



University
of Glasgow | School of
Computing Science

Team V - How Not To Kill Your Dog

Ross Adam
Andrew Gardner
Nicole Kearns
Mamas Nicolaou
Asset Sarsengaliyev

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Abstract

The abstract goes here

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Contents

1	Background	3
1.1	Investigation of Existing Artifacts	3
1.1.1	Medical Helper Applications	3
1.1.2	Revision Tools	4

Chapter 1

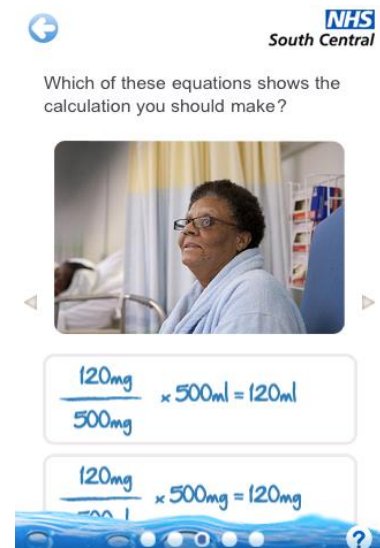
Background

1.1 Investigation of Existing Artifacts

There are a few similar tools and learning resources available for veterinary students. This section discusses some of the current tools and a few tools which our client, Dr Fiona Dowell, has shown us in order to give us an idea of what she wanted for the application.

1.1.1 Medical Helper Applications

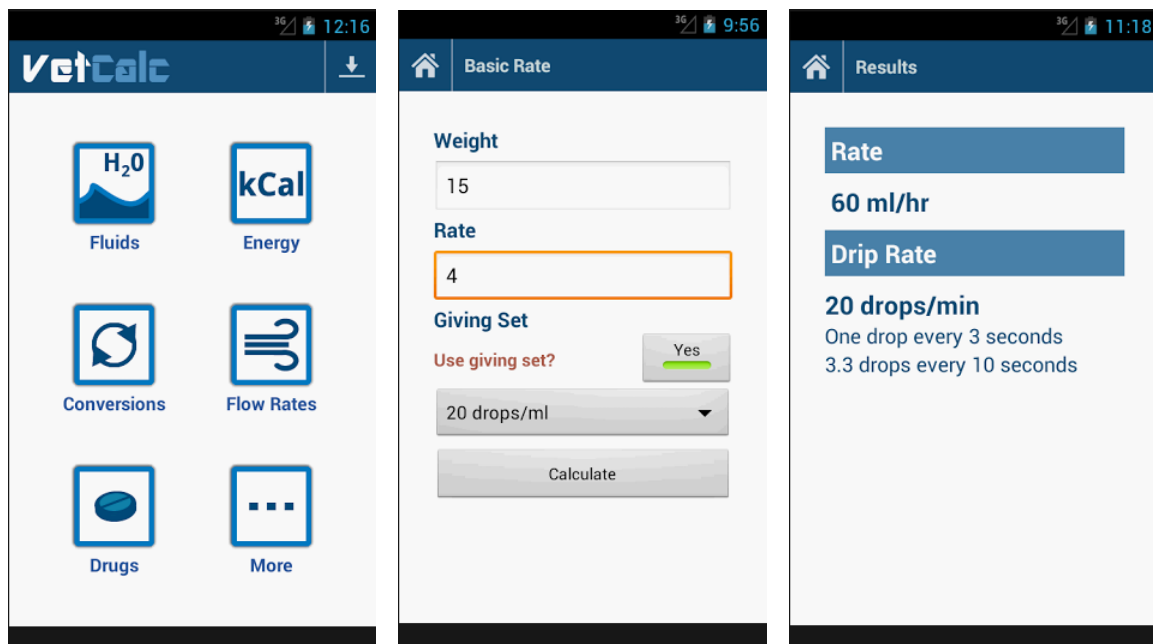
NHS Adult Drug Calculations



The NHS Adult Drug Calculations is a smartphone based learning tool aimed at nurses and midwives who are newly qualified or returning to practice. The tool allows the user to browse through different topics. Within each topic, there are a number of slides providing the user with the information and theory behind the calculations, and then has a few "Check your knowledge" slides containing multiple choice questions to test the user on what they have read. The interface is very

simple and easy to use. The main menu allows the user to simply select which topic they wish to go over. Within each topic, there are arrows on each page which will allow the user to navigate back and forward between the pages and there are breadcrumbs at the bottom of each page indicating how far through the topic they are. There is also an arrow at the top left-hand corner which will allow the user to return to the main menu at any point. One feature which is particularly useful to new users is the help button, which informs the user how to use the application. This application is very similar to the application which our client would like for the veterinary students.

Vet Calculator



VetCalc is an android based tool aimed at veterinarians, students, nurses and technicians, which allows the user to enter the necessary details, such as weight; dose; formulation; volume of fluid; etc. and will produce the result for the user. The interface for the vet calculator is very simple and easy to use. The menu is a simple grid-layout of different topics and sections for drug calculations. Within each topic, the user has to simply enter the necessary details into the clearly labelled text boxes and click 'Calculate' in order to get the result of the calculation. On each page, there is a home button which will easily allow the user to return to the main menu at any point. This application is useful for users who simply need to get the results of a calculation. However, our client wants an application that will teach the students how to carry out the calculations and not simply produce the result for them as they will need to know how to carry out these calculations throughout their career.

1.1.2 Revision Tools

Before designing our own application the team agreed that we should research existing tools for revision. The following were suggested as members had had some experience using them.

Bitesize

The Bitesize revision tool is a service provided by the BBC which operates in the user's web browser. It is a simple implementation of linked webpages that cover a variety of subjects from across the UK national curriculum. The team chose to research the Bitesize system because several of the Scottish Students had used it before and found it helpful for their studies at high school. First we decided to analyse how the content is displayed within the tool.

Figure 1.1: Bitesize Layout



Figure 1.1 shows the typical layout of a Bitesize page: each page of content is framed by the Bitesize logo (implemented as a clickable image that returns the user to the main page) and on the right of the screen is the index for various subjects allowing for quick navigation.

A consistent frame is a concept that Team V also wanted to achieve within our own design. Instead of a bitesize logo we would use the Veterinary School logo which would make our application appear more professional. Our index page will feature links to different topics for fast navigation for experienced users.

Figure 1.2 illustrates how each page is displayed in the tool. Content is simply loaded into the page in the center and navigation is achieved by clicking specific buttons. Our goal is to have a simple slider to sequentially navigate pages.

Figure 1.2: Bitesize Content

The screenshot shows the Bitesize website interface. On the left is a navigation menu with links to Home, Subjects (Biology, Chemistry, Computing Studies, Cruinn-eòlas, Eachdraidh, English, French, Gaelic, Gàidhlig, Geography, History, Maths I, Maths II, Modern Studies, Physical Education, Physics), and Games. Below the menu is a 'More Bitesize' section with a Facebook link. The main content area has an orange breadcrumb trail: Home > Computing Studies > Computer systems > Systems software. Below this is a blue header for 'Computing Studies' and a sub-header for 'Systems software'. A page navigation bar shows 'Page 1 | 2 | 3 | 4' and 'Back | Next' links. The main article is titled 'The need for translation' and is categorized as 'General'. The text explains that a translator changes a computer program from a high level language to machine code. It mentions that by loading different translator programs, a computer can seem to "understand" different high level languages such as **BASIC** and **Pascal**. It also states that translator programs are a very important part of the computer's **systems software**. A diagram illustrates the translation process: 'High level language' (with sub-points: 'Easy for programmer to understand' and 'Contains English words') is processed by a 'Translator program' to produce 'Machine code' (with sub-points: 'The computer's own language' and 'Binary numbers. All 1s and 0s'). At the bottom, there is another page navigation bar and a link to 'More from Computer systems'.

Hot Potatoes

The second system Team V assessed was Hot Potatoes, a simple quiz creation system that allows users to create online quizzes which they can then publish for other users to interact with.

Figure 1.3: Hot Potatoes Logo



The system itself is a comprehensive suite of features and programs that can produce different types of quizzes: multiple choice; image matching and several more.

The client has requested a system that includes questions which can be answered at the same time as the course content is being displayed. This would hopefully ensure the student retained the information better than simply reading the slides. Our system will only allow multiple choice

questions to be created.