

6.883 – 5508 Problem Set 3

Due Wednesday March 8, 2006

It Boggles the Mind

1 background

Boggle is a game that consists of a 4x4 grid of letter cubes. The cubes are shaken and then they fall into the grid with each cube having one of its letters facing up. The goal of the game is to form as many words as possible, where the letters of a word must be connected in the grid, where connected means directly to the left, right, up or down. It is usually played with two people and a 3 minute timer. (You are free to vary the rules.)

There are several on-line and computer versions of the game that one can easily find.

2 Boggle: the contact sport

Cricketts and ipaqs will be used for the problem set. Two, three or even four beacons can be used to help locate the position of an ipaq.

The game is played in an open space that is virtually divided into a 4 by 4 grid. To select a letter, one must physically move to the location of the letter and then grab that letter.

The grid can be displayed on the iPaq (GTK is probably the easiest way to draw on the iPaq screen in Python). One's position should also be displayed.

Grabbing a letter can be done in several ways. One of the buttons can be pressed, a button on the screen, or a "backpack" can be used and one can shake the backpack to affect the accelerometers.

Some other mechanism is needed to indicate that a new word is starting. Once again, there are several ways to do this. One interesting way is to force a player to go outside the grid (and then click) in order to end a word. This adds to the physical challenge of the game.

3 Team work is allowed

Yes, two people can work together and even larger groups are allowed, but you should do more work.

4 what to hand in

The code obviously, and a writeup as to how the system works as well as what it takes to setup the game – and any assumptions about the environment.

It would be great if you could show the game in action, either via video or some other clever mechanism.