**Guidelines**

All **student entries** should be a maximum of 750 words and include the following information:

* **Objective** – What type of brief was set? Who was the target audience?
* **Strategy** – Explain the strategy behind the project. What brought you to this decision? What steps did you take to create this idea?
* **Execution** – How did you implement the project from start to finish? In what ways was your project innovative? How creative was the project?
* **Effectiveness** –  Describe the potential impact of this project. What possible business results could be achieved?

Please also describe what you have learnt as a result of your project (personal development, skills gained, success and potential improvements).

**Objective**

Many of the tasks we are faced with in our jobs (and personal lives), require some degree of information management. Whether it is in order to write a report, do research or simply looking for inspiration, we often turn to the internet (and increasingly less to paper-based media) to search for the information we need.

The effectiveness of our search, can be measured by the relationship between the amount of time we spend searching for it, and the amount of useful information found. To be successful in this task, we will need to find ways to shorten the time spent searching , while maximising the amount of useful information found. Or, in other words, maximise our ‘rate of gain’.

When we search for information, however, there are many different parameters that can influence our rate of success. One of these parameters is our familiarity with the kind of information we are searching for, another is our skill in using the searching tools themselves. For this reason, different individuals will have different searching abilities while searching for the same kind of information. If we want to investigate which strategies people apply while searching for information, irrespective of pre-existing abilities then, we would need to create a context in which all individuals can have the same starting conditions.

**Strategy**

To investigate user’s searching behaviour in an environment that is abstracted from any potentially biasing context we decided to design a game. This game, would merely simulate the actions and decisions users would be faced with while searching for information, while not actually present them with an information retrieval task. This is done for three reasons. The first one is that the game would allow us to put users on the same starting point, since previous insight on information retrieval would not be applicable. The second one is that having a game as an experimental platform would allow us to modify its parameters very easily in order to carry multiple experiments with different focus. Finally, a game would allow users to be presented with a familiar environment in which they can also have fun and possibly use the system for longer.

**Execution**

In Gold Digger, searching is represented by entering a mine. Examining one of the pieces of information we find and thereby acquiring useful information, is represented by digging one of the layers of the mine and obtaining gold. The amount of gold that the player is able to extract from a given mine, is determined by her ability to decide whether the mine is still profitable to dig in or if it’s better to move to a new mine instead, much in the same way we would decide to examine the list of links returned by a search engine one by one, or enter a new query instead. Because digging and moving both have a cost in time units, the player will need to find the most profitable way to act before the end of the day. Entering a mine also has cost, so players will need to make sure to acquire enough gold before the end of one day to be able to continue mining.

Players can purchase a variety of items that will allow them to gain more gold, dig at a lower cost, move at a lower cost or even be able to get clues on the profitability to dig in a mine. These items represent the ‘enrichment strategies’ we use while looking for information, for instance having different tabs open on a browser to quickly flick through different pages. Finally, players are also able to gain special achievements for their performance and be ranked in leaderboards.

**Effectiveness**

As we have seen, the ability to retrieve greater amounts of useful information in smaller amounts of time is increasingly relevant to our professional (and private) lives. Writing articles, reports, do market research, finding new ideas and solutions, all require searching for, finding, rearranging and manipulating information. Finding this information and make sense of it becomes every day more complicated and non-trivial, given the exponential rate at which this information is produced. With the data we can gather through Gold Digger we can look at the improvement of information retrieval techniques as well as designing content in which information is more readily available.

Gold Digger is now live and playable at:

<http://golddigger.pythonanywhere.com/>

More than 40 users have registered and a very large amount of (completely anonymised) data on their performance has been generated and is currently being processed.