**Background**:

In what can only be called a “revolutionary” business partnership, the Department of Education has teamed up with the Maryland Board of Education, a top international gaming company called Tek Gaming Solutions, and representatives of the state’s amusement parks, for the purpose of devising an engaging, “fun” way to keep middle school-aged children active, outside, learning AND, most important, having fun during their summer breaks. The DOE and MD Board of Education have determined that an online game would be the ideal solution however they have turned to Tek Gaming Solutions to lead the majority of the project as it is out of their technical areas of expertise. Representatives for the state’s amusement parks will provide guidance into how to get kids outside and having fun with the game.

**Your Role:**

You are part of a development team at Tek Gaming Solutions. Your team is responsible for coming up with a prototype of an online solution that meets the following general requirements:

- Devise an educational game covering basic topics

- The DOE has approved the 5th/6th grade curriculum for the prototype focusing on math

- Incorporate the state’s amusement parks

- Support verified and anonymous user submissions of images, park descriptions, reviews, etc.

- Online & Mobile ticketing support

- Integrate with popular social media platforms

- Allow parents to view basic info on their child(ren)’s activities in the game

- Allow school officials and teachers to view how kids in their grade are doing in the game

- Support donations

- All data persisted in a centralized location

**A technical review & status report roughly half-way through the project**

**A final product review & prototype demo in the mid-May. The winning design will be selected at this time.**

**o Must include plan to expand the program across the country**

**Requirements (make clearer)**

1. Create an educational game that incorporate the state’s amusement parks. - nonfunctional?
2. Integrate all basic topics of a 5th/6th grade curriculum (focus on math for prototype) into the game.- functional?
3. Support verified and anonymous user submissions of images, park descriptions, reviews, etc.-functional?
4. Support online and mobile ticketing system. (??????) - functional?
5. Integrate with popular social media platforms.- functional
6. Allow parents to view basic info on their child(ren)’s activities in the game-functional?
7. Allow school officials and teachers to view how kids in their grade are doing in the game- functional
8. Support donations -functional
9. All data persisted in a centralized location - functional?

**Use Cases**

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| Name | Sign up for game |
| Description | School officials/teachers send a link to students school email address. Student clicks the link and can sign up for the game. Once the student is done registering, the system will automatically sent the parents a verification email. Parents can click the link provided and will get weekly updates for their child. |
| Actors | Parents, Students, School Officials/Teachers |
| Frequency | Often |
| Triggers | User clicks link provided by school to immediately register for game, which would allow parents to view student progress in game |
| Preconditions | Student has to click the link provided by the school |
| Postconditions | Student are able to play the game |
| Main Course | 1. School officials/teachers send a link to the students school email address. (See AC1) 2. Student registers for the game. (See AC2) 3. Sends verification email to parent. 4. Parent verifies the students account. (See EX1) 5. Student logs on. 6. Parent gets weekly updates. |
| Alternate Courses | AC1 Link was not clicked in 48 hours   1. Notification is sent back to school officials/teachers. 2. Resend the link.   AC2 Already registered/email has already been used   1. Return user to Main Course 5. 2. Use forgot password if needed. |
| Exceptions | EX1 Parent does not verify account   1. Parent has the option to register. Student can continue without tracking. 2. Return user to Main Course 5 |

\*\* verification, registration, subscription???



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| Name | Receive Donations |
| Description | Users can donate on the game’s website through common payment methods. |
| Actors | Parents |
| Frequency | Occasionally |
| Triggers | User visits website and selects donation page. They then complete a secure payment form or complete using PayPal |
| Preconditions | User selects the donation page |
| Postconditions | Donations are made to DOE, and MDBOE |
| Main Course | 1. User clicks donation page. 2. User chooses donation through PayPal or as guest. 3. If using PayPal, continue through PayPal. If donating as a guest, fill out form containing card info and billing address. 4. User then types the amount they would like to donate. 5. User is asked to confirm the amount and submit. 6. User receives an e-mail receipt of their donation. |
| Alternate Courses | AC1 Cancel the transaction:   1. At anypoint before submission, the user can cancel their donation by clickings “Cancel” button |
| Exceptions | EX1 The card is declined:   1. Inform the user their donation cannot be processed and return them to the donation screen.   EX2 The user inputs invalid card information   1. Inform the user of the error and return them to step 3 of main course. |



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| Name | Parent info page |
| Description | The parents receives a verification email and can sign up for weekly updates of their kids progress |
| Actors | Parents |
| Frequency | Often |
| Triggers | Student registers for the educational game and a verification email is sent to their parents. |
| Preconditions | User selects verification link in email. |
| Postconditions | User gets weekly updates for their child's activities in the game. |
| Main Course | 1. Parent clicks the verification link in the email. (see AC1) 2. Parent creates a login for themselves to opt in view the weekly progress/activities the child is doing. (see AC2, AC3) 3. Parent Logs in. 4. Parent receives weekly updates via email or logging in. (see EX1) |
| Alternate Courses | AC1 Link was not clicked in 48 hours   1. Parent will need to contact teacher/ school officials. 2. Teacher/ school officials will resend the link.   AC2 Already registered/email has already been used   1. Return user to Main Course 3. 2. Use forgot password if needed.   AC3 The parent wants to opt out of weekly progress reports   1. The parent will click opt out and save the preferences. |
| Exceptions | EX1 Parent opts out of weekly progress reports:   1. No further actions needed from parents. |



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| Name | School official/ teacher info page |
| Description | School official/ teacher logs in and then signs up the students through their email. Once saved it generates and sends out an email with a link to the student to sign up for the game. From their end they can view a breakdown of how each student is doing in the game. |
| Actors | School official/ teacher |
| Frequency | Often |
| Triggers | School official/ teacher logs in to add and view students. |
| Preconditions | User adds students by email into the system. |
| Postconditions | User gets a breakdown of how each child they’ve enrolled for the game is doing. |
| Main Course | 1. Teacher logs into the game. (see AC1) 2. Teacher adds/enrolls students by adding their email to the “student enrollment list” with corresponding parent email address. (see EX1) 3. Once students are signed up, teachers account will be notified and the teacher will be able to look at each students statistics. (see EX2) |
| Alternate Courses | AC1 Forgot password:   1. Click forgot password and reset password. 2. Return to Main Course 1 |
| Exceptions | EX1 Teacher inputs wrong information/received kickback of unable to deliver generated email:   1. Verify emails of student and parents 2. Return to Main Course 2 3. Re-enter any emails that are incorrect. 4. Re-save and send.   EX2 Teacher does not get an alert that the student has signed up/ 48 hour link has expired   1. Teacher contacts student (in person) 2. Re-sends link 3. Return to Main Course 3. |



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| Name | Student plays the game |
| Description | Student logs in and plays the game |
| Actors | Student |
| Frequency | Often |
| Triggers | Student logs in (???) |
| Preconditions | User logs in |
| Postconditions | User finishes playing and See Use Case Social Media |
| Main Course | 1. Student logs in (See AC1) 2. Student plays the game. 3. Students scores are automatically recorded (See EX1) 4. See Use Case Social Media |
| Alternate Courses | AC1 Forgot password:   1. Click forgot password and reset password. 2. Return to Main Course 1. |
| Exceptions | EX1 Game crashes: ??? |

Unsure\*\*\*



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| Name | Social Media Incorporation |
| Description | Users can choose to integrate their social media accounts for facebook, twitter, and instagram to allow the sharing of the game and their player stats |
| Actors | School Officials/teachers, Parents, Students |
| Frequency | Occasionally |
| Triggers | User clicks link |
| Preconditions | User is prompted to click link (on website) via email sent from first log in |
| Postconditions | Users have their stats shared to their social media accounts |
| Main Course | 1. User is sent email to encourage them linking social media accounts 2. User clicks link on website to register their social media account (see AC1) 3. User Plays Game 4. After game completion and score is sent to player, the player can share their game score via share button (See AC2) 5. Parents can share their children’s weekly updates via share button (See AC3) 6. Teachers/School Officials can share their students weekly scores via share button (See AC4) |
| Alternate Courses | AC1 User Does not click link sent in email:   1. User does not receive other emails encouraging linking   AC2 User does not click share button   1. User’s score is not shared   AC3 Parent does not click share button   1. The weekly scores are not shared   AC4 School Official/Guardian does not click share button   1. The weekly scores for their students are not shared |
| Exceptions | Ex1 User links incorrect social media account   1. User can choose to log out via original link to sign in   EX2 User wishes to disconnect social media   1. User can choose to log out via original link to sign in |



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| Name | Image, Park Descriptions, and Review Submissions |
| Description | Users can anonymously upload photos and write park descriptions reviews for park |
| Actors | School Officials/teachers, Parents, Students |
| Frequency | Occasionally |
| Triggers | Users choose to upload photos or post a review |
| Preconditions | User is on the website page that is associated with the park they wish to review and or post a picture for |
| Postconditions | Users have their reviews and/or photos visible on website |
| Main Course | 1. User is browsing the website associated with a specific park 2. User is directed towards a new page for the specified option, “Upload Park Pictures” (See AC2) and “Write a Review” (See AC3) 3. User clicks the link “Upload Park Photos” or “Write a Review for this Park” (See EX1) |
| Alternate Courses | AC1 User clicks “Upload Park Photo”   1. User uploads park pictures from their computer or mobile device   AC2 User clicks “Write a Review for this Park”   1. User writes a review for the park |
| Exceptions | EX1 User Does not click either link:   1. User does not upload park photos or write a review |

