PROGRESS OUTCOME 4

Programming pizzas

Context

Students in a year 11 class have been investigating systems in local businesses. Their aim has been to identify a need for increased efficiency that a design intervention could meet. They would then develop a basic digital program to respond to this need.

Kyle has worked with a partner to design a program for a new local pizza business.

Insight 1: Design decisions

To help us understand the task, we completed a case study of the business. We wanted to know what it needed to function more efficiently so that we could apply our knowledge about systems thinking to program a digital solution.

We decided that the most logical solution was to design a program to track the volume of pizza toppings used and automatically produce a regular list of what needs to be ordered when levels fall below a set amount.

Insight 2: Construction and testing

We created the variables from the data the manager provided for each of the toppings, including how long each ingredient remained fresh compared with the amount that was typically used on particular days of the week. This meant we could use test data for developing our code.

We included actions (purchase of the toppings), conditions (logging the use of toppings from sales data), and conditional control loops that adjusted the data accordingly.

At this stage, we looked at the problem again and came up with some simple test code to check our solution. This helped us identify some further issues that needed to be addressed. After addressing these in our program plan, we started writing the code.

Insight 3: Meeting end-user requirements

Each time we made changes, we discussed them with the manager. This proved vital to the process of developing a successful program. We found we needed help with debugging, as at times it was overwhelming.

During testing the manager decided that the program needed to include sauces. But adding the tracking of sauces was problematic, because they were in liquid form and the code was set up to track volumes and weights. If we'd had more time, we could have done this, but our deadline didn't allow it.

The final program was successful in that the store manager could see at a glance what was being used and needed reordering and what was close to its use-by date to create specials.

We also tested the final outcome using data from our school food technology rooms. We found that the program was transferable and could be used for their tracking systems too.

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