

Document Header

TokiBattle

Requirements and Specification Document

11/04/2019, [version 1](#), [version 2](#), [version 3](#)

Project Abstract

TokiBattle is an online web application allowing two users to battle with Tokimon online. Each competitor has a team of Tokimon with unique moves and abilities. The objective of a Tokimon battle is to knock out each Tokimon on the opponent's team. In each simultaneously executed turn, players can use their currently active Tokimon to attack the opponent or switch their active Tokimon to another Tokimon on their team. Tokimon moves do different amounts of damage based on the stats of the attacker and defender. Users can create an account and log in, then challenge another user to a battle or accept a challenge. TokiBattle will include sprites for each Tokimon, as well as animations for the moves. Information about each individual Tokimon's stats and moves, as well as information about the moves themselves, will be stored in a database. TokiBattle will allow players to experience an alternative to Pokémon battles, with a different set of creatures and different type rules (in Pokémon, each creature has one or two types, whereas Tokimon have an integer value between 0 and 100 for every type). This fresh take on the popular game format will appeal to Pokémon fans who want to experience a different metagame.

Customer

TokiBattle has two types of customers. The first type is the hardcore Pokémon fan who enjoys battling with other trainers on their Nintendo device or on online services such as Pokémon Showdown. This customer already clearly enjoys creature-battling games with simultaneously executed turns, and will likely be curious to see which strategies will succeed with TokiBattle's unique stat system. This customer needs an interesting and strategic battling system.

Our second kind of customer is a more casual player, who likely grew up playing Pokémon but has not played any of the newer games in years. This kind of customer exists in droves, and often feels a great sense of nostalgia for the original 151 Pokémon but dislikes the design of the newer creatures. The key for attracting this kind of customer will be to create simple yet loveable sprites for our Tokimon. Unlike our other customer, this one does not care very much about the game's mechanical intricacies, and is unlikely to notice the difference between TokiBattle and Pokémon's stat and type systems. The game's "juice" (sprites, animations, sounds) will be more important for winning this customer over.

Competitive Analysis

TokiBattle's biggest competitor is also its greatest benefactor. We obviously do not expect TokiBattle to overtake Pokémon as the number one creature battling video game. In fact, the majority of Pokémon's playerbase is unlikely to see a reason to play Tokimon over its big brother. But we are not trying to target that whole playerbase – just the two kinds of customers listed above. Because of this, TokiBattle actually relies on the association with Pokémon so that customers will immediately know what kind of game it is, and then can discover the differences between the two games.

As noted in the “Customers” section, TokiBattle will benefit from its unique type and stat system. This sets the game apart from Pokémon and will inspire a certain kind of player to try the game. TokiBattle also is in the position to capture nostalgic fans who are jaded by the design choices and complexity of the newer Pokémon games.

TokiBattle’s similarities to Pokémon will be its “foot-in-the-door,” while the differences between the two games will keep our users wanting to keep coming back for more.

User Stories

Actors:

- Regular user (person who battles Tokimon on the site)
- Administrator (person who can battle Tokimon and see information from other users)

Login - 3 points – Iteration 1

Story: As a regular user, I want to create my account and log in with my username and password so that I soon will be able to choose some Tokimon and start battling!

Triggers/Preconditions: I am interested in playing TokiBattle, but I know that I need an account to do so. Currently there is no option to log into TokiBattle, so no one can make teams or battle.

Actions/Postconditions: The TokiBattle development team will add a login functionality using a database of usernames and passwords. Usernames must be unique as they are the database’s primary key. Once this feature has functionality, users will be able to create an account and log in, and soon they will be able to create teams of Tokimon that are associated with their unique username.

Acceptance Tests:

Users can create an account and access the landing page.

Returning users can re-log into their account with the username and password they chose.

Passwords should be hidden from view while they are being typed.

An invalid username with an invalid password should return a failure message.

An invalid username with a valid password should return a failure message.

A valid username with an invalid password should return a failure message.

A blank username with a valid password should return an error message.

A valid username with a blank password should return an error message.

A blank username with a blank password should return an error message.

The “Enter the Hall of Fame” link on the victory page links to TokiBattle’s Twitter page.

The “Enter the Hall of Fame” link on the loss page links to TokiBattle’s Twitter page.

Administrator Login - 3 points – Iteration 1

Story: As an administrator, I want to be able to see all of the users and (when the feature is available) their teams of Tokimon so that I can better balance each Tokimon’s stats and moveset.

Triggers/Preconditions: Without administrator permission, it is not easy for anyone to see information such as users and teams, because that data is stored in databases, which are less accessible and user-friendly than displays on a web page. Currently, there is no administrator login.

Actions/Postconditions: The TokiBattle development team will hard-code several usernames as administrators in the database of users. The development team will then create a button with a link to a page that shows all TokiBattle usernames. This page will only be available to administrators. The data on this page is pulled from the database of users.

Acceptance Tests:

- Administrator can create an account and access the landing page.
- Returning administrators can re-log into their account with the username and password they chose.
- Passwords should be hidden from view while they are being typed.
- An invalid username with an invalid password should return a failure message.
- An invalid username with a valid password should return a failure message.
- A valid username with an invalid password should return a failure message.
- A blank username with a valid password should return an error message.
- A valid username with a blank password should return an error message.
- A blank username with a blank password should return an error message.
- Administrators can access the page with the table of users.
- When new users are added, administrators can see the updated table.
- When regular users try to access the administrator-only page, they see a page that says “This page only available for administrators”.

Tweeting Results - 3 points – Iteration 2

Story: As a trainer who just finished a battle, I want TokiBattle to Tweet the battle’s results to the world so that my friends can congratulate me for my win or console me for my loss.

Triggers/Preconditions: I just finished a battle, but no one knows how it went except me and my opponent. What if my opponent lies and says they won the battle when really I won? It would be nice to have some proof.

Actions/Postconditions: The TokiBattle development team will use Twitter’s API to automatically Tweet out battle results. Winning and losing trainers will be directed to a victory/loss page after the battle. This page will display a custom victory/loss message. The two players’ usernames will then be passed into a Tweet function that Tweets out the results of the battle on TokiBattle’s Twitter page.

Acceptance Tests:

- The victory page accurately displays the winning trainer’s username.
- The loss page accurately displays the losing trainer’s username.
- The victory page triggers an automatic Tweet from TokiBattle’s Twitter account.

The loss page triggers an automatic Tweet from TokiBattle’s Twitter account.
The victory Tweet accurately displays the winning trainer’s username.
The loss Tweet accurately displays the losing trainer’s username.
If a trainer is not logged in, the victory page should redirect the trainer to the login page.
If a trainer is not logged in, the loss page should redirect the trainer to the login page.
The “simulate a victory” button should direct a user to the victory page.
The “simulate a loss” button should direct a user to the loss page.

Teambuilder - 4 points – Iteration 2

Story: As a user who enjoys teambuilding, I want to be able to create and save a team of Tokimon so that I know which Tokimon I will be able to battle with.

Trigger/Preconditions: Tokimon is a deeply strategic game, so I want to be able to build many teams to try out different strategies against my opponents. Currently there is no teambuilding tool, so I am unable to build a team with which to battle.

Actions/Postconditions: The TokiBattle development team will create a database of Tokimon and a database of teams so that trainers can view all the Tokimon and add various Tokimon to their various teams. Trainers will then be able to see each team they have created. Trainers will later be able to use these teams in battle.

Acceptance Tests:

When the “Create Team” button is clicked and a unique team name is submitted, the user is directed to a page where they can view all available Tokimon and add them to the selected team.

Once a Tokimon is added to a team, the option to add it to the team again disappears (there are no duplicates allowed on a Tokimon team).

When a trainer tries to create a new team with a name that has already been used, TokiBattle will stop this new team from being created.

When the user logs in, they see a unique landing page with their teams and the option to create more teams.

When the user logs in and is directed to the landing page, the URL will include their username.

If the user then logs in with a different username, they should no longer be able to see the teams they created under their other username.

If the user logs back in with the username they used to create their teams, they should be able to see the teams they created under that username before.

Battle Scene – 2 points – Iteration 2

Story: As a trainer starting a battle, I want to see an intro animation to get me pumped up for the battle and then see the battlefield.

Trigger/Preconditions: Without getting hyped up, I'm not going to enjoy a battle. Right now there is nothing to get me hyped up. "Juice" is the most important part of game design, so keeping me as a user engaged is very important.

Actions/Postconditions: The TokiBattle development team will create a fun and exciting battle countdown page. This page will appear before a battle, and will lead into the battle screen.

Acceptance Tests:

The battle scene page should appear when the test link is clicked.

The battle scene page should count down and then redirect to the battle screen.

Logout - 2 points – Iteration 2

Story: As a regular user, I want to be able to exit the program and be sure that I have totally logged out of the website.

Triggers/Preconditions: Without a proper logout function, I cannot be sure that I have properly exited the website. I need a quick and reliable way to ensure that I am logged out. Currently the only way to do this is to exit the browser.

Actions/Postconditions: The TokiBattle development team will add logout functionality by adding a log out button on the landing page of the website. The logout button will take the user from their current page and send them to the login page where the user started. The button will also adjust the cookies to indicate that the user is no longer logged in.

Acceptance Tests:

- User can find the logout button on the landing page.
- User can click the logout button.
- The button sends the user to the login page.
- The button adjusts the cookies so that the user is no longer logged in.
- The user can log in again after logging out.
- The user can log in as a different user after logging out.
- The user can register as a new user after logging out.
- The user cannot access pages that require logging in after they log out.

Battle Ready Page - 3 points – Iteration 2

Story: As a regular user, I want the ability to see my team before I enter battle against my opponent. I want the ability to select my starting Tokimon and to see how they look on the battle stage.

Triggers/Preconditions: Currently there is no ability to view Tokimon on the battle stage and there is also no way to select the starting Tokimon before battle. The lack of a method to inspect my team based on how they look is a serious hindrance to my enjoyment as a user.

Actions/Postconditions: The TokiBattle development team will add a visually appealing way for users to access and inspect their various team members. Specifically the team will create battle page 1 which will show the user a countdown to the start of the battle. Then the dev team will create page 2 which will show just the users Tokimon on the battle screen. They will be able to view each Tokimon by selecting them.

Acceptance Tests:

- Users can view the battle loading page which contains a countdown video.
- Users are able to see the video displayed with ad blockers active.
- Users are redirected to the battle 2 once the countdown ends.
- Users can see the battle stage and six Tokimon in a team.
- Users can select from the six Tokimon and view them on the stage.
- Tokimon on the stage move.
- Selecting a different Tokimon changes the Tokimon on the stage.
- Each Tokimon can be seen on stage.

Future Stories:

- **Banhammer – 1 point – Iteration 2:** As an administrator, I want to be able to remove users from the user database so that I can ban toxic players and “lay off” inactive users.
- **View Move Data – 3 points – Iteration 2:** As a user who is particularly interested in the mechanics of the game, I want to be able to view the base power, accuracy, and type of each move.
- **Online Trainers – 3 points – Iteration 2:** As a user wanting to battle another user, I want to be able to see which users are online.
- **Trainer Wants to Fight! – 2 points – Iteration 2:** As a user wanting to battle another user, I want to send a challenge to another user who is online.
- **Accept Challenge? – 3 points – Iteration 2:** As a trainer who has received a challenge, I want to have the option accept it, which triggers the battle beginning, or decline it, and return to my business.
- **I Choose You! – 4 points – Iteration 3:** As a trainer who has just started a battle, I want to be able to choose a Tokimon from my team to start the battle with, and then once my opponent has done the same, I want to see both Tokimon on the screen.
- **Make a Move – 3 points – Iteration 3:** As a trainer in a battle, I want to be able to select a move on my currently active Tokimon, and once the opponent has done the same, I want each Tokimon to lose the right amount of health.
- **Return! – 3 points – Iteration 3:** As a trainer in a battle, I want to be able to select a Tokimon to switch to instead of using a move. Once the opponent has selected their move, I want my currently active Tokimon to switch.
- **Unable to Battle – 3 points – Iteration 3:** As a trainer who has just knocked out my opponent’s Tokimon by bringing its HP to 0, I want the opponent’s Tokimon to be unable to battle, and the opponent to have to select a new Tokimon and be unable to switch to the knocked out Tokimon.
- **Animations – 4 points – Iteration 3:** As a trainer in a battle, I want to see animations when Tokimon use moves.

- **We Have a Winner! – 2 Points – Iteration 3:** As a trainer who knocked out all of my opponent's Tokimon, I want to see the victory page saying that I won the battle.
Alternatively, if I lose a battle, I want to see the loss page saying that I lost the battle.

Unique Tokimon - 2 points – Iteration 3

Story: Tokimon is a highly strategic game. As a trainer, to get an advantage in the game, I should be able to select different Tokimon with different abilities and stats and make a team of 6 to blend their strengths and weaknesses to show off my skills and knowledge of Tokimon and become the best Tokimon trainer/battler in the world.

Triggers/Preconditions: As a Tokimon trainer, I need to assemble the best Tokimon team the world has ever seen. However, I know that my teams need to have different strengths, moves and abilities to maximize their effectiveness. If I don't, my team could be beaten by a single Tokimon that has an attribute/ type/move/stats distribution that are strong against my Tokimon. In addition, the right mix of Tokimon will show off my knowledge of Tokimon and create a competitive advantage for me against other trainers who are not as knowledgeable. Currently, the game does not have different Tokimon for me to select from.

Actions/Postconditions: The TokiBattle development team will add different Tokimon into the game, each with their own attributes, types, moves and stat distributions. These Tokimon should be meaningfully different so that users can tell those Tokimon are different. The development team will also allow (up to) 6 different Tokimon on any one team and keep track of the unique attributes, types, moves and stat distributions of any individual Tokimon. These should not change between battles or between trainers (for now).

Acceptance Tests:

- Different Tokimon should have different attributes, types, moves and stat distributions.
- Users should be able to differentiate between different Tokimon.
- Tokimon should remain the same between battles and between trainers (for now).

Storing Unique Tokimon - 1 point – Iteration 3

Story: As a trainer, there should be an existing list of Tokimon. If the game contained new Tokimon every time, no one would be able to become a better trainer by increasing their knowledge of Tokimon.

Triggers/Preconditions: As a trainer, I need to know that I am familiar with the Tokimon that I am using.

Actions/Postconditions: The TokiBattle development team will keep track of the different Tokimon and be able to offer those Tokimon every time. Therefore, these Tokimon should be stored somewhere like in a database.

Acceptance Tests:

The different Tokimon should be stored in a database.

Start Battle - 2 points – Iteration 3

Story: As a trainer who has picked his/her favorite Tokimon, I want my Tokimon to battle the Tokimon of other trainers, to prove to the world who the best trainer is.

Triggers/Preconditions: I have my favorite six Tokimon in my team and I know that I am the best. To prove this, I need to battle with other trainers and win. However, there is no way for my Tokimon to battle other ones.

Actions/Postconditions: The TokiBattle development team will add the functionality for trainers to start a battle with teams of Tokimon belonging to other trainers. The trainer will have to wait till there is an opponent. Once the opponent is also ready to battle both trainers can begin battling the Tokimon. The dev team should make sure that there are only two opponents in a battle, if a third trainer starts a battle then the trainer will have to wait till he/she is matched with another trainer for a battle.

Acceptance Tests:

- User can see the Start Battle button on the battle page.
- The Start Battle button initiates a battle on clicking.
- If there is only one trainer in a battle, a message should be displayed saying that it is waiting for the second opponent.
- The trainers should see a ready message when there are two trainers in the battle.
- The battle should have only two trainers, more trainers should not be able to join the battle.
- The new trainers who starts a battle should wait till another trainer is ready for a battle.

Display Tokimon - 3 points – Iteration 3

Story: As a trainer who has picked his/her favorite Tokimon, I want to be able to see my Tokimon on the battlefield!

Triggers/Preconditions: I have my favorite six Tokimon in my team and I want to be able to see them on the battlefield. However, there are currently no graphical representations of any of the Tokimon. In addition, each Tokimon should have a unique graphical representation so that I can tell which Tokimon is which.

Actions/Postconditions: The development team will add graphical representations of each Tokimon onto the battlefield page. Each team will have a specific area within the page to represent their ‘side’. The Tokimon should show up on the correct side so that trainers don’t get confused on which Tokimon belongs to them. Each Tokimon should have its own unique graphical representation so that everyone can tell which Tokimon is which. If the Tokimon is swapped, then the swapped Tokimon should replace the current Tokimon’s graphical representation (see later story on swapping Tokimon for that functionality).

Acceptance Tests:

- Users can see the Tokimon on their ‘side’ of the battlefield during the battle.
- Upon swapping, the new Tokimon’s graphical representation should replace the old Tokimon’s.
- The battle should show exactly two Tokimon at any single time unless one team has been defeated.
- Each Tokimon should have its own unique graphical representation.

Attack Moves - 2 points – Iteration 3

Story: As a trainer who is ready to battle, I want to select attack moves of my Tokimon for each round of play.

Triggers/Preconditions: My team is ready for battle and I have a Tokimon that is ready to fight the Tokimon of the opponent. In any case, the trainer has no way to execute an attack of Tokimon currently in play on that of the opponents.

Actions/Postconditions: The TokiBattle development team will add the functionality for the trainer to choose attack moves of the Tokimon currently in play. The trainer and the opponent have to choose an attack move for their Tokimon from four possible moves. The attack move will be initiated only after both the players makes a selection. After the attack is completed, the hp for the other Tokimon is reduced depending on the amount of damage caused by it.

Acceptance Tests:

- User has four attack moves for the Tokimon currently in play.
- The move should be initiated on clicking the button.
- The attack should not be executed till both the players select a move.
- The HP rating for each Tokimon in play should be reduced based on the damage caused.
- The user should be able to select next move if the Tokimon is still in play.

Tokimon Type Strengths and Weaknesses - 1 point – Iteration 3

Story: As a battling trainer, I want to be able to use my Tokimon types to my strategic advantage. For example, a fire-type attacks should be more effective when I face ice-type Tokimon but less effective when I face water-type Tokimon.

Triggers/Preconditions: TokiBattle is a deeply strategic game, so I want to be able to take advantage of my Tokimon types to try to out strategize my opponents. Therefore, some types should be weaker against certain types but strong against other types. Currently, attacks do not consider their type, their Tokimon’s type and the opponent’s Tokimon’s type.

Actions/Postconditions: The development team will take into consideration the different Tokimon types and attack types to do extra/reduced damage against the appropriate types. These types should be strategic. Therefore, no type should be the strongest or weakest, instead each type should have strengths and weaknesses against the other types.

Acceptance Tests:

- Each type should be strong against at least 1 type and weak against at least 1 type.

Tokimon Type Effects on Battle - 2 points – Iteration 3

Story: As a battling trainer, I want to be able to use my Tokimon types to my strategic advantage. For example, same-type moves should work better with Tokimon that are high in that attribute. Fire-attribute attacks should work better with high fire-attribute Tokimon than the same attack with a low fire-attribute heavy Tokimon. The attack should also do more damage if the attack type is strong against the defending-type of the defending Tokimon (ex. fire should do more damage to an ice-attribute heavy Tokimon).

Triggers/Preconditions: Tokimon is a deeply strategic game, so I want to be able to take advantage of my Tokimon types to try to out strategize my opponents. Currently, the available attacks only do a fixed amount of damage regardless of Tokimon type strengths and weaknesses.

Actions/Postconditions: The development team will take into consideration the different Tokimon types and attack types to do extra/reduced damage against the appropriate types when performing damage calculations. For example, a fire-type attack will do more damage if the Tokimon has a high fire-attribute and do even more damage if the attack hits a Tokimon that has a high ice-attribute.

Acceptance Tests:

- The same attack from the same Tokimon should do different damage to Tokimon that are strong/neutral/weak against it.
- The same attack from different Tokimon should do different damage based on that Tokimon's strength in that type.

Tokimon Attack, Defense and Speed Attribute Effects on Battle - 2 points – Iteration 3

Story: As a battling trainer, I want to use my Tokimon's attack, defense and speed to my strategic advantage. For example, a Tokimon with higher attack should do more damage and a Tokimon with higher defense should take less damage. The Tokimon with the faster speed should be able to attack first.

Triggers/Preconditions: Tokimon is a deeply strategic game, so I want to be able to take advantage of my Tokimon attack, defense and speed values to try to out strategize my opponents. This allows greater strategic value because, for example, a really strong Tokimon with a really high speed stat could cause the other Tokimon to faint before they are able to execute their own attack but if it did get hit, it would faint really easily. Currently, the available attacks only do a fixed amount of damage regardless of my Tokimon's attack and defense stats and the attacks happen in sequential order (first player goes first and second player goes second, always).

Actions/Postconditions: The development team will take into consideration the different Tokimon stats to do extra/reduced damage against other Tokimon when performing damage calculations. The same attack should do more damage if a Tokimon has a higher attack stat than a Tokimon that has a lower attack stat. Likewise, a Tokimon should take less damage if it has a

higher defense stat than a Tokimon with a lower defense stat. Finally, the speed of the Tokimon should be determined whether the Tokimon attacks first or second in any individual turn.

Acceptance Tests:

- The same attack from different Tokimon should do different damage based on that Tokimon's attack stat.
- The same attack from an opponent's Tokimon should do different damage based my Tokimon's defense stat.
- The Tokimon with the higher speed value should go first in any given turn (unless a swap takes place, see later story about swapping Tokimon).

Swap Tokimon - 2 points – Iteration 3

Story: As a trainer who is in a battle, I want to be able to swap my Tokimon and bring others into play. Sometimes a different Tokimon on my team might be a better one than the one currently in play, or the current one might be my favorite Tokimon and I want to save it for later.

Triggers/Preconditions: In the middle of a battle it might make more sense to have a different Tokimon in the fight. However, the trainer has no way to switch the Tokimon to different one. The player has to wait till the current Tokimon's HP is completely depleted and a new Tokimon takes its place.

Actions/Postconditions: The TokiBattle development team will add the functionality for the trainer to choose a new Tokimon from the team. Swapping the Tokimon will take the turn instead of attacking. Once a swap is selected the game will wait for the opponent to select a move. If the opponent selects an attack, the attack move is executed on the new Tokimon and its HP goes down depending on the amount of damage, or if the opponent also selects a swap then both teams swap and the next turn happens.

Acceptance Tests:

- The user should be able to select any Tokimon that has not fainted for swapping.
- The swapping should happen once the opponent has also selected a move.
- If the opponent selects an attack, the newly selected Tokimon should be damaged.
- The HP of the new Tokimon should be reduced correspondingly if it is damaged.
- If both the teams select swap, then HP should not be affected for any Tokimon.
- The user should be allowed to change their move to select a different attack or another Tokimon, so long as the opponent has not yet selected a move.

Tokimon Hit Points - 1 point – Iteration 3

Story: As a battling trainer, I need to know my Tokimon's HP to better strategize. If a Tokimon has a low amount of HP, I may consider a different tactic than if that Tokimon has a high amount of hitpoints. In addition, the hit points need to be recorded so that if I damage an opponent's Tokimon, that Tokimon will still be damaged if my opponent swaps their Tokimon and when my opponent returns it to battlefield. The hit points should be reset to full at the beginning of the next battle.

Triggers/Preconditions: Tokimon is a deeply strategic game, so I want to be able to take advantage of my Tokimon hit points to try to out strategize my opponents. Currently, there is no way for me to track my Tokimon's hit points or my opponent's Tokimon hit points over the course of a battle.

Actions/Postconditions: The development team will create a notification to inform a user how many hit points any particular Tokimon has after it has suffered damage in a battle.

Acceptance Tests:

- An HP value should be updated every time a Tokimon has suffered damage in battle.
- If a Tokimon takes damage, then is swapped out, its hit points should still reflect the damaged value.
- The HP should be reset at the beginning of the next battle.

Tokimon Faint - 2 points – Iteration 3

Story: As a trainer who is in a battle, I want to know which Tokimon has enough life left to be in the battle. Sometimes my Tokimon will be out of HP and too tired to battle other ones, then it will not be in a state to play any more and it will faint. In the context of the battle, it is “dead”, but don’t worry, it will be back for the next battle!

Triggers/Preconditions: After facing a lot of attacks the Tokimon’s HP will become very low and at one point it will become zero. Currently, there is no way to change the state of Tokimon from being able to play to not being able to fight any more. The Tokimon that are too tired will continue to be in action and can still be selected.

Actions/Postconditions: The TokiBattle development team will add the functionality for the Tokimon to faint once its hp becomes zero or less. The Tokimon will faint after it faces an attack move from that of the opponent’s, and it can no longer fight. After the Tokimon faints it will no longer be active in the battle. The user will not be able to select a fainted Tokimon for a swap in the same battle, however, it will be possible to use the Tokimon in a different battle.

Acceptance Tests:

- When hp becomes zero or less the Tokimon should faint.
- The Tokimon should no longer be active in the battle after it faints.
- The Tokimon should not faint if HP is more than zero.
- The user should not be able to select a fainted Tokimon for a swap.
- The player should be able to use a fainted Tokimon in a new battle.

Faint Swap - 1 point – Iteration 3

Story: As a trainer who is in a battle with fellow a trainer, I want my Tokimon to be swapped automatically whenever the current Tokimon faints.

Triggers/Preconditions: Whenever a Tokimon faints, it is not swapped automatically. This slows down the tempo of the game and makes it less fun. It would make the game more exciting if a new Tokimon is brought to battle immediately.

Actions/Postconditions: The TokiBattle development team will add the functionality for the Tokimon to swap when a Tokimon in play faints. The next Tokimon in sequence will automatically be loaded without any interference from the player.

Acceptance Tests:

- The next Tokimon in sequence should be automatically loaded when the current one faints.
- The player should not lose a move when a Tokimon is swapped.
- The HP of the Tokimon should not be affected by a Faint Swap.
- The move of the opponent's Tokimon should not be executed until the player selects a move for the new Tokimon.

Display Box - 2 points – Iteration 3

Story: As a user playing TokiBattle, it is important to be able to receive messages from the game. A text box displaying what is happening in the game is exactly what I want to improve my ability to make the right decisions and win the battle.

Triggers/Preconditions: At any point of the game the player will want to be able to know what is going on. Currently, the player has no way to receive information from the game. The player has to remember all what had happened till then.

Actions/Postconditions: The TokiBattle development team will add the functionality of a display box where all the information is accessible to the player. It should be possible for the player to scroll through the messages and see what was displayed earlier. The display box should be positioned in such a way that it is not intrusive and it is visually appealing to the user. The shape or position of display the box should not change as the battle progresses.

Acceptance Tests:

- The player should only see his/her relevant messages.
- The display box should not show messages relating only to the other players.
- All messages concerning attacks, swaps, damaging and fainting should be displayed to both players.
- The player should be able to see older messages.

Display State of Game - 1 point – Iteration 3

Story: As a trainer who has joined a battle, I want to be able to have a clear sense of what is happening. It would be great if the text display box could show the state of the game.

Triggers/Preconditions: The player should be aware of the state of the game, but in the current state that information is not available to the user. The player has to remember the state of the game, such as if the player is still waiting, if the battle has begun or the battle is over.

Actions/Postconditions: The TokiBattle development team will add the functionality of the state of the game being shown in the Display Box whenever it changes. The player will be able to check the state of the game any point by scrolling through the messages.

Acceptance Tests:

- The display box should show “Waiting for opponent” when only one player has joined the battle.
- The display box should show “Battle Begins” when there are two players in the battle
- The game should inform the players when one has won the game and the battle is over.

Show Move History - 1 point – Iteration 3

Story: As a trainer who is battling other teams, it is important for me to see what move has been executed. I would want to see the sequence of moves so that I will be able to change my strategy if there is a need for it.

Triggers/Preconditions: The player cannot see what all moves have been executed so far by each player. The only way to do it would be to either remember it or make a note of it somewhere, but that would take away the fun from the game.

Actions/Postconditions: The TokiBattle development team will add the functionality of showing all the moves executed so far in the Display Box. The user should be able to scroll through the box and see the messages in the sequence in which it was executed.

Acceptance Tests:

- The display box should show the move executed by the user.
- The correct move of the opponent should be shown in the Display Box.
- The sequence of the moves in the Display Box should be the same as the order in which the moves were selected.
- The history of moves should be accessible to the player at all times the battle is active.

Communicate Tokimon Swaps - 1 point – Iteration 3

Story: As the world's best Tokimon trainer, I want to be informed each time there is a change of Tokimon during the battle. I want to have easy access to the information of all the Tokimon swaps.

Triggers/Preconditions: The only way for the user to have some way of referring to all the swaps that were made as the battle progresses is by keeping track of it manually. This would affect the focus of the player and make the game less interesting.

Actions/Postconditions: The TokiBattle development team will add the functionality of showing all the Tokimon swaps made during the existing battle. The player should be able to scroll through the messages during any point of the battle. The sequence of swaps messages should follow the same order as the order in which it happened during the game.

Acceptance Tests:

- The user's Tokimon swap should be shown in the Display Box.
- The Tokimon swap message order should be in the same order as it was executed.
- The sequence should not change at any point of the battle.
- The Tokimon swap message should be accessible until the battle is over.

Battle Finish - 1 point – Iteration 3

Story: As a competitive trainer, I need to know when I have won the battle and I want to have the result displayed in some way.

Triggers/Preconditions: Currently, the Tokimon teams will battle on screen. However, in order for me to win, I must defeat all my opponents Tokimon. Once my opponent has been defeated, the game should end and a victory page or message should be displayed/tweeted.

Actions/Postconditions: The development team will stop the battle once my opponent's 6 Tokimon are defeated and I have at least 1 Tokimon with a positive HP remaining. The team will create a trigger to stop the battle and link the result to the twitter bot automatically.

Acceptance Tests:

- The battle will stop and one player will be declared the victor based which team remains.
- The Twitter API will automatically tweet who won the battle on the TokiBattle Twitter account.

Simultaneous Connections - 3 points – Iteration 3

Story: As a trainer, In a battle between trainers, I want to be able to beat my opponent fair and square. Therefore, the game should allow both trainers to each execute a command for each turn in real-time.

Triggers/Preconditions: As a regular user, I want to be able to issue a command for each of my turns. I should be able to make my decisions and enter those decisions while my opponent is considering their moves. The game should execute these commands within a reasonable timeframe. The game should also be able to tell my commands from my opponents commands.

Actions/Postconditions: The TokiBattle development team will add the functionality for simultaneous connections in real-time for at least 2 players. The 2 players should be able to issue commands at the same time and the game should process both commands without issue. The game should be able to track each players commands without confusing which player is which player.

Acceptance Tests:

- Users should be able to battle each other in real-time.
- The server should accommodate at least 2 connections simultaneously.
- Each user should be able to enter commands at any time (within their turn).
- The server should respond within a reasonable timeframe.
- The server should be able to differentiate each users commands.

Velocity

The team is moving along with a reasonable velocity in iteration 2. We gained 14 story points in these two weeks between the five of us. This is over double the velocity points we gained in iteration 1 (6). We will have to ramp up our efforts in iteration 3, because there are 30 story points remaining, but some of these stories already have some progress on them behind the scenes. Additionally, with the high acceleration our team experienced going from iteration 1 to iteration 2, we are optimistic about our ability to tackle the higher-valued tasks in iteration 3.

The team achieved an incredible velocity in iteration 3. We gained 26 story points in this iteration, which is over 5 points per member. This is nearly double the story points we gained in iteration 2 (14) and over 4 times the amount of points we gained in iteration 1 (6). This was the result of consistent work spread out through the entire iteration period. The team worked diligently, and did not simply do all the work at the end. Like most apps, work is never truly done, and it is certainly possible for TokiBattle to continue to add features for our users. Users can be excited for further team customization in the future for example. Having said that, TokiBattle is definitely ready for release, and trainers will be very satisfied with the game.

User Interface Requirements

Teambuilder page concept. Similar to Pokémon Showdown. Users can select one of their existing teams or create a new one.



After selecting or creating a team, users will be directed to a page where they can add and remove Tokimon from their team. The sprites used in the Pic category are just Pokémons in this mockup, but we'll have our own original sprites. Names, stat numbers and moves are not final.

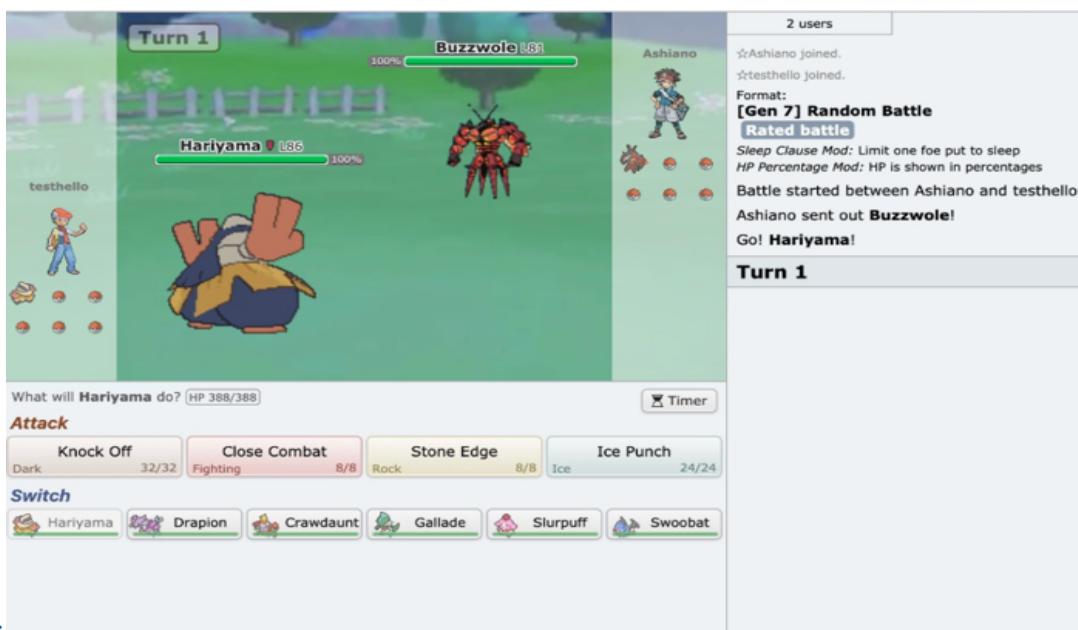
Your Tokimon on TestTeam

Name	Pic	Fir e	Wate r	Ele c	Fl y	Figh t	Ic e	H P	At t	De f	Spee d	Mov e 1	Mov e 2	Move 3	Move 4	Del fro m tea m
Erichu		23	48	88	50	65	76	55	70	30	85	Soar	Zap	Freeze	Wave	Del
Steam o		79	71	55	39	30	51	80	33	90	37	Heat	Burn	Freeze	Wave	Del
Enorgy		78	<u>67</u>	78	12	19	68	45	91	31	88	Taste	Zap	Freeze	Burn	Del

Available Tokimon

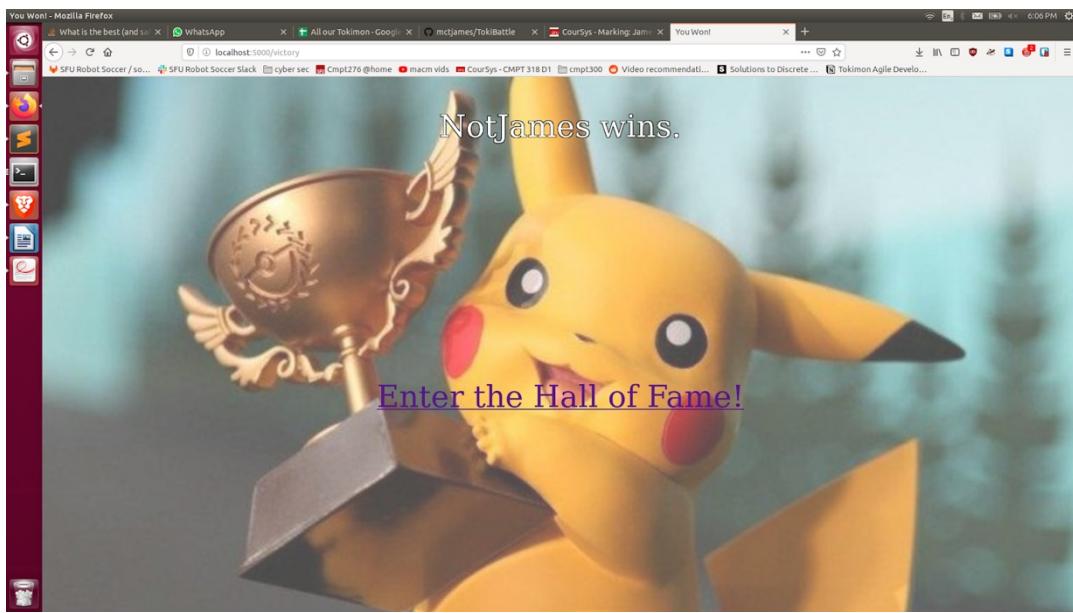
Name	Pic	Fir e	Wate r	Ele c	Fl y	Figh t	Ic e	H P	Att	De f	Spee d	Mov e 1	Mov e 2	Move 3	Move 4	Add to tea m
Liono		80	12	33	20	55	34	80	70	30	71	Heat	Zap	Freeze	Wave	Add
Seabi e		10	71	30	90	31	55	80	42	80	60	Soar	Kick	Freeze	Wave	Add
Chana		85	44	78	34	5	10	66	90	31	22	Code	Zap	Teach	Burn	Add
Nodie		32	44	81	68	12	41	36	36	36	89	Soar	Zap	Freeze	Burn	Add
Thom		100	52	60	20	17	46	1	10 0	1	100	Soar	Zap	Code	Burn	Add
Leady		78	66	32	11	16	17	88	66	78	55	Heat	Kick	Freeze	Wave	Add
Penny		89	34	22	76	11	55	45	45	33	91	Roll	Spin	Kick	Jump	Add
Mapt u		55	89	45	33	55	56	56	55	85	71	Soar	Spin	Freeze	Wave	Add
Skyte		88	10	77	77	10	12	78	66	45	78	Taste	Kick	Kick	Burn	Add

Battle screen concept. Each player only sees their own screen, where they can choose to either use a move or switch Tokimon. Similar to Pokémon



games.

Victory screen that winning trainers are sent to after a battle



TokiBattle's Twitter account that automatically Tweets out battle results.
Twitter link: <https://twitter.com/TokiBattle>

[←](#) **TokiBattle**
126 Tweets



Edit profile

TokiBattle
@TokiBattle

TokiBattle is a state of the art Tokimon battling simulator. Hi Bobby.

 Joined November 2019

0 Following 0 Followers

Tweets **Tweets & replies** **Media** **Likes**

 **TokiBattle** @TokiBattle · 1h
po won the battle on Mon Nov 18 2019 19:25:00!

 **TokiBattle** @TokiBattle · 4h
user won the battle on Mon Nov 18 2019 16:14:49!

 **TokiBattle** @TokiBattle · 4h
NotJames lost the battle on Mon Nov 18 2019 15:55:40 because they
didn't raise their Tokimon with love and care.

The countdown page that appears before a battle



The battle screen where the user can select a Tokimon to fight



Landing page where users can see teams they've created and create new teams

Welcome to TokiBattle! Below you will find buttons to features that will be coming soon. For now, take a look at what's to come!

A cartoon illustration of a large orange dragon with a blue cape attacking a small figure. The text "UR' DOIN IT WRONG" is written below the dragon.

Simulate a battle
Simulate victory
Simulate a loss
Logout

Name of Team:
Bobby is the best

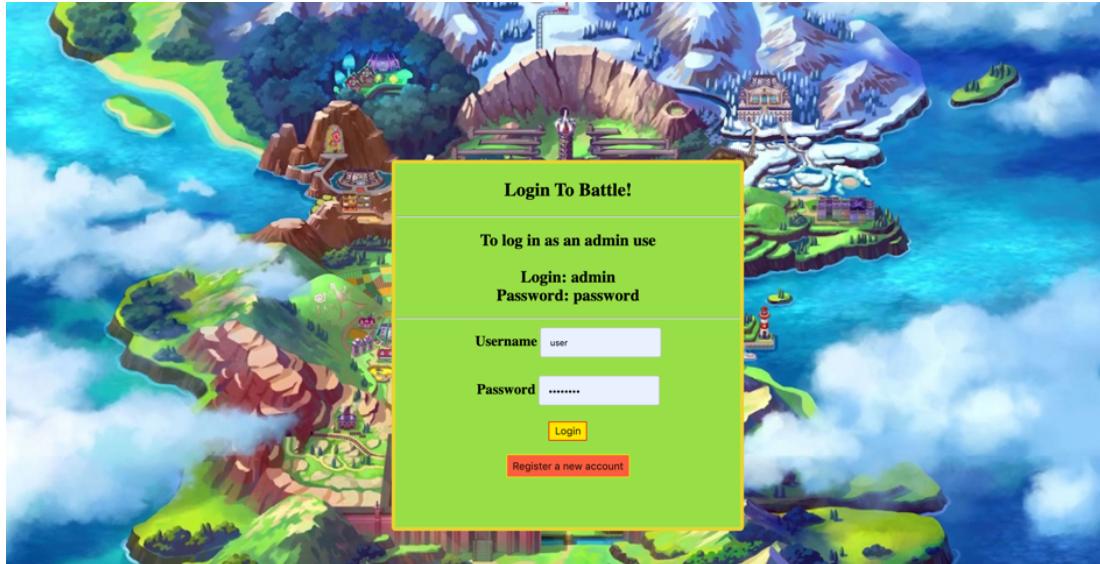
Build Team
Created Teams
Eric is the best
Shadi is the best

Page to add Tokimon to the selected team

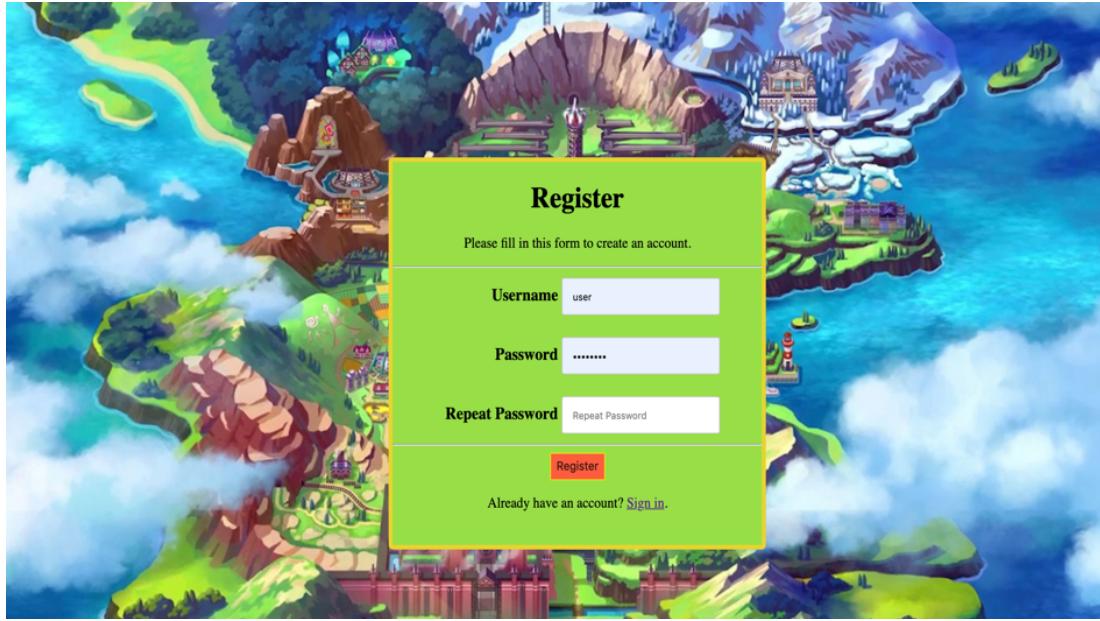
Tokimons are rare. This is the list of Tokimons found so far. Each Tokimon has a unique ID which can be used to distinguish those with similar characteristics.

Tokimon Name	Fire	Water	Electric	Fly	Fight	Ice	HP	Attack	Defense	Speed	Move 1	Move 2	Move 3	Move 4	Picture	Add to Team
Kilimonjaro	27	71	11	66	44	33	40	50	35	75	1	2	3	4		Add to Team
Drygon	69	8	77	65	34	4	80	66	44	10	5	6	7	8		Add to Team
Stumpy	33	33	33	33	90	33	75	70	50	5	9	10	11	12		Add to Team
Conyvore	7	38	25	12	76	91	78	16	30	76	13	14	1	15		Add to Team
Goonicorn	31	54	60	39	3	75	75	46	10	69	16	17	18	19		Add to Team

Updated login page



Updated register page



Testing Code from Mocha

```
var chai = require('chai');
var chaiHttp = require('chai-http');
var server = require('../index.js');
var should = chai.should();
var expect = chai.expect;
var request = require('supertest');
var knex = require('../db/knex');
var sinon = require('sinon');
var ejs = require('ejs');
chai.use(chaiHttp);

describe('database', function() {

  beforeEach(function(done) {
    knex.migrate.rollback().then(function() {
      knex.migrate.latest().then(function() {
        return knex.seed.run()
      .then(function() {
        done();
      });
    });
  });
});

  afterEach(function(done) {
    knex.migrate.rollback().then(function() {
      done();
    });
  });

  it('should return 4 database entries for this test and a proper database record / GET', function(done) {
    chai.request(server).get('/trainer').end(function(err, res) {
      res.should.have.status(200);
      res.should.be.json;
```

```

        res.body.should.be.a('array');
        res.body.length.should.equal(4);
        res.body[0].should.have.property('username');
        res.body[0].username.should.equal('admin');
        res.body[0].should.have.property('password');
        res.body[0].password.should.equal('password');
        res.body[0].should.have.property('admin');
        res.body[0].admin.should.equal('1');
        done();
    });
});
});

describe('login and logout', function() {
    beforeEach(function(done) {
        knex.migrate.rollback().then(function() {
            knex.migrate.latest().then(function() {
                return knex.seed.run()
            .then(function() {
                done();
            });
            });
        });
    });
    afterEach(function(done) {
        knex.migrate.rollback().then(function() {
            done();
        });
    });
    it('should automatically bring you to the login page / GET', function(done) {
        request(server).get('/').expect('Location','/login').end(done)
    });

    it('should not allow a login without logging in / GET', function(done){
        request(server).get('/landing/notadmin').expect('Location','/login').end(done)
    });

    it('should not allow access to admin page without login / GET', function(done){
        request(server).get('/admin').expect('Location','/login').end(done)
    });

    it('should not allow login with wrong username but right password / GET',
function(done){
        request(server).post('/authenticate').send({'uname':'wrongusername','psw':'password'}).expect('Location','login').end(done)
    });

    it('should now allow login with correct username but wrong password / GET',
function(done){
        request(server).post('/authenticate').send({'uname':'notadmin','psw':'badpassword'}).expect('Location','/login').end(done)
    });

    it('should allow login with correct username and password / GET', function(done){
        request(server).post('/authenticate').send({'uname':'notadmin','psw':'password'}).expect('Location','/landing/notadmin').end(done)
    });
});

```

```

it('should allow admin access with admin account / GET', function(done){
    request(server).post('/authenticate').send({'uname':'admin','psw':'password'}) .
expect('Location','/admin').end(done)
});

it('will register a new user but fail due to existing user and ask them to register again / GET', function(done) {
    var spy = sinon.spy(ejs, '__express');
    request(server)
        .post('/addUser')
        .send({ uname: 'notadmin', psw: 'password' })
        .expect(200)
        .end((err, res) => {
            if (err) return done(err);
            expect(spy.calledWithMatch(/\\register\\.ejs$/)).to.be.true;
            spy.restore();
            done();
        });
    });
});

it('will register a new user and bring them to the login page / GET', function(done) {
    var spy = sinon.spy(ejs, '__express');
    request(server)
        .post('/addUser')
        .send({ uname: 'aaalll1', psw: 'password' })
        .expect(200)
        .end((err, res) => {
            if (err) return done(err);
            expect(spy.calledWithMatch(/\\register\\.ejs$/)).to.be.false;
            spy.restore();
            done();
        });
    });
});

it('will log out', function(done) {
    request(server).post('/authenticate').send({'uname':'notadmin','psw':'password'}).
expect('Location','/landing/notadmin').end(function() {
    request(server).get('/logout').expect('Location','/').end(done);
});
});
});

describe('battlepage', function() {
    this.timeout(5000);
    it('will go from battle scene to battle page / GET', function(done) {
        request(server).get('/loadingBattle').expect('Location','/battle_page2').end(function() {
            setTimeout(done, 3000);
        });
    });
});
});

```

