Sustainable Software Engineering

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Software Engineering classes work with a client to develop solutions to real problems. This year the class worked with the organisers of the Dunedin 350 campaign. In groups, the class developed applications to engage visitors and raise understanding of sustainability issues. The finished systems were successfully deployed in a marquee during the 350 festival day.

A sustainable practitioner in computing has a double duty - to reduce the footprint of computing, and to use the intelligent environment as a force for good - to increase the handprint of information technology.

Students worked through an agile and iterative methodology to produce a diverse range of interactive solutions for the client.

Solutions included:

An application displaying handy tips each day.

An interactive website where people interested in the 350 project can see other people's responses to the goal of 350 via videos and forums.

A flash game where the player is tasked with reducing the amount of carbon in the atmosphere by typing words that show on the screen. If the player is able to keep the carbon levels below 350 for the required about of time then they

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will win the game, if they fail to keep the carbon levels under control the carbon will enter runaway effect

A questionnaire based game about the 350 organisation focusing on climate change. Each question when answered gives the user feedback on their answer and gives one or two helpful tips on how the user can do things daily / weekly /monthly to help slow carbon emissions into our atmosphere.

An interactive quiz game that teaches healthy eating habits and the importance of using locally grown products in keeping with the inaugural Spring Food Festival.

A challenge to promote the use of public transport through a space-invaders style game.

A fun, exciting challenge on a website, which lasts 14 days (350 hrs). Each day you are given a challenge and a question to answer.

A flash game where players are given a scenario for example, a backyard, a class room or some other industrial environment. Players must then attempt to remove or identify specific objects that could potentially be contributing to the high carbon levels without removing the ones that don't. By doing this, users will become more and more familiar with objects in a real environment that they should avoid or use less in order to reduce these high carbon emissions.