Initial Plan: An implementation of an interactive annotation game on Facebook
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It should be noted that (1) contains a lot of background information that is referred to throughout this report, especially for the Project Description section. The reader is referred to this source for further details and information about the "ESP game" concept.

Project Description
Text labels for images are useful in applications such as image search or for use with screen readers for the visually impaired, but the task of selecting labels for images can be a difficult one due to the ambiguity of natural language (the same word may have different meanings and there may be more than one word to describe the same thing). Although computer vision techniques exist to work out what is in an image, these do not work well enough, and it would also be expensive to pay someone (or a group of people) to label images all day long (and it is debatable whether anyone would want to do so anyway). Therefore, the idea of the ESP game was created. In this game, two players are paired up, and they are each told to guess each other's labels for a particular image. The only thing the players have in common is the image they can see, with no way of communicating to each other. Both players provide labels until they agree on one, or if one of the players decides to pass on that image (or time runs out). Points are given when pairs agree on a label, which provides the motivation for the users to use the most likely interpretations of a given image. The idea is present in the ESP Game on the GWAP (Games With A Purpose) website, (2) in which it is used to label images, although the idea could be applied to other types of media for which metadata needs to be collected, such as text (Tweets could be an example) or music. My project specifically is to implement an ESP-type game as a Facebook application. This would allow users to not only play the game against others, but also see who else is playing the game and play against friends, which would contribute to the game's popularity and consequently a greater number of images to be labelled with potential commercial applications.

Project Aims and Objectives
Core aims:
o Create a Facebook game which allows for:
    o the tagging of images through the mechanism described above (these images I shall manually place in the game, although I will consider allowing for Facebook images to be included, for example)
    o timed games (for example, 2 minutes)
    o taboo words, which means that once a label has been successfully assigned (having passed the "good label threshold"), it shall appear on a list of taboo words that the players cannot use to assign to that particular image
o Allow users to play against friends (but need to think about the possibility of cheating)
o Implement a facility which means that if only one person is playing at a time, they can essentially "play" against someone who has already played before via playing through someone's guesses
o Simple posting to user's Timeline to recommend the game to a friend

(All but the Facebook-specific aims are the main features taken from the GWAP website's ESP Game. (2))

Optional aims:
o Leader board of high scores (possibly including "all time", "today", etc.) (and hence high score posts to the user's Timeline)
o Ranks applied to each user once they have passed a certain number of points (for example, Level 1, 2, etc.)
o The ability to review words assigned to each image at the end of the game

(Again, these ideas are taken from playing GWAP's ESP Game, (2) but in addition the leader board and rankings will allow users to see how their friends fare against themselves.)

In the interim report I shall include more detailed background information about previous work done concerning the idea of the ESP game, as well as information on previous implementations such as Luis von Ahn's ESP Game, (2) but also others. I shall also detail the context of the game and how its results can be useful. From this I will give my design of the system, including interface designs and basic algorithms, as well as justification on my choice of languages/technologies that I will use to develop the system. I will also give more information on the good label threshold and how I shall test the system on accuracy and enjoyableness. I also hope to have a basic mock-up of the system implemented.

In the final report I shall include any changes to the design (for example, if I had found a more efficient way of doing things), as well as important details on the implementation of the game (for example, code snippets which describe the most important functions of the system). Alongside this there will be testing results and an evaluation of the finished product. I will detail any future work (which shall include features I did not have time to include in my implementation as well as any ideas I came up with in the course of the project) and reflect on my learning during the project.

Work Plan
Next to each week is what I expect to complete by that week's end, but the final dates of completion may be +/- a few days:

Autumn Semester:

Week 3	Write up background/context (I have already done research on previous implementations of similar games), do research on language to use
Week 4	Do research on how Facebook features can be included, begin the user interface designs
Week 5	Have designs evaluated, improve on them if necessary, start writing up method
Week 6	Build template for game (i.e. simply set up the game on Facebook), collect images, set up website for game to be hosted on
Week 7	Finish writing up method section, with justifications
Week 8	Write conclusions, introduction, finish interim report
Week 9	Have database of images set up as appropriate
Week 10	Start coding main game template, including ability to show two images
Week 11	

Spring Semester:

Week 1	
Week 2	Code to allow guesses to be made and show list of guesses
Week 3	
Week 4	Code for points, bonuses for labelling a certain number of images

Week 5	Code for timed games, ability to pass, taboo words
Week 6	
Week 7	Finish implementation details section of final report, finish testing
Week 8	Finish testing results section of final report
Week 9	Reflection on learning, evaluation/conclusions
Week 10	
Week 11	

While going through the whole project, I shall be logging my work to help me when I am writing up the interim and final reports. The above work plan is simply an estimate of what I would need to complete and when, and could change as I go through the project, although I hope to stick to it as much as possible.

References
1. von Ahn, L and Dabbish, L. 2004. Labeling Images with a Computer Game. *ACM Conference on Human Factors in Computing Systems, CHI 2004.* Vienna, Austria, 24-29 April, 2004. pp 319 – 326.

2. *ESP Game* [Online]. [No date]. Available at:
http://www.gwap.com/gwap/gamesPreview/espgame/ [Accessed: 10th October 2012].