

# RICH PLASTOW

This multiplayer HTML5 'serious game' combines a **custom 3D framework** with an advanced **business simulation**, to provide a fun and social learning tool for **Diageo** staff.

CASE STUDY **Bar Sim Game**

CLIENT **Diageo**

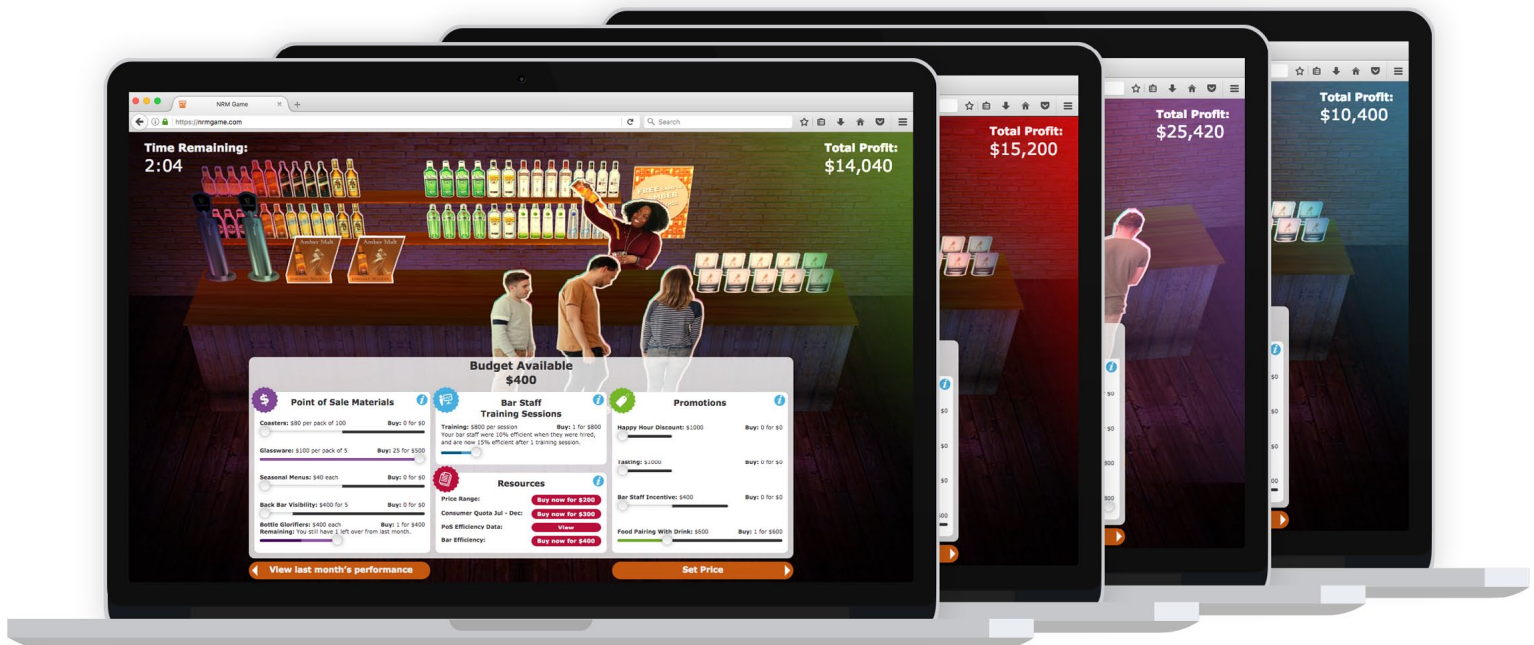
DATE **May 2017**

SKILLS **HTML5 GAME DEVELOPMENT** **SIMULATION DEVELOPMENT** **MULTIPLAYER** **GAME DESIGN**  
**GRAPHIC DESIGN** **UX DESIGN** **PHOTOGRAPHY** **IIS WINDOWS SERVER** **BALSAMIQ** **GITHUB**  
**NODE** **THREE.JS** **JQUERY** **MYSQL** **PHP** **JAVASCRIPT ES6** **HTML** **CSS**

This **serious game** has been designed to reinforce learning during a two-day training course. It's played by four teams of three people, where each team has a laptop and controls the marketing budget of a **simulated bar**. The goal is to maximise end-of-year profit, with help from a facilitator who can monitor their progress in real time.

An outline for the game mechanic and learning objectives had been agreed before I came on board. I produced a detailed **functional spec** and **wireframes**, wrote all of the code, and worked with the client's art director on graphic design and photography.

I created a custom framework on top of **Three.js**, which allowed us to create the 3D bar scene very quickly, and add real photos of Diageo's staff drinking at the bar! I also built a **custom business simulation**, which models bar staff and customer behavior, footfall and stock levels, to realistically calculate sales and profit.



## Developed during this project

**FLATLAND** For high performance **animated 3D scenes**, with optional **physics**, **shadows** and **focus**  
**SIMULATION** Each minute is simulated, using a repeatable sequence of **seeded random numbers**  
**DUMPSTA** An **ASCII interface** helps visualise and balance the game's **simulation** dynamically  
**ZIPGRADE** **Automated deployment** to staging and production servers, using **GitHub webhooks**  
**OOMAKE** Transpilation, concatenation and minification of **JavaScript 2015 (ES6)** source code  
**ES-SWITCH** Switch between **source ES6**, **concatenated ES6**, **transpiled ES5** and **minified ES5**

Find out more...

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