

# **AmazingStoke: A Facebook game for the not-for-profit sector**

**Author: Joanna Pinto**

**Supervisor: Dr Keith Leonard Mannock  
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## **Abstract**

In this proposal I outline the design and development approach that will be used to build an online game for the not-for-profit sector to engage supporters in real-world actions. The proposed game will be played via social networking platform Facebook, and will make use of recent research in the fields of online and alternate reality games. In this proposal, I look first at social media technologies and their use by not-for-profit organisations, then at alternate reality games. I bring these ideas together into a proposed game, and discuss the responses to a questionnaire sent to not-for-profits regarding this idea. I go on to describe a suitable design methodology to be employed during the project, to discuss the basic game-play ideas for the proposed game, and to explain how I decided to design this game to be played via Facebook. I then explain the tools and technologies required to build an online game accessed via Facebook, discuss the testing process for the proposed system, and close with key deliverables and timetable. This proposal includes a review of relevant literature, both print and online, and results of the questionnaire designed by myself and completed by twelve not-for-profit organisations.

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# 1. Introduction and Problem Analysis

## 1.1 Background

Prior to studying for this MSc, I worked in the fundraising and communications team of the national charity the British Association for Adoption & Fostering (BAAF) from 2006 to 2010. I observed not-for-profit organisations (NFPs) such as charities facing the challenge of integrating social media technology into their communications strategies. This led to an interest in developing a cross-organisational social media platform where multiple NFPs could engage with their supporters, for reasons explained in section 1 of this proposal.

## 1.2 Social Media and the NFP sector

It is important to clarify the terms social media and Web 2.0 within the context of this proposal. Early in the development of the World Wide Web, the phrase Web 2.0 was used to refer to a shift in the way in which individuals and organisations use the World Wide Web. Specifically, DiNucci (1999) discussed the concept of the web as a forum for discussion and interactivity between users, rather than a series of static information pages published by expert producers.

This concept of Web 2.0 – of the World Wide Web as a forum where dialogues and interactions occur, rather than a static repository of information – has been key to the development of social media sites, which are web-based technologies in which users (both individuals and organisations) participate in a interactive dialogue. This can include social networking sites such as Facebook (Facebook Inc., 2011), micro-blogging sites such as Twitter (Twitter Inc., 2011), video sharing websites such as YouTube (YouTube Inc., 2011) and others where different users upload content into a shared digital environment. Social media is an enormously popular use of internet technologies – a recent post for the *Financial Times* blog *FT Tech Hub* found that social media site usage accounts for 12.4 per cent of all time online for UK users (Bradshaw, 2011), and the Office for National Statistics reports that 43 per cent of UK adults posted messages to social networking sites, chat sites or blogs over a three month period of 2010 (Office for National Statistics, 2010).

The NFP sector has had significant successes in integrating social media into their communications strategies, and NFP sector weekly magazine *Third Sector* regularly reviews successes in *Digital Campaign of the Week* (for example, O'Reilly, 2011). One example of a successful social media campaign comes from 2008 when the British Heart Foundation ran a campaign against cigarette vending machines, in which podcasts were used to encourage supporters to complete a range of online supporter challenges for the charity such as signing petitions online. This campaign led to a direct change in the law in Scotland, and the UK Government announcing a change on its position on cigarette advertising (Forum for Change, 2011).

Another NFP that has been innovative in using social media is the Dogs' Trust. This organisation has used Twitter to post details of and successfully re-home dogs, fulfilling one of their key organisational goals. For example, in 2008 the Dogs' Trust posted a picture of a dog needing re-homing on their organisational Twitter feed. A supporter reading their Twitter feed viewed the picture, and visited the centre where the dog was currently homed. Although the supporter chose not to keep the originally posted dog, she became the owner of a different dog at the same centre (Dogs' Trust, 2008). A single post from the NFP led to a specific

action by a supporter that was more complex and long-term than, for example, a one-off financial donation.

Online fundraising tools are well established on the web. There are influential sites to aid in online fundraising such as JustGiving (JustGiving, 2011), Virgin Money Giving (Virgin Money, 2011), Facebook Causes (Causes, 2011). 12% of UK adult internet users report donating to charity via the internet in 2010 (Office for National Statistics, 2010). Some NFPs have been engaged with fundraising via emerging digital technologies for several years – for example, children’s charity Save The Children became in 2006 the first UK charity to have an organisational presence in the online game Second Life (Gibson, 2006). Players could spend in-game currency on a digital in-game representation of a yak, and the total in-game currency raised was converted to real-world donations by the owners of Second Life, Linden Lab. However, this campaign was an example of early innovation by the NFP sector. The huge rise of social networking sites, in particular Facebook and to a lesser extent Twitter, in the last 2-3 years has enabled NFPs to access widespread and easily adopted systems for engaging with supporters via emerging digital technologies.

However, there seems to also be a feeling within the NFP sector that the full potential of social media is not yet being used. Social media experts in the mainstream press such as *The Guardian* (McCurry, 2010) and specialist sector magazines such as *Third Sector* (Hawkes, 2011) have criticised NFPs for using social media for simply advertising for donations, rather than genuinely engaging with supporters. So whilst fundraising tools are well established online, it would appear that there is a need for social media tools to facilitate others forms of engagement between NFPs and supporters.

### **1.3 Alternate Reality Gaming (ARG) and social engagement**

Parallel to the rise of social media is the increasing popularity of online gaming. For example, the online game *World of Warcraft* (Blizzard Entertainment Inc., 2011), in which players create a character and traverse a permanently available world interacting with other players, has more the 11.5 million subscribers playing between 16 and 21 hours per week (McGonigal, 2011, pp. 231). The online game *FarmVille* (Zynga, 2011) played via Facebook, in which players create a virtual farm and attend to agriculture related tasks, is so popular that in April 2011 it has more than 47million players (Facebook *FarmVille* app page, 2011). These two examples represent only a small part of an enormous online gaming community.

These games can generate significant returns for the companies that run them. For example, *World of Warcraft* players pay a monthly subscription to access the game. In the first quarter of 2010, the owners Activision Blizzard posted quarterly profit of \$381million of which *World of Warcraft* was believed to be a significant driver (Sliwinski, 2010). Zynga Games, which produces *FarmVille* and other games, in which players can optionally purchase in-game goods using real-world currency (via the purchase of an in-game currency called *FarmCash*), announced that it expected its 2011 profits to reach \$630million (Fontevecchia, 2011). Both these strategies of monetisation – either initial access to the game (*World of Warcraft*) or optional in-game expansion (*FarmVille*) – have been proved profitable models for the game companies.

Alongside the profitability for companies, there is a strong current interest within the computer gaming industry in using the heavy investment of players’ time and resources spent in-game to achieve ambitions in the real world. For example, in recent years two keynote

addresses at the South by Southwest (SXSW) Interactive festival of digital technology and gaming<sup>1</sup> have discussed the power of communal online gaming to affect real-world change (games designer Will Wright in 2007 (Wright, 2007) and Seth Priebatsch of location-based software SCVNGR in 2011 (Priebatsch, 2011)). The are games designers such as Jesse Schnell and Jane McGonigal who focus specifically on how social interaction within games can lead to social change.

In talking about *FarmVille*, McGonigal states that most players spend up to half their in-game time assisting the farms of others (2011, pp. 81). She expresses the opinion that the asynchronous interactive gameplay of *FarmVille* and online games where players are not playing simultaneously but still collaborating and communicating whenever they are able to log in to the game, strengthens the feelings of real-world social connection (2011, pp. 93). McGonigal has also written about the reach of computer games, and the related field of Alternate Reality Games (ARGs) (McGonigal, 2011). ARGs are games designed to somehow impact upon the real world, although they can vary massively in scale from one another. Some are played offline, but many have an online component that is key to gameplay. Papers have been written on the use of ARGs regarding their usefulness as a microcosm for understanding how people come together to form groups and solve problems collaboratively, such as Gurzick et al.'s recent paper (2010).

Examples of ARGs include *Chore Wars*, an online game in which members of a household create avatars and award each other in-game points depending on the amount of household tasks they complete (Davis, 2007). More seriously, *World Without Oil* was a 32-week online collaboration project in 2007 in which players created a series of artefacts (such as blog posts, videos and images) imagining a future world with severe oil shortages (Eklund et al., 2007). The ultimate aim of the game was to develop potential new strategies for a real-world demand for oil that is outstripping supply, and all created artefacts are archived online as a permanent resource.

Online games have also lead to the collapse of major companies. The online multiplayer game *Toywar* created in 1999-2000 by Swedish art collective Etoy encouraged players to take real-world action against online toy retailer eToys.com, who had attempted to block the artists' use of a URL similar to their own. Players participated in an online game but also launched denial-of-service attacks, negative PR campaigns and other tactics against eToys.com (Galloway, 2006, pp. 77). Within months, the retailer was seriously affected:

“In the first two weeks of *Toywar*, eToys.com's stock price on the NASDAQ dropped by over 50 percent and continued to nose-dive. [...] Eventually a few billion dollars of the company's value disappeared from the NASDAQ, and the toy retailer declared bankruptcy.” (Galloway, 2006, pp. 78).

A growing body of evidence and literature exists to show that the large amounts of time that users spend playing online games can be harnessed in various ways to affect real-world social change.

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<sup>1</sup> South by Southwest (SXSW) is a festival held each year in spring in Austin, Texas. Part of the festival is SXSW Interactive focusing on emerging digital technologies and attracting nearly 20,000 attendees in 2011 (Eskin, 2011). Key social networking technologies launched at SXSW Interactive include location-based technology Foursquare and other recent keynote speakers include Mark Zuckerberg, founder of Facebook (Sutter, 2011).

## 1.4 The Problem To Be Solved

Many organisations in the NFP sector appear to already be using social media as a means to engage individual supporters, particularly for fundraising. However, as seen, many within the NFP sector feel that there is scope for increased usage beyond simply advertising for donations. Alongside this, ideas are emerging from the gaming industry that engaging individuals through online gaming can lead to significant real-world actions. Many UK NFPs already use offline fun or gaming events to build supporter engagement, running activities such as fun runs, quiz nights, fancy dress and comedy nights. For example, annual fundraising event Comic Relief having so far raised more than £10million over 25 years for international poverty relief through high-profile comedy and challenge events (Comic Relief, 2011). Therefore, a proposed solution for the challenge of increasing and diversifying NFP usage of social media is to develop for a low-cost social media tool for NFPs that uses online gaming to engage individual supporters. The following sections examine this idea, and how it could be implemented, more thoroughly.

## 2. Proposed Solution

Based on the research and reasoning presented in section 1, it is my proposal to build an online ARG for the NFP sector. The idea is that an online game would be used to promote real-world actions for NFPs.

To test user reaction to this proposal, I devised a questionnaire using the online tool SurveyMonkey, and structured the questionnaire using advice from Dennis et al (2010, pp. 137). The questionnaire used nine top-down (general questions first, drilling down to more detailed), mostly close-ended questions (with the facility for additional comments). The questions asked about the nature of the organisation responding, their current use of social media, whether they saw social media use increasing at their organisation, and then led into a series of questions about their reactions to a proposed game that could be played online. Communications managers from twelve different NFPs completed the questionnaire online in March-April 2011. NFPs that completed the questionnaire include the international organisations Anti-Slavery International and Greenpeace, national organisations British Association for Adoption & Fostering (BAAF) and Marie Curie Cancer Care, and local organisations Basingstoke Shopmobility and Racine Literary Council.

In the questionnaire, the following idea was proposed for an online game for the NFP sector:

- A game which can accommodate multiple NFPs, i.e. it is cross-organisational.
- NFPs can upload challenges for supporters to complete in the real-world.
- Players have a basic in-game score but this is increased by completing the real-world actions for NFPs.
- The player's in-game score relates to in-game world building. The specific idea is that players have an in-game town, with various buildings that are "bought" with the in-game points earned as described in the third bulleted point.
- Players have mechanisms for finding out more about the NFPs.
- Players have mechanisms for communicating and competing within each other in-game, including message sending and setting each other challenges.

These ideas about gameplay draw heavily upon the structure of games like *FarmVille*, together with research from game designers like McGonigal on the importance in building user engagement of interaction between players within online games.

The answers to the questionnaire are compiled in the Appendix. The organisations that responded to the questionnaire were working across a broad spectrum of issues. It is my hope that sampling a wide range of types of organisation within the NFP sector will give a more in-depth basis to the research than focussing on one particular “type” of organisation (such as only asking children’s charities, or environmental organisations).

In summary, reaction to the need and the proposed solution was positive, with some key findings from the twelve organisations being:

- 100% of the twelve NFPs questioned said it was either “very likely” or “quite likely” that their use of social media would increase.
- 83.3% (ten NFPs) reported using real-world challenge or gaming events to engage with supporters.
- 58.3% (seven NFPs) said that an online game would definitely be an appropriate way for them to engage with supporters, and only one NFP said that it would not be suitable for them. The remaining 33.3% (four NFPs) were “not sure”.
- 66.7% (eight NFPs) said that the idea of overlapping real-world actions with game rewards would be suitable for their organisations, with 81.8% (nine NFPs) replying that rewarding individual fundraisers via an online game would be suitable for their organisation.

The responses suggest that the idea of online ARG for the NFP sector would not be suitable for all the diverse organisations questioned, but that a significant proportion (more than 50%) showed a definite positive interest in the proposed system.

### **3. Design**

This section begins with a discussion of a suitable design methodology for building a complex web-based system. I then propose a broad overall game concept, drawing from successful existing online games, and describe proposed in-game reward mechanisms. Use cases are used to examine the use of the system in more detail, from the point of view of both an NFP and a player of the game. I then discuss additional design considerations, such as the use of human moderators for the proposed system, before discussing key deliverables of the system.

#### **3.1 Design methodology**

For this web-based proposed system, with its reliance on uptake from a broad range of organisations and players, it is important to consider design methodologies that allow for an iterative approach incorporating significant user-testing. Traditional “waterfall” methodologies risk being too rigid to allow for the necessary testing and experimentation required when working with constantly developing social media. Equally, a totally agile approach such as XP (Extreme Programming) might not be wholly appropriate for a project developed by one programmer alone, for a relatively complex system with unfamiliar technology.



Rapid Application Development (RAD) methodologies enable an iterative approach incorporating fast feedback from users on how effectively the system meets their needs (Hawryszkiewicz 2001, pp. 118). This approach seems highly suitable for developing a modular system with two distinct users groups (NFPs and players). RAD methodologies are highly suitable for developing interactive web systems (Hawryszkiewicz, 2001, pp. 119). Prototyping will be used to allow users to contribute to the refinement of ideas whilst programming. Throwaway prototyping in particular can be helpful as I will be using unfamiliar technologies and developing a complex system (Dennis et al., 2010, pp. 13).

### 3.2 Overall Game Concept

Existing multiplayer online games would seem to fall into two distinct groups. In some games, such as the already mentioned *World of Warcraft*, or children's games *Build-A-Bearville* (Build-A-Bear Workshop, 2011) and *LEGO Universe* (NetDevil, 2011), players control an avatar which traverses a single shared game world (Figure 1). Although players may be at different locations within the game, and therefore have different views of the in-game world, they are essentially all “seeing” one game that has multiple simultaneous players. Players also “see” each other within the shared game.



Figure 1. Screenshot from Build-A-Bearville online game, showing multiple players interacting with a single shared game world

Other games, such as *FarmVille*, give each player their own space to develop, with the ability to visit other spaces or communicate in other ways with other players linked as friends (Figure 2).

Based upon my research into types of games and their successes in terms of number of players and real-world leverage (mostly measured so far in terms of profits for developers in section 1.3), I decided to adopt the approach of *FarmVille* to create a separate customisable

space for each player of the game. The *FarmVille* approach has been hugely successful in terms of number of players and amount of time spent in-game. At the time of writing, *FarmVille* has more than 47million players per month (Facebook *FarmVille* app page, 2011). At the peak of its popularity in early 2010, it had more than 90million players (McGonigal 2011, pp. 80) and has repeatedly been described as the one of the world’s most popular online games (Ahmed 2010; Walker 2010). The profits made by Zynga Games, creators of *FarmVille* and similar games, discussed in section 1.3, show that this model has been successful not only in terms of numbers of players, but also in providing a sustainable business model.

The fact that this approach to gameplay – one unique game area per player – has proved highly successful for online gaming in terms of both number of users and ability of game developers to leverage that into real-world outcomes (profits) suggest it as a good model to adopt for the proposed system.



Figure 2. Screenshot from *FarmVille*, showing a single player interacting with an individual game world, with ability to “visit” game worlds of other selected players

I made the design decision that players will be building a town of buildings. I also chose that the game will be called *AmazingStoke*. The idea of building a town is also conceptually coherent with an idea that players are creating their own “better world”.

Each player will have a “map” or grid of squares onto which they can place different types of building. Each map is a fixed size. For the initial design I have chosen that each player’s map will be 16 squares by 16 squares (total 256 squares). Players will be able place one building per square (Figure 3). This design decision makes an initial game easy to build. The use of fixed-size blocks of player space makes scalability issues easier to predict and therefore

manage (see section 4.5). In terms of development of the game, the idea can be explored that as players become more successful in-game, they are able to create multiple maps which link together.

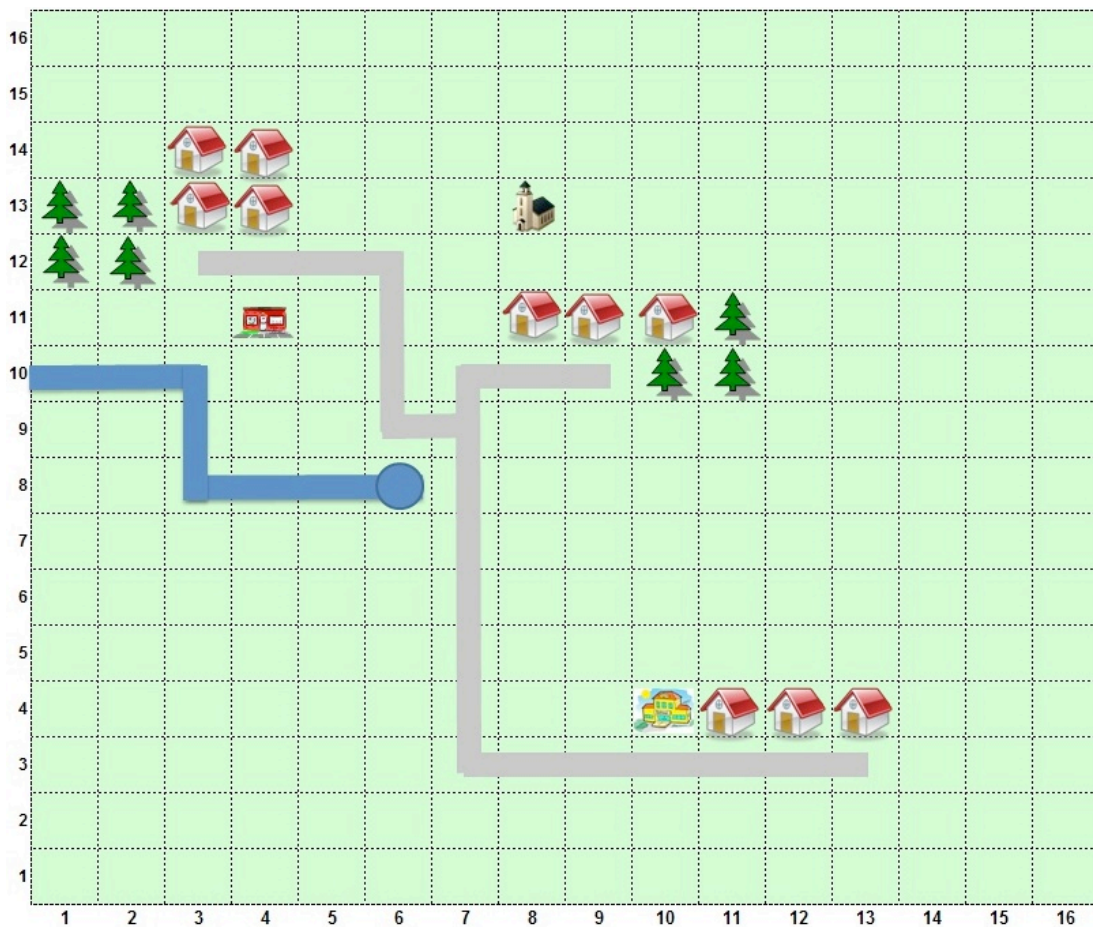


Figure 3. A mock-up of an AmazingStoke map for one Player, showing Houses, a School, a Church a Shop, Parks, a River, a Lake, Roads and empty Squares

The game should be easily accessible by the most commonly used web browsers (in April 2011, W3C lists these as Internet Explorer, Firefox, Chrome, Safari and Opera) and should not require new software to be installed on the player’s machine. The site will be HTML 4.0 compliant, as recommended by the W3C and by the Web Standards Project, to ensure that the proposed *AmazingStoke* system it is accessible to as large a number of users as possible (Holzschlag and Kaiser, 2002).

The proposed system will need to utilise both server-side scripting and client-side scripting, plus databases to store a range of information types between sessions (see section 4.4).

### 3.3 Mechanisms for in-game reward and development

Each player will have in-game credit, known as *MarvelMoney*. Players can increase this credit in two ways.

- 1) Players can earn *MarvelMoney* in-game by completing socially responsible actions for their in-game town. For example, clicking a button to “collect recycling” from residential houses increases *MarvelMoney*. The game can therefore be self-contained and players are

not forced to complete actions for NFPs to be able to participate. This increases not only potential uptake if there is less responsibility on the part of the player, but also increases accessibility within potentially diverse user communities.

- 2) Players can complete real-world activities for NFPs. NFPs log these supporter challenges online, together with information of how players must prove that they have completed them and how much *MarvelMoney* they will earn for completing it.

To give an example the types of supporter challenges an organisation might list on *AmazingStoke*, an example is provided by national charity the British Association for Adoption & Fostering (BAAF) using a real-world list of challenges issued to supporters in 2010, relating to its annual National Adoption Week campaign (Figure 4). The overall aim of the campaign was to raise awareness of the issue of adoption. The NFP created ten different supporter challenges, at three different tiers of engagement (Freeman, 2010).

The screenshot shows the website for National Adoption Week, dated 31 October - 6 November 2011. The main heading is 'adoptionchampions'. Below this, there are three levels of challenges to choose from:

- Just for starters, try Level 1**: There are four easy options:
  - put up a poster;
  - write a letter to your local newspaper;
  - use your social media networks;
  - make a donation.
- Get more involved in Level 2**: Choose to do some of the tasks in level 1 plus you can become a media volunteer (sharing your adoption story with newspapers, magazines, tv and radio), do an individual fundraising challenge or become an adoption blogger.
- Make the biggest difference in Level 3**: This is the most intense level but also where you make the biggest difference. Get together a group of work colleagues, friends, neighbours or even extended family and talk to them about adoption, maybe over a coffee, or after a game of football. Alternatively arrange to speak at a WI, Infertility Network or other community group event. You could also organise a fundraising event.

There is also a 'Sign up for 2011!' section with a 'Sign up today' button and a 'Need help or advice?' section with contact information.

Figure 4. Screenshot of BAAF National Adoption Week website with challenges to supporters (Freeman 2010)

The proposed game system will need a mechanism for NFPs to authenticate the completion of supporter challenges by players. Concerns that this time commitment from NFPs would make *AmazingStoke* unappealing were dispelled by the survey. The overall rating of importance of “Low involvement of the organisation, i.e. not needing to check site regularly” was 3.0 out of 5, which made it one of the least important consideration for NFPs when

selecting a new social media for their organisation (see Appendix). There are various methods that could be used for notifying charities when they need to log into the site – automated emails and RSS feeds would be two solutions – which will be explored during the building of the proposed system.

### 3.4 Use Cases

To better understand the process that either a player or an NFP will go through when using the *AmazingStoke* proposed system, I have created two use case descriptions to clarify how two key processes will be undertaken – for an NFP loading a supporter challenge and for a player playing a session in the game. In writing these use cases, I drew upon advice from Larman (2004, pp.61-100). Potential conceptual classes in the use cases are denoted by a different font.

#### 3.4.1 Use Case: Set Supporter Challenge

##### *Main Success Scenario*

An **NFP** logs into a website and sets a **Challenge** task for supporters playing the *AmazingStoke* game.

The **NFP** visits the *AmazingStoke* website for **NFPs**, and logs in using a unique username and password. The **NFP** is presented with a homepage of information relating to their organisation, including the list of current **Challenges** listed on *AmazingStoke*, **Challenges** marked by **Players** as requiring authentication by the **NFP**, and so on.

From this page, the **NFP** clicks on a link or button saying “Create New Supporter Challenge”. They are then directed to another page on the same website to fill in the details of this new **Challenge**.

The **NFP** is presented with a web form. In this form, the **NFP** writes a brief (max. 25 words) title for the **Challenge**, selects from a drop-down list the broad nature of the **Challenge** (fundraising, media work, event volunteer), fills in a longer text description of the **Challenge**, fills in a text description of how a **Player** must submit proof of completion (e.g. submit a link, post a cheque to the **NFP** for fundraising), fills in a deadline if needed, and the amount of *MarvelMoney* (in-game credit) earned for completing this. When choosing the amount of *MarvelMoney*, the **NFP** either chooses from a drop-down suggesting set amounts of certain types of types of **Challenge** (to regulate gameplay) or submits a request for a different non-standard amount.

Upon completing this information, the **NFP** is shown a page containing all the information about the player **Challenge** they intend to add to the site. They will be asked to check and confirm all the details. Upon clicking a button to confirm, the information is sent to the *AmazingStoke* **Moderator** for checking and adding to the game database. On the site there will be guidelines on the nature of **Challenges** that can and cannot be posted on the site.

##### *Alternate Scenarios*

If the **NFP** login information is incorrect or forgotten, the **NFP** is informed of this and directed to a page on the site detailing retrieval of lost account information.

If the title for the **Challenge** is too long, an error message is displayed using Ajax (see section 4.7). This means the information is checked by client-side scripting without requiring the whole page to be sent to the server and then returned if the title is too longer.

If the **NFP** wants to offer a non-standard amount of *MarvelMoney*, they fill in the form as above, but the request is flagged up in some way to the moderator when submitted.

If the **NFP** does not complete the form in one session, or does not click the final button to confirm, the information is not stored between sessions and not sent to the *AmazingStoke* moderators.

If the **Challenge** is deemed inappropriate by the **Moderator**, the **NFP** is contacted by the *AmazingStoke* **Moderator** explaining why their **Challenge** has been rejected from the game.

### 3.4.2 Use Case: Player Game Session

#### *Main Success Scenario*

A registered **Player** of *AmazingStoke* plays a session in the game via their Facebook account.

The **Player** logs into their Facebook account using their email address and password. The **Player** then accesses *AmazingStoke* by clicking on the link from their “Apps” list on the main Facebook site. They are then redirected to the *AmazingStoke* game as a frame within the Facebook site (see section 4.3).

Based on their Facebook account information, their *AmazingStoke* town **Map** is loaded into the frame, showing **Buildings** placed on the **Map** and free **Squares**. The **Player** is able to see:

- their amount of *MarvelMoney* (in-game credit)
- a link to the **Challenges** they have accepted but not completed
- a link to a list of their completed **Challenges**
- a link to a list of available **Challenges**
- a link to **Challenges** set for them by other **Players**
- a link to find out more about **NFPs** using the game
- a link to different types of **Building** available to “buy” for their **Map** using *MarvelMoney*
- a list of other **Players** linked to in-game.

The **Player** can click on the link to **Challenges** accepted but not completed to be shown a pop-up window with titles of the **Challenges**. If they click on individual **Challenges** to be completed, they are taken to a form where they can submit proof of completing the **Challenge** (such as a link to a Twitter feed showing that they have published information on their account about the **NFP**). On completing the form, they click a button to submit and are shown a message informing them that information has been sent to the **NFP**.

The **Player** can click on the link to **Challenges** completed to be shown a pop-up window with titles of the **Challenges**, and dates completed. The **Player** can click on the link a link to a list of available **Challenges** to be shown a pop-up window with titles of the **Challenges** and the **NFP** that has listed it. By clicking on an individual **Challenge**, the full information about the **Challenge** is displayed. **Players** can then either navigate away from the information, click to

accept the **Challenge** (i.e. add it to their list of **Challenges** accepted but not completed), or click to send the **Challenge** to another **Player** linked to them.

The **Player** can click on the link to find out more about **NFPs** using the game to be taken to a page showing names and outline details of the **NFPs**, then click on an **NFP**'s name to be taken to more detailed information about the organisation, including contact detail.

The **Player** can click on the link to **Challenges** set for them by other players to be shown a pop-up window with titles of the **Challenges**, the **NFP** that has listed it, and the other **Player** that selected the **Challenge** for them. They can view full details of the **Challenge** and click to either accept or reject the **Challenge**.

By clicking on the link to **Buildings** to buy in-game, the **Player** is shown a pop-up window with icons and prices of different **Buildings**. By clicking on the **Building** information, they are taken to a more detailed window of information about that particular **Building**, such as whether it launches a pop-up game and how it generates *MarvelMoney* in-game. From this screen, the **Player** can click a button to buy the **Building** if they have sufficient *MarvelMoney*. If they buy the **Building**, their *MarvelMoney* total is decreased by the appropriate amount, the window closes, and they are able to click on a **Square** on their **Map** where the **Building** will appear.

By clicking on any of the **Buildings** already placed on their **Map**, the **Player** is shown a pop-up window detailing actions the **Player** can take to generate *MarvelMoney*, such as collecting recycling from a house **Building** if it has not been collected for 72 hours. In some instances, a **Player** may also be able to choose to play a new game in a pop-up window, such as a word-puzzle game from clicking on a school **Building**. They can also choose to remove the **Building** from their **Map**, in which case they are reimbursed with *MarvelMoney* (although potentially less than they originally played, to encourage strategic thinking when placing buildings for more challenging gameplay).

By clicking on their list of other linked **Players**, the **Player** can send messages to other **Players**, or see their current *MarvelMoney* scores, list of **Challenges** completed, and list of **Challenges** accepted but not yet completed. By clicking on any part of the page outside the frame of the game, the current game information is saved and the **Player** is taken out to the main Facebook site or other link as clicked.

#### *Alternate Scenarios*

If a user of Facebook is not a registered *AmazingStoke* **Player**, they do not see the link on their original page and must search for the app then register.

If a **Player** gets partway through any process requiring a pop-up window but closes the window without completing, no information is saved or submitted from the window.

If a **Player** tries to purchase a **Building** for which they do not have enough *MarvelMoney*, a message is displayed to tell them they don't have enough credit.

If a **Player** tries to place a new **Building** on a **Map Square** that already has a **Building** on it, they are offered the choice to remove the original **Building** and replace it with the new (in which

case they receive *MarvelMoney* for the removed **Building**), or they can choose not to buy the new **Building** (in which case the *MarvelMoney* is returned to them), or they can choose another **Square**.

### 3.5 Additional design decisions

I found it necessary to make a design decision regarding human checking of supporter challenges submitted to the *AmazingStoke* game, and of ensuring that organisations using the proposed system are valid NFPs registered with relevant legal bodies (for example, the Charity Commission for England and Wales, or the Office of the Scottish Charity Regulator). The decision was made that a human moderator for the site will be required and built into the design. Given that key charity online tools such as JustGiving, Virgin Money Giving and Facebook Causes employ moderating staff, as do many of the various games mentioned before, this seems to be a reasonable design decision. For example, the Virgin Money Giving site employs a team of twelve staff to for customer support and advice to manage a throughput of £11million to 2,400 charities by 40,000 unique users in 2010 (Virgin Money Giving, 2011).

The issue arises of how this ongoing support would be funded. Discussions of the financial value of and ability to generate returns of popular social media sites are ongoing in the technology industry. For example, the Facebook site itself was in January 2011 valued at \$50bn on the stock market, despite the fact that it has yet to return a profit (Rushe, 2011).

Ongoing technical support for *AmazingStoke* could potentially be funded in different ways. Advertising on the site by commercial organisations is used to support online games for charities such as *FreeRice* (UN World Foods Program, 2009). A second option is that *AmazingStoke* could be supported by donations from funding bodies. Alternatively, the proposed could use a business model like that of JustGiving and Virgin Money Giving whereby NFPs are charged to use the site. The precise funding details of the proposed are beyond the scope of this project; it is sufficient to note that both online tools for NFPs and online games have developed various successful business models.

### 3.6 Key system components

The key deliverables for the online game *AmazingStoke* will therefore be as follows:

- Databases of players and their maps, NFPs, building types and supporter challenges
- A view of the proposed system for players as a Facebook app
- A stand-alone site for organisations that allows the addition of new supporter challenges to the database and validation of supporter challenges completed by players
- An ability for players to link to each other as friends
- An in-game messaging system and challenge-setting system
- A “leader board” as part of Facebook app for players
- Potentially, pop-out browser-based games accessed by clicking on the buildings in a town map – for example, clicking on a “School” building placed on a map could launch a word puzzle game, or clicking on “Bank” building on a map could launch a maths puzzle game, in new windows.

The *AmazingStoke* system as proposed can be broken down into several key modules. The most important modules are:



- the database module
- the NFP site accessing the database
- the player Facebook app accessing the database.

Modules of lesser importance include:

- linking and messaging facilities
- leader board
- pop-out games

If programming issues arise, it may be possible that certain modules will not be fully developed.

Given that the aim of this project is to develop the programming side of the proposed system, I have made the decision that the graphics for this project will be fairly rudimentary. However, the proposed *AmazingStoke* system is designed in such a way that complex handling of graphical information is not a key consideration, and that aesthetically pleasing visuals can be easily “added in” to the system by designers.

## 4. Implementation

### 4.1 Game platform

In developing ideas for this proposed system, I considered various options of game platform.

Originally I planned *AmazingStoke* as a downloadable game for internet-enabled mobile phones, such as the iPhone, Android phones, and others. However, as ideas for the proposed system developed, a standalone game for mobile phones seemed less suitable, for the following reasons. There is a wide range of different phone platforms, each of which would require separate programming, meaning that choosing any one mobile phone platform would exclude other users. As a relatively new developer, the learning time needed for developing this system for mobile phones was unfeasible within the time constraints of this project. As a stand-alone game, key proposed functionality would have been difficult when network access was unavailable. For example, the ability to communicate in-game with friends would be lost, or the ability to find out more about charities would require unrealistic amounts of phone memory dedicated to storing organisation information rather than using server-side storage. Finally, a game played online via a browser could still be accessed by an internet phone. Therefore, this idea of *AmazingStoke* as a standalone game for a mobile phone was discarded.

The next idea was for the proposed *AmazingStoke* system to be hosted on its own website, which avoided upon many of the issues above. It also would improve access to the game. The Office of National Statistics reported that of UK adults who have accessed the internet in the prior three months, only 33% had done so at some point via a mobile phone (Office for National Statistics, 2010) compared to 80% who had used either wireless laptop access, or a non-wireless connection.

Moving on from the idea of a standalone site, however, it was clear that the game that most clearly inspired *AmazingStoke* was *FarmVille*, which is played mostly via social networking site Facebook. I began to explore the idea of using Facebook for the game parts of the proposed system.

The survey showed that NFPs were already heavily involved in using Facebook, with 75% of those replying to the questionnaire using Facebook as a tool to engage with individual supporters (see Appendix). The leveraging of existing social media technology could help resolve several key issues for NFP users of *AmazingStoke*. For example, NFP felt it was important that the proposed system was “Easy for users to sign up or cancel account” (average importance: 4.08 out of 5). Player sign-up could be easily handled using standard tools developed as part of the Facebook application programming interface (API).

Therefore, I made the decision that although there might be a stand-alone website for NFPs to log their supporter challenges, the gameplay of the proposed system would take place via Facebook.

## **4.2 Facebook – An overview**

Facebook describes itself as a “social utility” although it is commonly referred to as a social network. Facebook was developed at Harvard University in 2004 by Mark Zuckerberg, and became available to the general public from 2006 onwards (Feiler 2008, pp. 5). Its cultural reach is so significant that a 2010 film of its origins, *The Social Network*, won three Oscars.

Facebook’s precise functionality has been through several iterations, with features often appearing or disappearing without prior notification to users, and therefore this description is of the site in April 2011. Facebook is a free-to-use site where individuals register to create a profile of personal information (such as name, date of birth, current place of residence, relationship status, and photo) which is displayed as a web-page within the site. There are a variety of user-definable privacy settings which determine how much of this information can be viewed by other users of Facebook.

Once a user has created a profile, they are able to send requests to link other registered users to become “friends” on the site, meaning they are able to view one another’s profiles and other shared information. As part of their profile, each user also has an area known as a “Wall”, on which they or linked friends can write brief messages, attach links or media such as videos or pictures, and other information sharing. Users can also send private messages to each other within the site. Facebook also has photo-sharing functionality, and a wide range of optional mini-programs that users can choose to access. Organisations can create pages of information within the site about themselves, where they can also post messages, to communicate with users who register an interest with that organisation.

Facebook is not the first site that has used this model whereby users create a page of information within the site, then link to other users. Similar predecessors are numerous but include MySpace, Friendster and others. What makes Facebook different from its predecessors is its immense popularity, unmatched by previous social networking sites. At the time of writing, Facebook states that it has over 500million registered individual users (Facebook Inc., 2011) and in April 2011 it was reported that half the UK population (more than 30million people) have created profiles on the site (Barnett, 2011).

## **4.3 Facebook Apps**

The Facebook site gives clear instructions on how developers can build programs that plug-in to be played via the main site (Facebook Developers, 2011). These plug-in programs such as games are known as apps. To add to Facebook, a developer provides a URL to a site, which is

then loaded into a frame known as a Canvas Page within Facebook. When a player requests the Canvas Page, Facebook loads the target URL into a frame (specifically, an iframe enabling the embedding of a website within a website).

The Facebook Developers page (2011) provides clear details on integrating data and functionality from the main Facebook site within apps using PHP and other languages. For example, when a player first accesses the game via Facebook they must “authorise” the app using an in-browser button. Facebook Developers (2011) provides clear instructions for this process using PHP.

Other documented functionality of the Facebook API includes sharing game information on a player’s Facebook wall, or using Requests. Requests manage interactions between players, such as sending messages from players to their Facebook friends to start playing the game, or to take specific action such as undertaking a particular supporter challenge for a charity. This integration of apps with the main site could also be exploited to facilitate NFPs’ in-game rewarding of player Facebook actions (such as posting a news item on their Wall).

To understand the process taking place when a user runs an app, it is possible to think of the frame as a website-within-a-website. The Facebook site continues running, but the content within the frame (i.e. the app) is loaded directly from the URL given during creation of the app. Most server-side requests take place on the external URL, with user information passed back and forth between the app and Facebook when required (Feiler, 2008, pp. 146). Facebook previously used its own markup language (FBML) and parsed apps written with this into HTML and JavaScript (Feiler, 2008, pp. 145) but Facebook is now in the process of deprecating FBML in favour of using iframes and integration via the Facebook API tools.

The iframe, and frames in general, are not generally considered to be considered “good practice” when designing websites and the use of frames in website was even at one time discouraged by the W3C (Castro, 2003, pp. 241). There are various reasons why frames are considered to be “poor practice” in designing websites, including that frames affect the back button functionality of browsers, that frames are implemented in different ways by different browsers, that search engines may link to the contents a frame that is not intended to be viewed as a stand-alone, and that documents in a frameset may be difficult to bookmark (Niederst Robbins, 2006). However, as this is the only method by which new apps can now be added to Facebook, the use of frames (specifically, the iframe) cannot be avoided for this proposed system.

#### **4.4 Client-server architecture**

To create a dynamic website storing information both during and between sessions, various elements are needed. First, there needs to be some form of database technology. Second, there needs to be a web server. Third, there needs to be some form of server-side scripting, which allows stored information to be called from and sent to the databases(s). Fourth, there needs to be client-side scripting. There are a number of well-established technologies that manage the creation of responsive, data-driven websites.

To understand what is meant by server-side scripting and client-side scripting, it is necessary to understand what is meant by client and server. Traditionally, websites are delivered by providers and accessed by users using a 2-tier architecture referred to as the client-server model and facilitated by a computer network. The “server” refers to one or more programs

running on machine holding stored information such as a database. The server usually runs on a machine that is permanently both switched on and linked to the network, and the server waits to receive requests for information. The “client” programs – which may be running on many different machines simultaneously – send requests via the network to access the remotely-run processes and data. For example, a client might send a request for specific data from the database via the internet, and then render it in a display format back on the client machine. The overall workload is distributed between the client and server. Figure 5 illustrates what happens when a user types a request for a web page into a web browser.

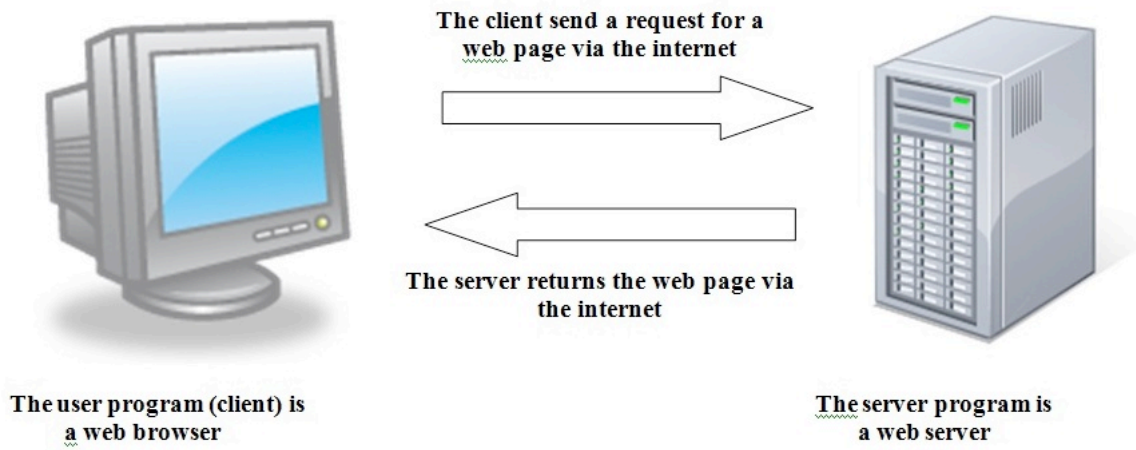


Figure 5: The client-server model of the internet

As discussed in section 4.3, however, the Facebook site use iframes to deliver apps, and the resulting model is therefore more complex. The ways in which the client makes calls to the two separate servers (the main Facebook site server and the app server), and the way in which JavaScript (see section 4.7) makes calls to Facebook server, are illustrated by Figure 6.

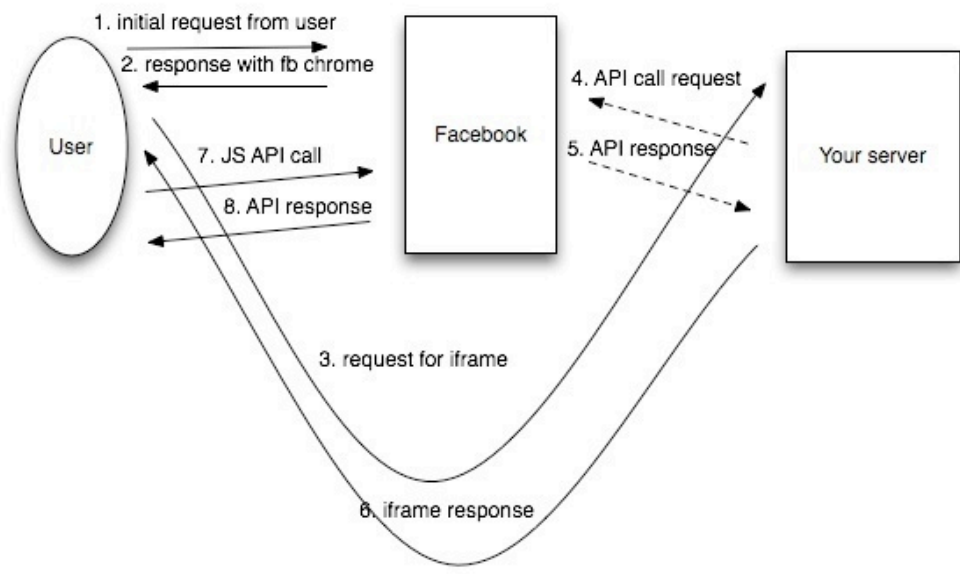


Figure 6. A diagram showing calls from the AmazingStoke player (“User”) to the Facebook server and the AmazingStoke server (“Your server”). JS denotes JavaScript. Taken from Facebook Developers (2011).

#### 4.5 Scalability in web-based systems

When designing a web-based system where it is hoped that large numbers of people access the system simultaneously, it is important to consider how the system will cope with increasing demand on the server technologies (i.e. scalability). With a system that also relies heavily on a database (such as *AmazingStoke*), it is also important to consider how the storage capacity of the database can be increased gracefully.

Increasing capacity for a web-based system includes both technical requirements (i.e. more web servers) and functional requirements (i.e. programming to manage the increasingly distributed system). In an interview with *High Scalability* website, Luke Rajlich of Zynga Games talked about some of the challenges of scaling *FarmVille* on the Facebook platform, given that *FarmVille* had 1million daily players four days after its launch, and 10million after 60 days (Hoff, 2010). Some of the key issues that were noted when with efficiently scaling the online game included:

- that web games can require more “writes” to the database than other types of dynamic web systems, meaning commonly used architectures may not be sufficient
- that scaling can be assisted by designing the system in terms of “components”, i.e. functionality is degradable, allowing non-core features to “turned off” at peak demand times
- that caching Facebook data rather than sending each request uniquely to cuts down on demand on servers (Hoff, 2010).

Technical requirements can be assisted by the use of scalable cloud computing technologies such as, for example, Amazon Elastic Compute Cloud (EC2), part of Amazon Web Services (AWS, 2011). By renting virtual machines to run a system’s server applications, EC2 handles increased demand by automatically increasing server capacity as required, and charging on a flexible usage basis. Similar solutions include Windows Azure (Microsoft, 2011) and others.

In terms of functional requirements, it may be necessary to design systems in such as away as to make partitioning of different data work efficiently. However various organisations now offer an integrated hosting service to handle web systems with the extremely rapid growth associated with Facebook apps (such as *FarmVille* or the proposed *AmazingStoke* system). For example, cloud computing platform Heroku has specific experience of hosting Facebook apps and can manage the partitioning of databases for their customers, meaning that the developer does not have program with these scaling issues in mind (Heroku, 2011).

Efficient scaling for web systems is a complex issue that will be explored in more detail as part of this project.

#### 4.6 Solution stack

When developing a software solution that uses multiple components, such as this proposed web-based game, it can be extremely useful to make use of a solution stack, or pre-existing package which bundles together key parts of the system and manages their integration. With web applications, a popular solution stack is a WAMP/LAMP package (standing for Windows, Apache, MySQL and PHP or Linux, Apache, MySQL and PHP, depending on the operating system.) A WAMP or LAMP package binds the named programs together as a development environment on one machine so that they do not need to be set up separately (Nixon, 2009, pp. 14). Use of a WAMP or LAMP package will significantly simplify and

speed up the building of a system that uses a range of different components. The individual components of a WAMP or LAMP package are described in the next section (4.7).

#### 4.7 WAMP Components

Scripting languages are a key component to responsive responses. The World Wide Web Consortium (W3C)<sup>2</sup> describes scripts as sections of program code that are not compiled prior to runtime (W3C, 2010). Server-side scripting is used with content delivered dynamically from the server to a website. It is commonly used to allow information to be downloaded to websites from server-side databases such as MySQL. Client-side scripting, such as JavaScript, is used when events triggered by a user interacting with a site changes the webpage. JavaScript can also allow elements of a website to change according to user interaction without having to refresh the entire page and all its elements every time, a process known as Asynchronous JavaScript And XML, or Ajax (W3C, 2010).

Ajax is a term applied to a range of technologies that work together to allow new information being requested from the server and loaded into the client without needing reload an entire page, thus creating a faster and more seamless experience for the user. Figure 7 helps to illustrate how Ajax works in comparison the basic client-server model described previously.

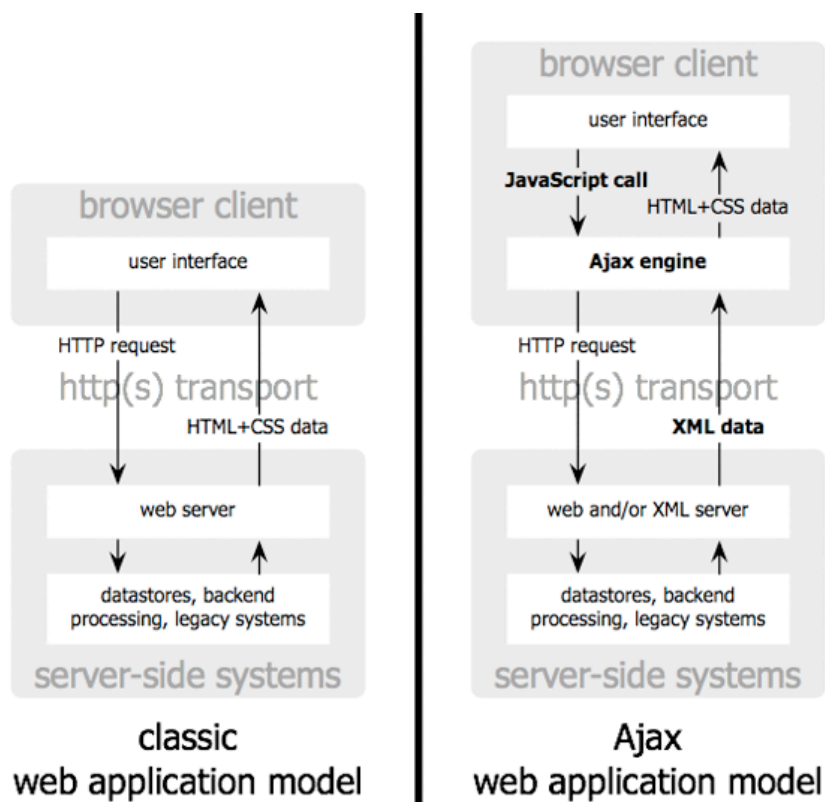


Figure 7. Client-server model compared with Ajax model.  
 Taken from James Garrett (2005)

In developing the *AmazingStoke* system, one clear use for Ajax could be the placing of a building on a map by a player. Using Ajax, the single element represented by one box on the

<sup>2</sup> The W3C is an international community seeking to create best practice for web design.

map is updated on both the client and the server, without the necessity of reloading the entire page. In Figure 7, the server-side technology shown refers largely the app server, not the main Facebook site which may be considered as a separate program that simply appears to be same due to the use of iframe.

PHP is one of various possible server-side scripting languages. It is the language used to code the main Facebook site (Feiler, 2008, pp. xvii), and as such apps programmed in this language seem to have a particularly well supported integration into the main site. There are many examples of code given on the Facebook Developers site are written in PHP. Other potentially appropriate scripting languages (which can also be supported by different WAMPs via the use of additional plug-ins) include Python and Perl, both of which are commonly used in the development of dynamic websites. However, PHP's wide usage by developers, and its well-documented integration with MySQL and Facebook suggest it to me as a good choice for the *AmazingStoke* proposed system.

JavaScript is an object-oriented language frequently used for client-side scripting of websites. It is a mature and well-documented scripting language with clear integration into Facebook. As a relatively new programmer looking to create a reliable system, it seems logical to choose this widely used language for client-side scripting in this proposed system.

MySQL, an established open source database technology with mature integration to web technologies, will be used. As with PHP, MySQL is a key technology used in the main Facebook site (Feiler, 2008, pp. xvii). As the data related to the *AmazingStoke* proposed system should be representational in relational form, and having studied SQL (Structured Query Language) and relational databases as part of this MSc, this seemed the obvious choice of database technology.

For web server, the proposed system will use the Apache HTTP web server software, an open-source HTTP server for Windows and UNIX-based computers. As explained in 4.4, the server software is the interface that receives requests from the client software (user), finds the requested information from stored files, and transmits it back across the network. Apache offers a mature, popular and well-documented solution for web serving. According to the Apache HTTP Server Project (the developers of the server software), Apache is the world's most popular web server software, with more than 120million Internet servers were using Apache software as of April 2010 (Apache HTTP Server Project, 2011).

There are several possible WAMP / LAMP packages that are available as free downloads. At this stage the intention for this project is to use EasyPHP, a free package documented extensively by Nixon (2010, pp. 14-18).

#### **4.8 IDE (Integrated Development Environment)**

An IDE (Integrated Development Environment) is a software application that provides a wide range of features to assist software developers when programming, such as a source code editor and a compiler / interpreter. It is my intention to use Netbeans, a free open-source IDE which supports PHP and which has been used during the MSc course, as an IDE in developing the proposed system.

## 5. Testing

Testing of the *AmazingStoke* proposed system will comprise two distinct areas:

- Unit testing
- User testing

### 5.1 Unit Testing

Unit testing will involve testing individual units of source code for both syntax and logic errors. Tests cases are written to check individual sections of code (usually a class or a method), and the unit tests should be written prior to or alongside the code to check it throughout the development. Various pieces of software are available for unit testing of web applications, and selection of an appropriate tool for unit testing will be a part of the development of the proposed system.

### 5.2 User Testing

User testing, or functional testing, involves checking functionality and usability (as well as picking up bugs) of the proposed system, to ensure it is delivering the required outcomes. Programs such as the Selenium suite facilitate testing for multiple web languages across different browsers. User testing will be an important part of this project. It will be very important that users can easily understand the *AmazingStoke* system and learn to use it quickly to ensure that the system could succeed in the real world. For example, the game *FarmVille* with its enormous success comes with no instruction manual for players – the game is learned through using, with simple pop-up instructions appearing whenever a different part of the game is accessed for the first time. It is clear that users will comprise two distinct groups – players and NFPs. The results of the questionnaire provide some clear criteria for “success” of the system in user testing.

#### 5.2.1 User Testing - Players

For players, key success points for the system could be:

- Do the basic mechanisms of logging in to the game, finding and registering for supporter challenges, submitting proof of completed supporter challenges, spending *MarvelMoney* and placing buildings on the map work correctly, saving the user information between sessions?
- Is it easy for users to find out more about NFPs who have registered supporter challenges? This was given the joint highest importance rating of 4.33 out of 5 by NFPs answering the questionnaire (see Appendix), and it is clear that the game will not be delivering its intended outcomes if players are unaware of the NFPs using the system.
- Is the game fun to play? This was given the second highest importance rating of 4.17 out of 5 by questionnaire respondents. “Fun” will be measured via a series of questions on how engaged they are by the gameplay, whether they find the list of challenges interesting and inspiring, and other criteria to be decided.
- Is it easy for a player to sign up for an account via Facebook? This was given a high importance rating (4.08 out of 5) by NFPs answering the questionnaire (see Appendix)
- Is the game easy to understand, i.e. is it clear what players can achieve in the game, and how they go about it?
- Is the interface easy for players to learn?



### 5.2.2 User Testing - NFPs

The site will also need to be tested by NFPs. Several survey respondents, including national charity BAAF, have agreed to be involved as user testers for this proposed system. For NFPs, key success points for the system could be:

- Do the basic mechanisms of logging in to the site, loading new supporter challenges to the database, removing supporter challenges and verifying completed supporter challenges work correctly?
- Do NFPs understand how more advanced features of the site, such as requesting non-standard amounts of *MarvelMoney* to supporter challenges or registering for a user account, work?
- Is the site for NFPs easy to navigate, with clear and easy to learn functionality?
- If something is unclear when using the site, is it clear who the NFP can contact for support? Note that a full help section will not be written for this project due to time constraints, but would be an important component of a live system.

It is important to this system that it has been tested by both user groups. A successful system will be one that delivers the functionality described above, is easy to learn and reliable to use. User testing will take the form of introducing users to the software, and having them work through a series of pre-designed tasks to see whether the site works as planned, and whether additional questions or issues arise. This could either be carried out face-to-face or remotely.

Planning time to develop unit tests, and allow for user testing sessions, will be important in developing the overall timetable of development for *AmazingStoke* proposed system.

## 6. Proposed Timetable

Time required	Project Tasks
0.5 weeks	Setting up WAMP and development tools
1 week	Studying PHP, MySQL, JavaScript using Nixon's book Practicing with Facebook API
0.5 week	Set up databases
2 weeks	Develop simple web-based interface for players to create accounts and place buildings on maps
1 week	Develop simple web-based interface for NFP organisations to load challenges for supporters
1 week	Develop mechanisms for players to select supporter challenges via web interface
1 week	Develop mechanisms for NFPs to authenticate completed supporter challenges via web interface
1 week	Add in social networking features: ability for players to link to each other as friends, in-game messaging system and challenge-setting system
0.5 week	Develop "leader board" as part of Facebook app for players
1 week	Developer a pop-out browser-based game accessed by clicking one building in a town map
1.5 weeks	Project report writing
1 week	Project report re-writing

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## Appendix: Questionnaire Responses Summary

<b>1. Which of the following best describes your organisation?</b>		
	<b>Response Percent</b>	<b>Response Count</b>
<b>Animal charity or not-for-profit</b>	0.0%	0
<b>Education charity or not-for-profit</b>	10.0%	1
<b>Housing charity or not-for-profit</b>	0.0%	0
<b>Social Welfare charity or not-for-profit</b>	10.0%	1
<b>Arts, Culture, Heritage charity or not-for-profit</b>	10.0%	1
<b>Environment charity or not-for-profit</b>	10.0%	1
<b>International Development charity or not-for-profit</b>	0.0%	0
<b>Youth / Children and Community charity or not-for-profit</b>	10.0%	1
<b>Disability charity or not-for-profit</b>	10.0%	1
<b>Health / Medical charity or not-for-profit</b>	10.0%	1
<b>Religious charity or not-for-profit</b>	0.0%	0
<b>Other charity or not-for-profit</b>	<b>30.0%</b>	<b>3</b>
<b>Other</b> <ul style="list-style-type: none"> <li>• Disaster Relief</li> <li>• I work for an agency, but I've answered this on behalf of one of my NFP clients - in this instance, The Royal British Legion. They don't really fit neatly into any of the above categories although they definitely work across several of them.</li> <li>• Communications agency, working only on sustainability (both social and environmental) projects for NFP's, government and business</li> <li>• Human rights</li> </ul>		

<b>2. Which social media does your NFP use to communicate with its individual supporters?</b>		
	<b>Response Percent</b>	<b>Response Count</b>
<b>Bebo</b>	0.0%	0
<b>Blogger</b>	16.7%	2
<b>Facebook</b>	<b>75.0%</b>	<b>9</b>
<b>Flickr</b>	25.0%	3
<b>Foursquare</b>	8.3%	1
<b>MySpace</b>	0.0%	0
<b>Tumblr</b>	8.3%	1
<b>Twitter</b>	66.7%	8
<b>Wordpress</b>	25.0%	3
<b>YouTube</b>	66.7%	8
<b>None of the above</b>	25.0%	3
<b>Other</b> <ul style="list-style-type: none"> <li>• Scribd, Audio Boo, Bambuser, Linkdin and various discussion forums</li> <li>• Quora, other sustainability networks (such as 2 depress, Project Dirt)</li> </ul>		2

**3. How effective do you think your NFP is at using social media to communicate with its individual supporters?**

	<b>Response Percent</b>	<b>Response Count</b>
<b>very effective</b>	16.7%	2
<b>quite effective</b>	25.0%	3
<b>adequate</b>	16.7%	2
<b>could do more</b>	0.0%	0
<b>could do a lot more</b>	41.7%	5



**4. How likely do you think it is that your NFP's use of social media will increase?**

	<b>Response Percent</b>	<b>Response Count</b>
<b>very likely</b>	<b>58.3%</b>	<b>7</b>
<b>quite likely</b>	<b>41.7%</b>	<b>5</b>
<b>neither more or less likely</b>	<b>0.0%</b>	<b>0</b>
<b>quite unlikely</b>	<b>0.0%</b>	<b>0</b>
<b>very unlikely</b>	<b>0.0%</b>	<b>0</b>

**5. When deciding whether to use a new social media technology for your NFP, how important are the following to you? Please rate with 1 = least important, 5 = most important**

	Not important at all	Quite unimportant	Neither important nor unimportant	Quite important	Very important	N/A	Rating Average	Response Count
Low cost to the organisation	8.3% (1)	0.0% (0)	8.3% (1)	41.7% (5)	41.7% (5)	0.0% (0)	4.08	12
Low involvement of the organisation, i.e. not needing to check site regularly	25.0% (3)	0.0% (0)	33.3% (4)	33.3% (4)	8.3% (1)	0.0% (0)	3.00	12
Which other organisations are using the technology	16.7% (2)	16.7% (2)	25.0% (3)	33.3% (4)	8.3% (1)	0.0% (0)	3.00	12
Appropriate content, i.e. no material inappropriate for young people	0.0% (0)	8.3% (1)	33.3% (4)	25.0% (3)	33.3% (4)	0.0% (0)	3.83	12
User-friendly design	0.0% (0)	0.0% (0)	16.7% (2)	33.3% (4)	50.0% (6)	0.0% (0)	4.33	12
Information security and data protection	0.0% (0)	8.3% (1)	16.7% (2)	33.3% (4)	41.7% (5)	0.0% (0)	4.08	12

**5. When deciding whether to use a new social media technology for your NFP, how important are the following to you? Please rate with 1 = least important, 5 = most important**

Fun for users	0.0% (0)	0.0% (0)	16.7% (2)	<b>50.0%</b> (6)	33.3% (4)	0.0% (0)	4.17	12
Easy for users to find out more about organisation	0.0% (0)	0.0% (0)	16.7% (2)	33.3% (4)	<b>50.0%</b> (6)	0.0% (0)	4.33	12
Easy for charities to learn how to use	9.1% (1)	18.2% (2)	<b>36.4%</b> (4)	18.2% (2)	18.2% (2)	0.0% (0)	3.18	11
Large number of participating players	0.0% (0)	8.3% (1)	25.0% (3)	<b>33.3%</b> (4)	<b>33.3%</b> (4)	0.0% (0)	3.92	12
Good technical support	0.0% (0)	8.3% (1)	<b>41.7%</b> (5)	33.3% (4)	16.7% (2)	0.0% (0)	3.58	12
Input into the development of the site, i.e. where it is marketed, what audiences are targeted	0.0% (0)	16.7% (2)	<b>58.3%</b> (7)	0.0% (0)	25.0% (3)	0.0% (0)	3.33	12
Ability to control number of people contacting organisation	8.3% (1)	16.7% (2)	<b>58.3%</b> (7)	8.3% (1)	8.3% (1)	0.0% (0)	2.92	12

**5. When deciding whether to use a new social media technology for your NFP, how important are the following to you? Please rate with 1 = least important, 5 = most important**

Easy for organisation to sign up or cancel account	0.0% (0)	0.0% (0)	36.4% (4)	36.4% (4)	27.3% (3)	0.0% (0)	3.91	11
Easy for users to sign up or cancel account	0.0% (0)	0.0% (0)	25.0% (3)	41.7% (5)	33.3% (4)	0.0% (0)	4.08	12
<b>Other</b> <ul style="list-style-type: none"> <li>• Must serve target communities</li> <li>• 2nd point is wrong- for an effective SM strategy, you need lots of involvement. The sites users need to match the target audience of the campaign and the objectives must line up with the way in which users interact with a different platform.</li> </ul>								2

**6. Does your NFP ever use any form of game or competition to raise funds or interact with its individual supporters? This could include events such as fun runs, quiz nights, fancy dress or casual dress days at work, and sports days.**

	<b>Response Percent</b>	<b>Response Count</b>
<b>Yes</b>	<b>83.3%</b>	<b>10</b>
<b>No</b>	<b>16.7%</b>	<b>2</b>
<b>Not sure</b>	<b>0.0%</b>	<b>0</b>

**7. Online games and social networks involving game playing reach huge numbers of people. For example, the Facebook game FarmVille attracts up to 50 million active users every month. AmazingStoke is a new proposed online game for the charity and not-for-profit sector. Users would register on the website, then be able to “build” a town of houses which would be saved between visits to the site. It would have a high scores board for people whose towns have grown particularly well, and an RSS feed of participating organisation’s news and updates. In addition, players would be able to complete “real-world” actions to “grow” their town within the game. Such actions might include subscribing to an e-newsletter, fundraising a set amount of money, volunteering at a charity’s shop, or visiting a link to an online petition (they just have to visit, not sign the petition!) Do you think that online games could be an appropriate way to engage with new and existing supporters?**

	<b>Response Percent</b>	<b>Response Count</b>
<b>Yes</b>	<b>58.3%</b>	<b>7</b>
<b>No</b>	<b>8.3%</b>	<b>1</b>
<b>Not sure</b>	<b>33.3%</b>	<b>4</b>

**Other comments**

- It depends on the aims and goals of the organisation in question, as games may be appropriate for some but not for others. It also depends on a project-by-project basis.

**8. Many online games have an overlap with the “real” world of the players. For example, FarmVille allows you to add real-life friends as “neighbours” in the game. The online children’s game Build-A-Bearville allows children to play different parts of the game if they buy a certain toy in certain stores. Do you think that the concept of overlapping real-world actions for NFPs with an online game is appropriate?**

	<b>Response Percent</b>	<b>Response Count</b>
<b>Yes</b>	<b>66.7%</b>	<b>8</b>
<b>No</b>	<b>8.3%</b>	<b>1</b>
<b>Not sure</b>	<b>25.0%</b>	<b>3</b>
<b>Other comments</b> <ul style="list-style-type: none"> <li>• Depends on who the users are</li> <li>• Difficult with Anti-Slavery International's issue</li> </ul>		<b>2</b>

**9. Which of the following activities could you imagine rewarding volunteers for via a game for your NFP? Please select all that apply.**

	<b>Response Percent</b>	<b>Response Count</b>
<b>Online volunteering, e.g. online mentoring for your organisation, blogging or Tweeting for your organisation</b>	54.5%	6
<b>Real-world volunteering, e.g. events volunteer, working in a charity's shop</b>	54.5%	6
<b>Fundraising</b>	<b>81.8%</b>	<b>9</b>
<b>Media work for the charity, e.g. being a case study for an interview</b>	36.4%	4
<b>Becoming a supporter of the organisation, e.g. signing up to mailing lists, visiting the website</b>	54.5%	6
<b>Online assistance such as participating in an organisation's survey</b>	36.4%	4
<b>This would not be appropriate for my organisation</b>	18.2%	2
<b>Other</b> <ul style="list-style-type: none"> <li>• Other suggestions: like on facebook, check into a location (eg. charity shop), tweet a hashtag, comment on a blog, upload an image etc.</li> <li>• Taking an action</li> </ul>		3