LESSON 1, plan

LESSON TOPIC	Impact of Games in CS/US History
INQUIRY	• Why are games important to CS/US history...to me? • What is the value in developing digital games? *In spite of the common perception of computer science history as being male dominated and shifting from a personal to a vastly social realm, the unsung heroes and forgotten narratives convey quite the opposite.* *Gaming, one of the most immersive and engaging social dynamics recorded since the history of humans, has reflected and perpetuated social dynamics that can continue to persist or be altered by games themselves!* *The power lies in game designers and developers and their understanding of the significance that video games has had and continues to have.*
STANDARDS	• 9-12.IC.1 Evaluate the impact of computing technologies on equity, access, and influence in a global society. • 9-12.IC.7 Investigate the use of computer science in multiple fields.
OBJECTIVE	SWBAT: ☐ Explain one or more ways that digital games have affected our present ☐ Identify ways that early computer (video game) usage has shifted online dynamics from personal to social. ☐ Explain how video games can both positively and negatively affect our future

RESOURCES	• **A People's History of Computing in the United States (book)**
	  ○ Provides basis for unit's motivation
	  ○ Early chapters contain excerpts that can be used by teacher (focus on early video gaming's relationship to what was presented in "inquiry" section above)
	  ○ Includes summary, link to purchase, & related resources/media)
	• **Jane McGonigal Believes Games Can Change the World (article)** Wall Street Journal
	• **Tech Bro Culture was Written In the Code (article)** Slate.com
	• **Fact or Fiction: Video Games are the Future of Education (article)** Scientific American
	• **Video Games Can Be Good For You (article)** Game Design.com

AGENDA	
STARTER	Describe your favorite (or worst!) memory that involves a video game OR Provide a prepared list of games with brief descriptions and have them guess how it has shifted society
GUIDED PRACTICE	**1.** Brief intro of 10+ variety of games of teacher's choice that has had significant social impact. Can include but not limited to:

LESSON 1, plan, (cont.)

mini lesson	Nim, Oregon Trail; Ftball(BASIC game book); Pong; Mario; GTA; NBA2K; Atari; Among Us; games used by doctors in study to treat schizophrenia, Alzheimer's, dementia, etc.; kahoot; (citizen scientist games to help researchers, etc.); etc. **2.** Jigsaw puzzle protocol modeling/demo **3.** Group creation **4.** Text Analysis Worksheet Distribution (same for all) **5.** Article/excerpt distribution (diff article or scaffolded excerpt from) for each group member
WORK PERIOD independent practice	**1.** Those w same article, sit together in groups 2. Independently Read then Analyze article 3. Share out, w/ prepared prompts if needed, to group members 4. Refine/modify answers after share out, if needed *The following steps can be done digitally:* 5. Move to originally assigned groups (each member has a different article) 6. Show 3 posters, each with a different heading (correlating to objective) 7. Rotating a timed share out protocol, each person shares out last section summary of their article worksheet while a group member who volunteered as recorded documents answers to throw on posters
CLOSING and/or exit slip	• Poster Share Out • Anything new? Debatable? Want to know more about?

ASSESSMENT	• Worksheet
	  ○ (individual; use purple answer sections as CFUs + to identify interests and points of engagement for targeted students who may need support regarding motivation)
	• Posters
	  ○ (for whole group feedback + tailoring lessons going forward)
	• Share Out
	  ○ (to identify interests and points of engagement for targeted students who may need support regarding motivation + tailoring lessons going forward)

L/ b L _____

INSTRUCTIONS:

☐ Read the article you were assigned (also posted in google classroom)

☐ Use the worksheet to re-read and analyze the article (all sections in purple require a typed response)

☐ Complete all THREE sections (see outline view to the left of this doc; icon looks like)

/ Lh b L

t b *[e.g. "The New York Times"]*

[e.g. "Chasing the Higgs Boson: At the Large Hadron Collider near Geneva, two armies of scientists struggled to close in on physics' most elusive particle."]

Author Name: *[e.g. Dennis Overbye]*	**Date of Publication:** *[e.g. March 5, 2013]*

ARTICLE ANALYSIS, link to article

SECTION II: *Write 2-5 items in each section of this chart.*

Know After reading the TITLE of the article only, list some facts that you think you know about or related to the topic	Want to Know Before reading the the article, list some noticings,wonderings, or questions you may have about or related to the topic	Learned After reading the article, list 3 or more major facts + 1 relevant statistic that you learned from reading the article
• [type text here]	• [type text here]	• [type text here]

WORDS THAT MAY BE RELATED TO OUR SUBJECT AREA CONTENT (CTE)	WORDS THAT I DID NOT FULLY UNDERSTAND

ARTICLE ANALYSIS, link to article

SECTION III:

MY SUMMARY OF THE ARTICLE • Approx. 3-5 sentences • Include its main idea, a major takeaway fact(s) • Include its significance (why it's important)

MY *OPINION* FROM THE ARTICLE + REASONING/EVIDENCE TO SUPPORT IT: *Approx. 2-5 sentences*

QUESTIONS THAT I WOULD LIKE TO ASK THE AUTHOR *Approx. 2-5 sentences*

HOW THIS IS RELATED TO OUR LESSON OBJECTIVES *Approx. 2-5 sentences*

LESSON TOPIC	Hack-a-Game
INQUIRY	• What makes a game engaging? • Which of the 6 elements of game design best brings the balance of making a game both increasingly enjoyable and challenging?
STANDARDS	**9-12.IC.6**
OBJECTIVE	• I can identify how the core mechanics, space, rules, and challenge of a game can affect the experience. • I can explain some criteria for what makes an engaging game.
RESOURCES	• **GAMES FOR CHANGE ARCADE** ○ **teacher resources** for student challenge ○ **student-created games** from past winners ○ **ACCESSIBILITY games** from past winners FREE ONLINE EMULATOR FOR RETRO GAMES ○ covers many consoles + thousands of games
AGENDA	
STARTER	• Ask... ○ Who likes tic tac toe? ○ Who doesn't like tic tac toe? ○ Who knows how to play tic tac toe? • Have 2 quick rounds of students demo'ing the game on the white board or digitally
GUIDED PRACTICE mini lesson	• Form groups of 3 ○ Have them take turns to play until all have had a chance ○ Reflect on the pros/cons of the experience as played & waited • Announce that they have to play with all 3 players at once by introducing a 3rd symbol (e.g. triangle) ○ Have them play a few rounds for 2-3 min ○ Reflect whole group about how this affected the CHALLENGE component of the game's design
WORK PERIOD independent practice	• Announce... ○ WE BROKE THE GAME!! ○ NEW CHALLENGE: Bring balance back by modifying one or more other aspects of game design (core mechanics, space, rules, challenge, or components) • In groups... ○ Brainstorm → Prototype → Iterate → Reflect ○ Document changes/evaluations for each step ○ Go through 2 different game variations (1 or more iterations) • Suggest that each group has... ○ Play Provoker: ensures that we are play testing as many ideas as possible ○ Fun Critic: monitors/gauges/announces the level of fun of

Design Process

STEP 1- BRAINSTORM

Brainstorming is the first step in the design process. During this phase, game designers ask themselves what kind of game they can make with the materials at hand to meet their design constraints and goals. Often, you might just come up with a few kernels that can be developed into a game and by testing it out, running it by other people, and pushing your creativity, you can come up with something great! It's important to come up with many ideas during the brainstorming phase - don't edit yourself and certainly don't write anything off just yet!

STEP 2- PROTOTYPE

Once you've brainstormed a number of ideas, it's time to select one or two favorites to push forward and start building. Prototyping is all about trying to get your idea on paper in order to create something playable so that you can test out your idea and get feedback. You want to think about which ideas seem the most possible, given the time you want to spend, the materials you have, and the design challenge at hand. Create a sketch of your idea if you'd like, then start to use the materials to build your game. Index cards and post-its are great prototyping tools! It's ok to change your idea once you start to build it - that's part of the process.

STEP 3 - PLAYTEST

Once you've built a playable prototype and tested it and refined it yourself or with your team members, you're ready to have someone else play to help you determine how to make it the best possible game. Find one or more people to play your game and ask them what they think. It helps if you ask them specific questions about their experience such as:

+ How fun was this game? What did you like about it? What didn't you like?
+ What suggestions do you have for improving it?

Record some notes so that you can use them later to improve your design. Also - you'll be able to learn a lot just by watching them play the game. Did they understand the rules? Did they interact with the game in the way you intended? Was anything confusing or overly challenging? What were you surprised by?

STEP 4 - ITERATE

Iteration is a fancy word for making changes to your game in order to make it better and more fun. What changes need to be made to your game based on the playtest? How can you improve your game? Using playtester feedback, pick one or two ideas that you think are best for making a change to your game to improve it, then put those changes into action by redesigning your game. You can playtest it again and get more feedback if you want until you feel you are done with it.

STEP 5 - REFLECT

Reflection is a key part of the game design process. As game designers, we are constantly evaluating our work and processes and getting feedback from others in order to improve and grow. Think about what you learned during your game design process. It's helpful to think about what you liked about the process and your game, but more importantly, consider what didn't go so well and what you would change if you were going to do this again. The game design process is about reframing failure or mistakes as an opportunity to improve

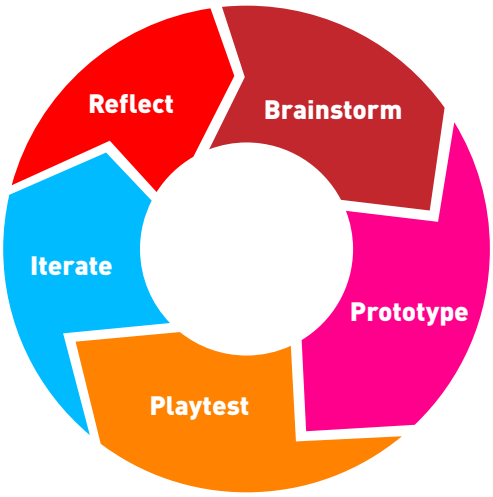
Parts of a Game Modding Worksheet

Tic, Tac, Toe Mod

Now it's time to modify or as real game designers say, "mod" a game. During this activity you will focus on how the Space, Rules and Challenge of a game affect gameplay. Your challenge is to make a new version of Tic, Tac, Toe that is playable for three players! Ready, set, design!

STEP ONE: Gather your materials

Now it's time to modify or as real game designers say, "mod" a game. During this activity you will focus on how the Space, Rules and Challenge of a game affect gameplay. Your challenge is to make a new version of Tic, Tac, Toe that is playable for three players! Ready, set, design!



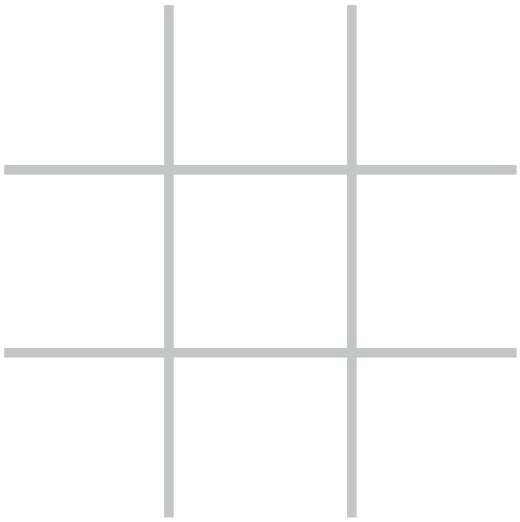
STEP TWO: Remember the design process

At the beginning of your journey to becoming a game designer you learned about the design process. Now you are going to put it to use. In order to modify Tic, Tac, Toe, you will move through each step of the design process. Take a look at the process and go back to the first section to read about any step that you have questions about. Once you remember the process, it's time to get started.

STEP THREE: Game design time!

BRAINSTORM: Part of the first step of the design process is to really understand what you are designing and who you are designing for. In order to really understand your design challenge you need to play a lot of Tic, Tac, Toe and since you are being challenged to redesign for three people, you need to play with three people! Follow the steps below to begin your brainstorming.

1 Find two other people to play Tic, Tac, Toe with you. Make sure they understand how to play regular Tic, Tac, Toe. Now explain that they are going to help you understand how to play Tic, Tac, Toe with three players. The only change will be that you will play with an X, an O and a Y.



Tic, Tac, Toe Mod *(CONTINUED)*

2 After a few minutes of playing check in with your players and see how it is going. Here are some questions you might ask:

a) What works and doesn't work with this new Rule of 3 players in the game?
b) How does the new rule affect the challenge of the game?
c) How does the new rule affect how fun the game is?

Record the information you gather:

3 You probably observed that when you add an additional player to Tic, Tac, Toe but keep other parts of the game the same, it's not that fun and doesn't really work. In fact, it breaks the game! Once you added a new rule of adding a third player, it threw the rest of Tic, Tac, Toe off balance. **A good game is a balanced game!** As a game designer, your job is to fix the broken game. How can you mod the game for a third player AND make sure the game stays fun and challenging? Think about how you can mod the SPACE, RULES and/or CHALLENGE to make it more fun for 3 players? Brainstorm some ideas below!

Tic, Tac, Toe Mod *(CONTINUED)*

PROTOTYPE:
Once you have a few ideas, try them out! Use next couple of pages to design a couple different versions of Tic, Tac, Toe. Remember, you can use other materials that you gathered, you could change the look of the Tic, Tac, Toe board, change the rules, etc

Tic, Tac, Toe Mod *(CONTINUED)*

More space for prototyping and writing new rules:

Tic, Tac, Toe Mod *(CONTINUED)*

PLAYTEST:
Now gather some family, friends, or classmates and ask them to playtest. Explain the new rules to them and ask them to play. As they are playing watch them play. Does it seem like the game is fun? Do your new rules make sense? Is there anything that needs to be changed to make it more fun or more playable?

Record your ideas here:

ITERATE:
Use your playtest feedback to make any changes to your game to make it better and more fun.

Share your game!
You did it, you modded a game!

Tic Tac Toe Matching Worksheet

One entry point to becoming a game designer is to mod a game - change one part - to create a new game. Before you change one part you have to understand all the parts and how they work together. Look at the parts of a game chart one more time, below. After reviewing the definitions, match the words below (on the right) to the correct part(s) of Tic Tac Toe.

Parts of a Game

GOAL
What does a player or team have to do to win?
Cross the finish line first, collect the most marbles, be the last standing, etc

CHALLENGE
What obstacles might you put in the player's way to make reaching the goal fun and interesting?
How is she being kept from doing it? Her leg is tied to her teammate's, the marble is hidden, getting hit with a ball ends game play, etc

CORE MECHANICS
What core actions or moves does the player do to power the play of the game?
Jumping, wiggling, searching, solving clues, ducking, bobbing, weaving, dodging

COMPONENTS
What parts make up the materials of play?
Bandanas? A grassy field, red rubber balls and a court?

RULES
What relationships define what a player can and cannot do in the game?
Players' legs are tied together, they must start on the same line, all marbles must be gathered waiting 3 minutes, balls can only be thrown outside the line towards the midsection.

SPACE
Where does the game take place and how does the space affect the game?
Basketball court? A circle? Classroom? The park?

Parts of Tic Tac Toe:

Match the items below to the appropriate part(s) of Tic Tac Toe.

- WRITING UTENSILS
- WHITE BOARD
- BLOCKING
- BE THE FIRST TO GET THREE IN A ROW
- 3X3 GRID
- PLAYERS TAKE TURNS WRITING THEIR SYMBOL
- CHALKBOARD
- 2 PLAYERS
- X AND O
- PAPER
- WRITING
- YOU DON'T KNOW WHERE YOUR OPPONENT WILL PLACE THEIR SYMBOL

Playtest Reflection Form

GAME: _____ DATE: _____

NAME: _____ GRADE: _____

Fun

How fun was the game?
(Please circle a face)

Difficulty Level

How difficult was the game?
(Please circle one)

Too Easy | Nicely Challenging | Too Challenging

Clarity of Rules

How clear were the rules?
(Please circle a face)

What can you and other players learn from playing this game?

What would you change about the game? What would you add or take out?

What was your favorite thing about the game?

What was your least favorite thing about the game?

Glows and Grows Worksheet

GAME: _____ **DATE:** _____

REVIEWER: _____

GLOWS

Positive Feedback; what works well

GROWS

Constructive feedback; areas for improvement

	each prototype ○ Includer: ensures that we are hearing as many ideas and explanations as possible from every member and that the game is accessible to all kinds of players ○ Facilitator: ensures rules are being followed with each play test and that feedback is being heard *and* recorded
CLOSING and/or exit slip	**REFLECTION/SHARE OUT:** ● What did your group change? ○ Let's play! ● What was fun/difficult/confusing about the process of Brainstorm → Prototype → Iterate → Reflect (IDP or Design Thinking) the game? ● How did the elements of game design affect each other? Which felt most important to focus on to find the best balance/make it most engaging? ● Distribute/collect exit ticket
ASSESSMENT	● **SHARE OUT RESPONSES** ○ Take note of where they will need support during design/development process ● **IDP/Design Thinking Worksheet** ● **Assess exit tickets** (as opener for next lesson if short on time)