Summary of Requirements

# Answers to Interview Questions

Software  
Client wants a website that anyone can access from anywhere, standard browser, no plugins, chrome, edge, Firefox, etc. don’t care what you have to do to build it.

Development toolset  
Industry standards – no obscure toolsets.

Service Security  
HTTPS server hosting is required. “Safe” database is desired – security should be implemented by developer’s discretion.

Style guide   
Database naming conventions to be provided.

Browser requirements  
All common browsers.

Database throughput (user load)  
Unspecified at this stage.   
Development to allow scalability of the Database.

Responsive design  
Responsive design is already implemented for the game website.  
Administrator webpage to be designed for iPad or larger devices.

General design considerations  
Wants the system to accommodate new types of Admin and User accounts in future.

Integration  
The existing application and the new Admin functionality should be decoupled. The admin pages should be under the same parent domain as the game, but not inside the Game’s dedicated directory. (i.e., for the game, exampledomain.wheel-of-death.login. And for the admin pages, exampledomain.admin.wod.login). [Admin and Player accounts will be separate database entities](#DecoupleAccountTypes) (meaning, they are decoupled).

# Application Requirements

## Player functionality (WOD pages)

* [May access account creation before logging in.](#PlayerRegistration)
* Log in.
* May view and filter [active](#GameDeactivation) games by difficulty level. Only difficulty levels associated with a game are selectable.
* Games may be played.
* After completion, game results may optionally be stored in the database.
* View hall of fame report.
* May *not* de-register/delete their account.

## Admin functionality (admin pages)

Standard admins

* Log in.
* View all reports, including admin-only reports.
* [Globally configure the Hall of Fame report.](#AdminConfigGamePopReport)

Super admins

* Do everything a standard admin can do.
* Create, deactivate, and reactivate player accounts (for WOD pages).
* Create, deactivate, reactivate, and delete standard admin accounts
* Create, deactivate, reactivate and delete other super Admin accounts – but not their own account.
* Promote standard admins/Demote other super Admins.
* Add, deactivate and rename difficulty levels.
* Create custom games.
* Deactivate/reactivate games.

## Reports

General report requirements

* All reports to launch in a (scrollable, non-paginated) modal popup or new window.
* Reports are only viewable in the browser and may not be downloaded.
* Each report query to be executed at request time; no cached copies to be stored and served.
* All ordering and filtering of report data to be executed server-side (SQL) before results are returned to the client.

Hall of Fame

* A report ranking recorded games, by the number of times played, bounded by specific dates. Displays the name, difficulty, and times played *within the corresponding period.*
* Ranking order may be altered – either the slowest or fastest times.
* Records displayed default to 10.
* The default display count may only be changed by Admins.
* The default display count is global and applies to all users.

Game Popularity

* A report ranking games, by the number of times played, bounded by specific dates. Displays the name, difficulty, and times played *within the corresponding period.*
* Sort order may be switched between ascending and descending, but descending is default
* Selection fields for the bounding dates will be displayed on the interface, defaulting to the previous month’s start and end dates.
* Deactivated or renamed games remain in the historical record and are flagged as **Archived** in the report.

# Registration, Authentication and Security

Accounts

* All users must authenticate before accessing ANY part of the application
* All passwords to conform to the standards outlined under [*Data Requirements – Accounts.*](#AccountDataReqirements)

Website Access

* Standard Admins may not view or interact with features reserved for Super Admins
* Administrators to log in from the admin pages subdirectory – Players to log in from the Wheel of Death game subdirectory.
* No links to the Admin site will be present on the Game site.
* [A link to the Game site’s Login page will be present on the Admin site.](#LaunchGameFromAdminPage)

Account Registration

* The registration page (Game site) will allow anyone to create a new player account (may be accessed via a link from the Game login page).
* The account management page (in the Admin site, accessible by Super Users) will allow the account management operations outlined under [*Admin Functionality – Super Admins*](#SuperAdminFunctionality)*.*

# Data Requirements

Accounts

* 2 types of admin – super admin and standard admin.
* One type of player account.
* All accounts to have first and last name, username and password. Specified on creation.
* First and Last Name: maximum 100 characters each; Username and Password: maximum 255 characters.
* Passwords to be 12 characters min, at least 2 uppercase, 2 lowercase, 2 numbers 0-9, 2 other characters (special characters).
* Username must be unique (no other player can have the same username).
* Alteration after creation not specified.
* Admin and User accounts will be decoupled in the Database schema.

Games

* Can be created.
* ~~Cannot be altered.~~
* Cannot be deleted if they’ve had any results recorded but can always be deactivated (to allow removal from the web UI).
* All games to have a name (unique amongst games), max throws, duration (up to 60mins), max allowed misses, min balloon count, max balloon count, active/inactive status, and associated Difficulty level descriptor. Specified on creation.
* Game Name length capped at 255 characters.
* No upper limits on max throws or balloon counts (timer remains capped at 60 minutes).
* Max allowed misses must be no less than max allowed throws.

Difficulty level

* Can be created.
* Can be removed if not referenced by the records table.
* Consists of a descriptive “tag” (unique). Specified on creation. May be changed (renamed).

Records (for reports)

* All records have a reference to the game, a reference to the player, elapsed time (millisecond precision), date played, misses, and win/loss reason.
* Not all games are stored – only when the player chooses to do so.

## Data Validation

* All leading and trailing spaces will be removed from text fields.
* In general, all fields will be constrained to a “reasonable size” to allow best use of the database.

# Special considerations

* One super admin to be preregistered.
* The link to the Game page from the Admin page must launch a new window
* Development should not restrict the databases potential to be scaled. The system may need to accommodate new types of Admin and User accounts in future.