

## Cover letter Group 4: The Eggscape from Tweedy's Farm

Dear Teachers, Frank and Yelena:

Thank you again for taking the time to review our proposal and providing your valuable feedback. All of your comments were extremely important in the different phases of the development. They highlighted our weakest as well as strongest point, encouraged us to seek perfection and on the overall were a most valuable tool that helped us to come up with a design that has great potential to be an excellent edutainment tool.

Some of the following comments indicate that there might be a misunderstanding regarding our design of the mini-game "But I don't want to be a pie!" We hope that our responses, the modification of the document based on your comments and an actual working mockup of the game will answer any of the questions that you had.

Following are all the comments and our responses:

*Teacher 6: APPENDIX FEEDBACK: "A target icon to use on the intersection of the lines and a smaller version to use in the player tray to indicate a point on the graph": I don't understand this or see it in the diagrams. What's its purpose?*

We agree. The wording wasn't good enough. A set of crosshairs will be implemented as the cursor, so the player can aim at the appropriate pie. The same icon will appear in the tray beside the values for the point given by the system.

*"Semi-transparent x,y axes on top of the background graphic with the correct numbers on the axes for each of the levels" The diagram isn't numbered yet, right? I question the use of fractions and decimals in this context, at least in smaller than .5 increments. I don't think this age child is likely to see graphing applications where scaling is in increments other than integers. Come to think of it, do most of us?*

Yes, the labels were not present in the current sketches. We have consulted with Suzanne Alejandre before determining the levels. I [Shlomo] also had an opportunity to plot points including decimals with a third grade student, and it seemed to me that she understood the concept and how to find the point on a graph. She had some problems, but on the big picture she was doing well. The problems are based on knowledge that a 3rd or 4th grade student should have. However, it would be only in a testing phase with these students that we would be able to see how challenging our game is, and we can adjust the difficulty level accordingly.

*I can't tell from the diagrams which direction the timer goes in.*

When being set, the clock will go clockwise, and then it will decrease in a counter-clockwise manner back to zero (similar to a cooking timer).

*What determines the game outcome -- winning, losing, ending? Is it score? number of errors? time out?*

To win the game is to complete all 5 levels. The player loses if you bake the chickens (after shooting on incorrect pies 4 times). Another way to lose is if the timer reaches to zero. The game is set up so that even if you did not finish all 5 levels, you could roughly estimate the player's skill level by their score. The score is one point for each chicken that has been saved.

*Does this game provide any hints, tutorial, etc?*

Not at this point. We find the core mechanic (aiming a crosshair and shooting) simple enough. We might add some screenshots to serve as a tutorial. It could show sequential play, from the initial screen displaying which coordinate the player needs to hit, and then show the process of aiming the crosshair with the mouse, and then finally shooting into the pie.

*How close do the crosshairs have to be to score a hit?*

Each pie is considered to be a point on the graph, so aiming anywhere onto the pie will constitute a hit.

*What happens if a player mistakenly shoots a pie that does contain a chicken, but not when indicated by the coordinates?*

The programming world is dynamic. It means that the chickens are not really hiding in the pies. When the system gives a point to find, and the player shoots the pie located at this point, the system presents to the player the correct feedback by showing a chicken gets out of the pie and says "thank you". If the player shoots other point other than the point indicated by the system, the system responds with explosion of an empty pie and an error sequence.

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*Teacher 7: APPENDIX FEEDBACK: Mini-game 2: Coordinate graphing: I think that I have a much clearer picture now of how the game works. Let me know if I'm correct. The point of this mini-game is to practice finding points on a graph and to practice reading integers, decimals and fractions and locating them on the plane.*

So far correct.

*The points are all in the first quadrant. The level determines whether the points are represented as whole numbers, decimals or fractions. The student will be asked a question and the response is a point on the coordinate plane.*

Not quite. The point is given as an ordered pair, (3,8) for example. The student needs to find the pie that lies in this point on the graph. We are trying hard to balance between the educational goal and the principles of a good game design. If the point is given by a question on the screen or audio, it will "cut" the continuity of the game, which is an important element in creating meaningful play. By having the point as an ordered pair at the bottom of the screen, the player can be dynamic in aiming and shooting without breaking the game in order to understand a question. Remember that even if the point is given in this form, it is still a challenge for the

students to find it on the graph, especially in the higher levels when the player will have to do some conversions to get the proper point.

*If the student responds correctly, a pie containing 'n' number of chickens is located. The student then receives a score equal to the number of chickens in the pie. The number of chickens is arbitrary and doesn't correspond to the complexity of the task.*

No. each pie can contain only one chicken. The student needs to find the pie that lies on the point given by the system and shoot it. If it is the correct pie, a chicken comes out from the pie and says "thank you", if not, the chickens are one step closer to be cooked. The player has 3 erroneous attempts throughout all the game, in the fourth error the game is over.

*An incorrect answer results in the chickens being closer to being cooked. The student has 3 tries to save the chickens.*

*Is that three tries per pie, or three tries for the entire level?*

Four tries for all the game, like lives in a Space Invaders game.

*What role does the clock play? The student has 40 minutes to complete a level? the game?*

A level. But the clock can be adjusted to a lower time. Again, this can be determined correctly only in a test phase of the game.

*Will the questions, (location of the pies) change each time the student tries each level?*

Again, there are no questions just pair of numbers that represent a point. The pairs will be given randomly throughout all the game.

*I still would like to see the wording of a question to which the answer is a point on the graph.*

There are no questions ☺

*ADDITIONAL COMMENTS: I am still troubled by your own prose in the description since there will be prose in the game itself. For example, this sentence: "The idea of the game is to discover the pies were chickens are compressed into from the graphing points that the game will provide to the player in the final stage of the machine that bakes the pies, then to shoot the pies so that the chickens can go out of the pies and escape from their destiny of becoming a baked chicken pie!"*

No worries. ☺ The farthest we go in language/speech in the game is when the game is over. We want to present a line from the movie where a chicken says "But I don't want to be a pie" in a very hilarious way.

*Thanks for giving me the opportunity to be a part of your class.*

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*Teacher 3: I love the graphics you've used in your mock-up with the size of the pies increasing so that they really look like they're baking. I would love to see children interact with this. My first thought was that they might just randomly click on a pie and so I decided to read the different levels of your game again. Because this is the second level and you've taken care to have the children introduced to coordinate graphing, I think having this as a second level will not result in their random guessing. But, one never really knows unless we have user testing. Wouldn't it be fun to watch!*

*I like the complexity that you've noted for the scale on the axes.*

Thanks. We agree. There will be much to learn from a real test phase.

*good job overall, and very neat graphics.*

Thank you! We all put hard work into this.

*the end of the Abstract of your draft: you have not really described the core mechanic (only said that it relies on keyboard/mouse) and then you say that some levels involve only a subset of the core mechanic. Subset of what? If you feel that you need to define a subset of it, you should first define the entire set of recurring actions that make up the core mechanic.*

The core mechanic has been explained in more detail that will hopefully be enough. The part about the subset of the core mechanic has been removed since it seems to add more confusion than assistance to the explanation; although some of the mini games will not need all of it.

*mini-game 1 -- i'm trying to make sure that i understand correctly: the coordinates will be marked on the axes using "chicken steps," is that right? so, say, instead of number 3 there will be 3 steps drawn next to the axis? What about the coordinates provided by the system for where the chicken should move -- will those be in numbers or chicken steps? Try to make your description just a bit clearer.*

Yes! That is correct. This method is the best one we could think of that will give the players a clear and tangible idea of what it means to graph points on a coordinate system. This idea has been more clearly explained and expressed in the document itself.

*- mini-game 3: in the very beginning, you've said that the player will have to choose a right shape from what is offered by the mice. When and how do you intend to provide the child with a description of what shape should be picked? Give an example. One of the teachers has expressed a similar concern about your game in general -- it is often not clear what kind of instructions/directions will be given to the child. Try to take care of this. Knowing what queries will be given to the child greatly helps to understand the flow of the game.  
"Teacher 7: I find this draft much clearer and more readable the first draft. I am still curious as to what some of the questions might be."*

There is a screenshot of this game in the draft. To start each round, the chicken approaches the mice, which have some airplane parts for sale. The game will provide a hint for the player to

pick the correct part. In the screenshot we had, the player needs the octagon shape. If they don't know what the octagon looks like, a hint is provided ("It has 4 pairs of equal sides"). We could have other shapes such as a rhombus, with a hint being ("Two pairs of parallel sides, but no right angles")

*- mini-game 3: I don't see how this game would involve any arithmetic operations besides addition -- but you insist that the game will use 3 types of operations. Try to explain how this will be done.*

Each time the game is played, a different math operation can appear on screen (though for demonstration purposes only addition is displayed). For example, if the value inside the shape was 16 and the operation was multiplication, you could take a 4, 2, and 2 and that would be correct.

*- See this comment from a teacher: (Mini-game 4) This needs clarification. Is it like dropping pieces in a puzzle? What's the educational objective? What's the pattern?*

*your reply was:*

*All the pieces collected in earlier stages of the game are different parts of the flying machine the chickens use to escape the farm. It is a puzzle, in that they will have to arrange the pieces in the right order to "build" the airplane and be able to fly away.*

*This not actually what was asked. What is the educational value of this stage?*

*What skills/operations are being practiced? Does matching of shapes involve only sliding or other operations on shapes (e.g., mental rotation?).*

The educational part of this mini-game is simply for the children to experience and develop spatial and geometric patterns of thinking. The goal is for them to explore with the different shapes regarding how they fit together and how they have different angles, sizes, and areas. The students will be able to interact with all of the shapes by rotation, sliding and flipping. They do not have to do any of this in their heads but we are hoping that it will help them develop the ability to do so. As with many other parts of the game, this can only be confirmed through testing. We clarified these learning objectives in the proposal itself.

*Learning objective: you mentioned that the geometry vocabulary that will be practiced involves things like "edge, angle, side" -- i'm just not sure how those will be used. I can see how you'll use terms like rectangle, square, etc, but not the ones i mentioned before. Giving a better idea of what queries will be given to kids would help.*

The terms mentioned above (edge, angle, and side) are only used indirectly in the definitions of the shapes asked for in the game. This clarification is mentioned in the proposal. As stated above, we added an example of a question that could be used in the game.

*- appendix: Core mechanic: not very clear -- will each of the 2 lines need to be moved separately, or the child would simply move the aim in one movement of the mouse?*

This may not have been clear in the previous documents, but the target will be a set of crosshairs, which will be moved in one mouse movement. This will give the effect of aiming through a rifle scope.

*- appendix: elements: maybe list those right next to one of the screenshots you have? and maybe have arrows pointing from descriptions of the elements to the actual elements in the screenshot? The thing is, it's a bit hard to understand what some of your descriptions of elements mean -- say, the "chicken icon" and especially the "target icon" are difficult to visualize and trace to the screenshots. Also, try to re-phrase at least the "target icon" description.*

We've added arrows, labels, and a legend to the screenshots, so you can easily see which elements are being discussed.

*- Try to clean up your grammar and sentence structure. I did not mind such problems in the homeworks, but this part of your work should be much more presentable. You need to make sure that the quality of your ideas is not underestimated simply because your writing is a bit weak in some places. Let me know if you need help.*

We went through all of our documents last night and cleaned up a lot of the grammar and sentences. Hopefully everyone will benefit from the increased readability.