Dominion Online Test Plan

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*UMUC*

**Document Revisions**

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# Introduction

The plan is designed to describe the tests that will be conducted on Dominion Online to verify its functionality. Each function will be tested upon completion with the last rounds of tests verifying everything is correctly integrated.

The goal is a 100% pass rate with no constraints.

## References

* Project Plan
  + <https://docs.google.com/document/d/1HsZwZIisRAXqXq80eQlqRbTNdulHsE1aEqqgbyi0RRE/edit>
* User Guide
  + <https://developer.mozilla.org/en-US/docs/Web/HTML>
* Documentation Guide
  + http://softwaretestingfundamentals.com/test-plan/

# Test Items

## Features to be Tested

The following are features and their specifications that need tested:

* Landing Page
  + Loads correctly
* Login Button
  + Verifies correct fields have input
  + Runs credential matching
* Unlock Page
  + Run password reset
* Email Confirmation
  + Is email sent?
* Password Reset
  + Removes old password
  + Stores new password
* Credential Matching/Authentication Checks
  + Verifies entered credentials match those stored
* Account Lockout
  + Does account lock after 3 failed attempts?
* Password Reset Button
  + Provides option to reset password
* Main Game Page
  + Loads correctly
* Account Management Page
  + Loads correctly
* Player Statistics
  + Stats display correctly
  + Stats update correctly
* Change Email Form
  + Form displays
  + Changes to account information update correctly
* Change Password Form
  + Form displays
  + Changes to account information update correctly
* Start Game Screen
  + Page loads correctly
* Public Button
  + Takes player to waiting room
* Private Button
  + Brings up correct starting options
* Waiting Room
  + Can players enter?
  + Are players moved out of when game starts?
* Start Game Button (Private Game)
  + Game begins
* Password Check
  + Is password recognized by server?
* Joining Player receive invite
  + Invite transmitted correctly
* Action Phase
  + Test game mechanics
    - Are players limited to the amount of actions they have?
* Buy Phase
  + Test game mechanics
    - Are players limited to the amount of buys they have?
* Cleanup Phase
  + Test game mechanics
    - Are all variables reset at the end of the turn?
* Card Mechanics
  + Do cards trigger correct action?
  + Are the results of actions correctly transmitted to the website?

# Approach

This document defines the Master Test Plan that will be used to verify the functionality of Dominion Online.

Testing will be done on an individual level to conduct unit tests on specific functions. Group level testing will be needed to fully test the gameplay mechanics as Dominion Online is a multiplayer game.

All testing done by Skilled Testers will be White Box testing as they are familiar with the programming and backend. Volunteer Testers will be conducting Black Box testing as backend functionality will be tested while they test the frontend.

Manual tests will be conducted on the frontend to test the login functions and gameplay. Automatic testing will be conducted using unit test and will run against the backend to verify it is running correctly.

## Item Pass/Fail Criteria

* 100% functionality must be met for each portion of the project

### Suspension Criteria and Resumption Requirements

*This section is reserved for any suspension criteria and resumption requirements.*

# Test Deliverables

The following are the testing related deliverables that will be available at the end of the project:

* Test Plan (this document itself)
* Test Cases
  + Includes test plan and expected result
* Test Scripts
  + Any that are used will be saved and documented
* Software Bug Logs
  + Tracks bugs, notes and completion status
* Test Reports
  + Includes Test Case reference, deviations from plan, actual result (w/screenshots if applicable)

# Test Environment

The game is designed to run on any hardware that can operate modern internet browsers. It resides on the web and will be tested using updated versions of the following browsers:

* Mozilla Firefox
* Microsoft Edge
* Google Chrome
* Safari

Source code is editable in Plunker and it will be used in visual regression testing. We will also deploy the full website on [http://test-no.de](https://test-no.de) to test the full scope of the application.

# Schedule

Testing will be done throughout the lifecycle of the project with two defined segments:

* Testing will be conducted once the front end is complete.
  + Test the front end to include the links and account creation
* Testing will be conducted on the full game
  + Verify the front end still functions correctly
  + Testing of the game functionality

# Staffing and Training Needs

There will be two major testing roles required:

* Skilled Tester (Developers)
  + They have an understanding of how the game is built and how it should function
* Volunteer Tester (Family and Friends)
  + Possess a general understanding of board/card games and can follow instructions

## Responsibilities

Skilled Testers will be responsible for testing all functionality of the game and documenting any bugs found. If applicable, developers should also write unit tests in order to verify functionality of individual components. These tests are run automatically each time the repository is updated.

Each volunteer tester be responsible for creating an account and asked to play the game at least 3 times. Feedback on design and bugs is requested. In order to facilitate feedback collection, we will create a Google forms document which will be shared to these testers. The current URL of the form is: <https://docs.google.com/forms/d/e/1FAIpQLScU3YSufeV1xJtsrOGWgLN3PoPpanxJwAlBvIWXMrvaP4J0Yg/viewform?c=0&w=1>

# Risks

* List the risks that have been identified:
  + When updating application code, it is possible to introduce changes that may break functionality in other parts of the application.
  + It may be impossible to test certain features before others are done (for example, email password reset depend on account creation and game history relies on a working game engine).
* Specify the mitigation plan and the contingency plan for each risk:
  + We will implement unit tests to verify that each piece of functionality works as expected. We will also use automated browser tests to verify the website works as expected after each major change
  + We may rearrange the order of the test plan to ensure that only completed functionality is tested

# Assumptions and Dependencies

List the assumptions that have been made during the preparation of this plan:

* Key project members will be available and have adequate time to complete assigned tasks.
* Key project member’s performance will meet required standards.
* Key project member’s skills meet required needs.
* Accuracy of the project schedule dates.

The project will be dependent on a Start To Finish (SF) model. The first task must start before the second task can finish. The task "start game" must start before the task "end game" can finish. This applies the the front end as well as the game functionality.