Stinky Kid Math

Client
Todd Matia

Application
Education is rapidly changing in regard to the delivery and options students have to access their learning. Gaming and online learning are quickly becoming one of the primary pipelines of educational media, but many are falling short in providing key elements that lend to true learning. In any effective learning setting it is essential for students to get a continuous cycle of 4 things: content, practice, immediate feedback on how they are doing, and re-teaching for things that they missed. These are all elements that are extremely difficult to deliver in an effective manner online without a facilitator. Stinky Kid Math has developed 350 solid, dynamic video lessons around Pre-Algebra, Algebra, and Geometry. We currently have an online delivery platform that is consistently being revamped, but we would like to step up to the next level by offering better quality apps and games. Our current games are focused on typical concepts that students tend to struggle with; i.e. algebraic movement (solving for x) order, integer operations (adding/subtracting/multiplying/dividing positive AND negative numbers), plotting points on a graph, and understanding geometric shapes and properties. The games are key in giving students fun practice, immediate feedback, and potentially directing the students back to lessons that will re-teach them the missed concepts.

This project would involve 2 major pieces:
- The continued development of the current math games: namely the Geometry Playground and Geometry Runner. The Geometry Playground needs some added coding that will stop shapes from changing into a forbidden configuration; i.e. a triangle becoming a line. The Geometry Runner needs some additional coding that will "ding" the player if they jump over a shape that they should have picked up, and also adding additional varying shapes that fall in the same categories as the current existing shapes. **It would be a bonus to combine both games into one cohesive game that would help teach shape properties and use the game as an assessment**.
  - Finding a way to convert our existing games into "touch-based apps" and to make them playable on ALL devices is a bonus challenge.
- Development of new math games/apps that focus specifically on fractions, decimals, percents, fraction operations, plotting fractions, reducing fractions, and other fraction related operations. It would be good to develop some fun apps that also allowed students to understand how decimals, fractions and percentages are all the same and being able to convert between.
- The true challenge comes in finding an exciting and fun way to approach the learning as a challenge and game, not just straight instruction.
- All games will require "hooks" to be placed into the coding that allow for data tracking of members.

Key technologies
We believe the use of the following technologies will be key to the successful development of the application, but we also invite you to helps us explore the best possible options:
- Utilizing HTML 5 or another emerging technology to code the games that allows for the use of the games on mac's, pc's, and all tablets
- Conversion of existing games in Flash to HTML 5, or finding a way to make them playable on

ALL devices.

Location
Stinky Kid Math is located in Colorado Springs, CO. It would be required for students to have regular meetings with the creative director (Skype or in person).

Benefit to students
This project will give students experience with:
- Web and app based game creation
- Outputting data hooks to allow for data tracking and management
- Working with an international developer based in Singapore to align game/app outputs with a membership program
- Working with a front-running educational program that hopes to be the best in the world in math support and education in an online environment
- Potential for an internship or partnership