project Idea: Our new project idea would be a similar idea, but instead of scanning the whole computer, we would scan a file that the user would be downloading. The program would have an external database that has the unique characteristics of all the malware. It would be able sense if the file is bad before it is fully downloaded. If the program sense something it would immediately stop downloading the file. The external database would be able to detect trojan horses for example. The other websites that scan malicious fileS like VirusTotal and Kaspersky are built in to the browser. Our product needs to be downloaded on to the computer, which means it is built into it. This makes for faster scanning time than the other websites and easy access to it. Also, the other websites can only scan the files after the file has been downloaded, but our program scans before it is fully downloaded.

Week 1 : Yagnesh - Find characteristics of malware so that our program can sense it
Rushil - Find similar websites to find flaws in compared to our application
Aaron - Think of additional features to make the software more user friendly
Week 2 : Yagnesh - Implement things to our program that other programs do not have.
Rushil - Find flaws in our application and fix them
Aaron - Implement all the features into the program
Week 3 : Yagnesh - Work on the pitch and try to perfect our project
Rushil- Work on the Posterboard and the Pitch
Aaron - Work on the Posterboard

Yagnesh- Malware Characteristics.

Members:
Kristopher Eye so Tall - Not creative at all, however can effectively implement a program if asked, good time management, Also has a 94% in mr niazmand, therefore a complete math god. Also pretty good at tennis.
Sean Parks and recreation - complete genius, owns a model S, knowledgeable, charming personality, does not have a computer however.
John Vo- procrastinates, lazy, open minded, has an XR, taekwondo BLACK belt (*i kid you not*), Jinsung Parks and recreation - smart, doesn't have a phone however, loves to read books (*lol*), currently working on VEX for MESA. Pretty good at tennis.

Problem: One problem occuring in modern society is data recovery. Many people accidentally delete or have malicious malware delete their files. Only a miniscule amount of people have the

knowledge to actually recover any lost data or files. There is however a nascent solution due to the invention of the cloud: backing up files beforehand.
Program: We will develop a program which will run regular back up checks. Every time you turn on the computer, the program will start up and quickly do a back up-- all while not affecting the performance of the computer's start up time. The back ups will encompass the entire computer's operating system as well as every file on the hard disk. The back up will be stored on the user's personal cloud where it will only be accessible with the user's password.

Comments: Not a realistic use case and has to many variables to deal with in the short amount of time they have. They need to rescope this project or move more towards another idea.

Seraseta: (Jayden Stahl only)

Problem: Many people have small vulnerabilities on their computers that may go completely unnoticed due to lack of knowledge of them. These can sometimes be small, such as password min length

ctfB_w/_CTFd (Andrew Dang, Ganesh Pimpale)

Problem: One problem in cybersecurity is lack of human resources. Not enough people are knowledgeable of Cybersecurity or interested to learn and have potential jobs.

Idea: Make an introductory CTF for beginners. Unlike other difficult CTFs, this one will have links and resources in the hints. The idea of resources in the hints was inspired by the bandit game, which had slowly introduced added new concepts every level. It had all possible needed commands to find the password for each level. This was very useful for beginners who had no experience with a terminal. The CTF will have links to websites containing information relevant to the current problem. The CTF will introduce new people to cybersecurity.

Andrew Dang: Fluent in using Search Engines

Week Timeline

- Week 1
    - Research and prototype a CTF using CTFd
    - Decide what categories the CTF will focus on
    - Research and develop a set of problems that the challengers will go through
- Week 2
    - Finalize the problem sets and create a main answer key sheet
    - Get the problems working with CTFd
    - Start creating a UI for the access point to the CTF

    - Have some other people test out the CTF to make sure that problems are doable and leaderboard updates appropriately
    - Start on presentation focusing on why this CTF is a good introduction to security concepts
- Week 3
    - Finish development of the UI
    - Finalize presentation
    - Make CTF deployable to cloud service