IMAGE Software Mini-Guide

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Introduction to the IMAGE Case Presentation Manager

The IMAGE Case Presentation Manager provides access to simulated medical case encounters that have been designed to illustrate key aspects of geriatric care. Your role in these encounters is that of the geriatrician. The IMAGE Case Presentation Manager is intended for use by medical students as well as physicians.

The Design Team

The IMAGE Case Presentation system was developed by staff of the **Yale Integrated Model of Aging and Geriatric Education Project** (IMAGE), under the direction of **Dr. Margaret A. Drickamer** and funded by the **Donald W. Reynolds Foundation**.

The software development team consists of **Peter A. Charpentier** and **Katy L.B. Araujo**

The following individuals contributed to the development of the IMAGE cases:

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Current Version

The software version as of this writing is 1.18, which was released in January 2005.

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System requirements

Microsoft Access 2000/XP

The distributed version of the IMAGE Case Presentation Manager requires Microsoft Access 2000 or XP. Microsoft Access 2003 will probably work with IMAGE, but we haven't tested this version. If you do not have Microsoft Access, but would like to try the IMAGE software, we can send you an IMAGE setup CD that includes the "run time" version of Access XP. We have, however, encountered the occasional problem with run-time Access, so we encourage you to purchase a full copy.

Hardware

The IMAGE software is moderately memory-intensive, but will probably run fine on any Windows computer purchased within the last few years. We do suggest Windows 2000 or XP, a 500mHz+ CPU, and at least 256MB RAM. If your computer does not meet these recommendations, there's no harm in installing IMAGE; it will probably just run a bit slowly.

Software Installation

The IMAGE Case Presentation Manager software is distributed as a "self-extracting setup package" named **image_118.exe** that, when opened, will invoke a standard Windows setup procedure. You will have the opportunity to change the installation folder, but we don't recommend this unless you have a specific reason. The default software directory is **c:\program files\image**.

After installation, the program will be available from the program menu that you access via the Start button.

Alternate configurations

The distributed version of the IMAGE software is intended for installation as a stand-alone PC application. However, it is possible to partition the system into a shared "back-end" - the portion that includes case definitions and user response data - and "front-end" applications that are installed on individual PCs. In this way the IMAGE software can be operated on a local area network. However, Microsoft Access tends to get wobbly when more than a couple of users attempt to use the same back-end database. In such an environment it is a good idea to upgrade the Microsoft Access back-end to an SQL database, such as Microsoft SQL Server, Oracle, or MySQL (a Linux database system). We can provide technical information to help you carry out such an alternate configuration.

Running the Program

The IMAGE case presentation manager requires Microsoft Access 2000 or later. Microsoft Access is distributed as part of the Microsoft Office xxx Professional suite, where xxx = 2000, XP, 2002 or 2003 (XP and 2002 are equivalent).

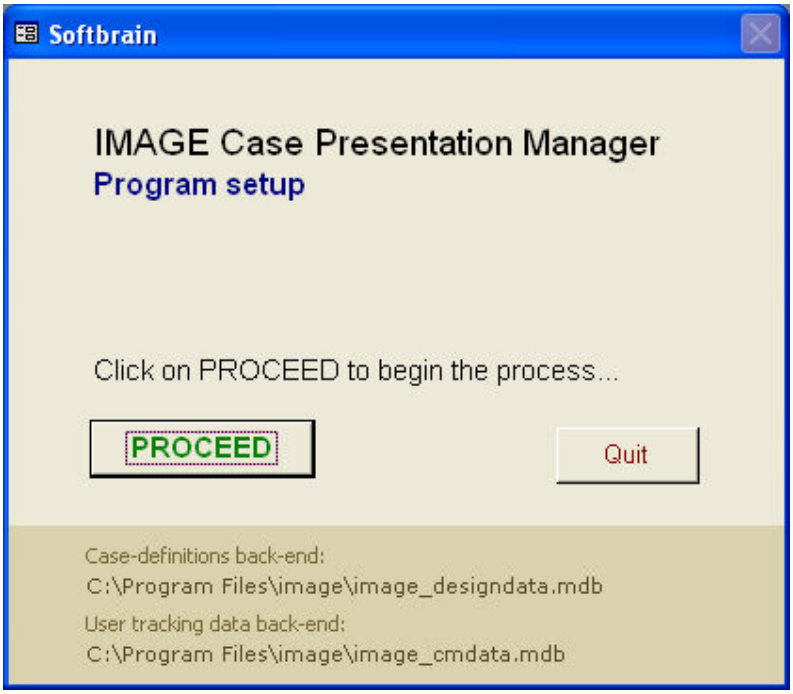
Assuming that Microsoft Access is installed, running IMAGE is like running any 'normal' Windows program: click on the *Start* button, then select *Programs*, then the *IMAGE* program group, then - finally - the IMAGE program (it will have a Microsoft Access icon: shame on us for not creating a custom icon yet!).

Another way to run IMAGE is to navigate to the program and open it. The main program is named **image.mdb**, and by default it will reside in a directory named **c:\program files\image**. You can also set up a shortcut on your desktop (c:\program files\image\image.mdb).

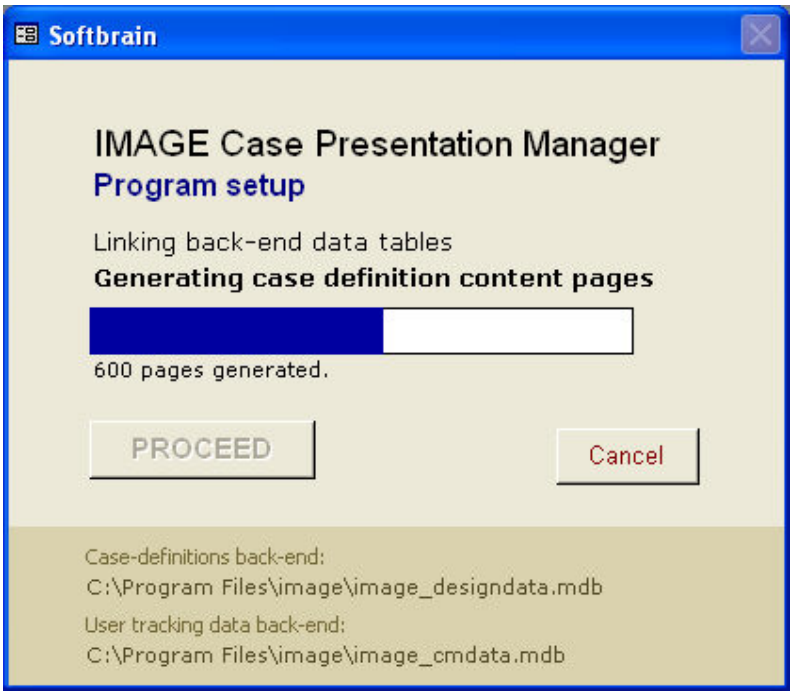
The remaining sections in this document are brief descriptions of the most important aspects of running IMAGE. A more fulsome user manual is in the works. Please do not hesitate to contact the IMAGE design team with any suggestions, comments or criticisms you may have.

The First Time

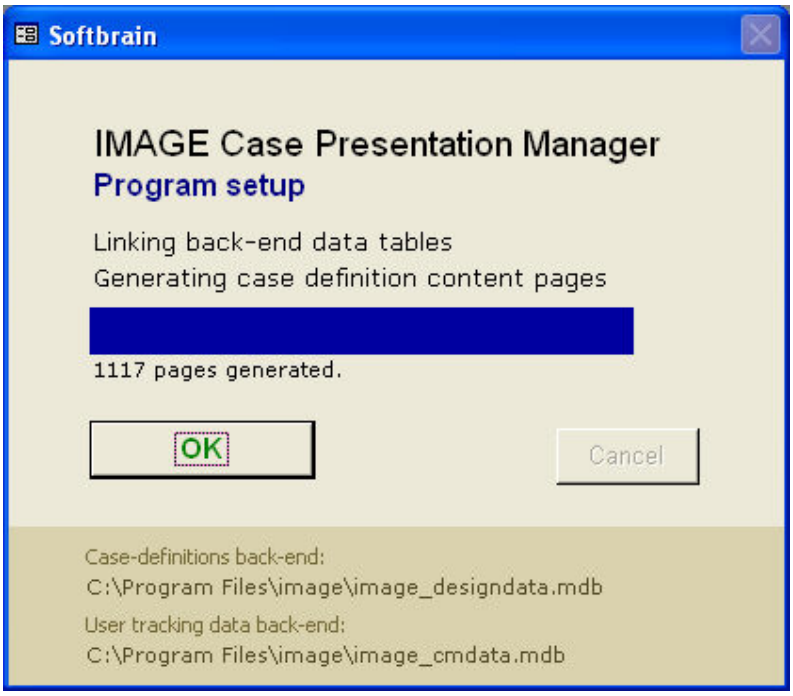
The first time you run IMAGE, a large amount of initial housekeeping will be carried out. First, the program will figure out where it's been installed, and connect itself to its 'back-end' databases where case definitions and user data are stored. Then, case definition content will be extracted from the database and used to generate HTML content pages that will accessed during case presentations. The initial setup screen is shown below. Clicking on **PROCEED** will start the process.



The following screenshot shows the setup screen during content generation. You can stop the process by clicking the Cancel button.



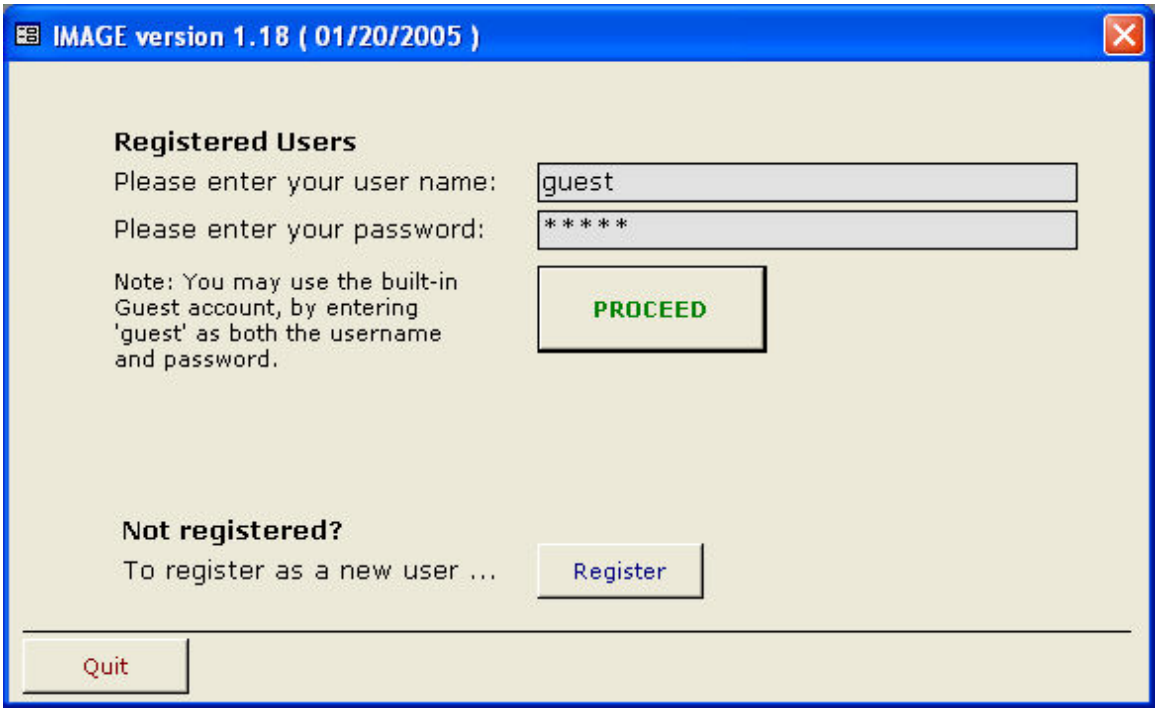
Upon housekeeping completion, the total count of generated pages will be displayed. At this point, the initial housekeeping is finished, and after clicking the **OK** button the Sign-In screen will load.



Sign-in

Before selecting an IMAGE case, you must first sign-in as a "registered user." You can either use the built-in *guest* account (user name = password = *guest*), or you can click the Register button and create a new account. IMAGE stores information that is organized by user account. This information includes all user responses and decisions, and even the complete navigation history through each case. By creating a new account for your personal use, you can always resume a case where you left off, and review all your choices at the various decision points - and also all of the feedback provided by the system in response to your choices. Of course, if you are the only person who will be using this particular copy of IMAGE, then using the built-in *guest* account will accomplish the same end.

Enter your user name and password, then click on the **Proceed** button.



Selecting an IMAGE case

After sign-in, you will be presented with a list of IMAGE cases, each designed to illustrate a particular aspect of geriatric care. Select the case that you would like to work through, and click the **Ok** button.

Note: If you would like to erase all the data stored under your user account for the selected case, check the Start Over checkbox.

The Cases

There are six cases included in the current version. These are briefly described below.

Mr. Smith introduces the learner to the complex differentiating dementia, decisional capacity, depression and elder abuse.

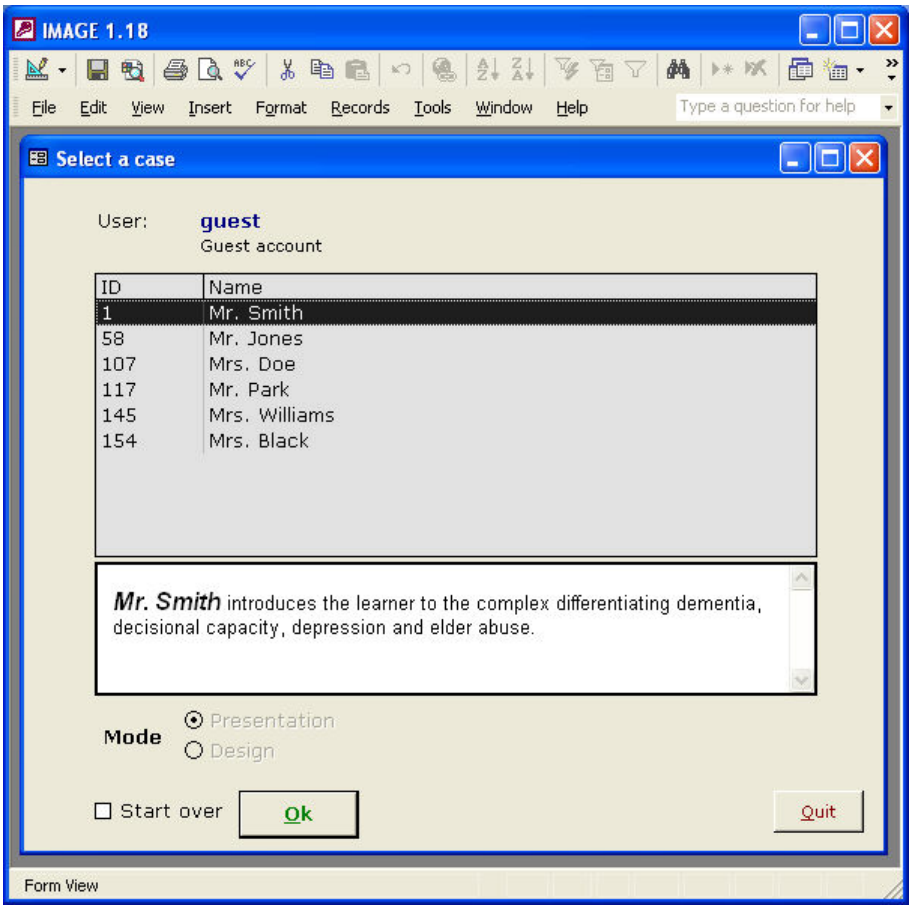
Mr. Jones is a case of a gentleman with a psychotic depression where the learner has an opportunity to follow him through multiple care settings learning of diagnostic and treatment options.

Mrs. Doe presents some of the challenges of gynecological care in the elderly and reviews gynecologic dermatology

Mr. Park introduces the learner to the differential diagnosis of parkinsonian and many of the pitfalls in diagnoses and treatment.

Mrs. Williams takes you through the gynecological, practical and ethical problems in diagnosing and treating gynecological problems in cognitively impaired elderly women

Mrs. Black is a case illustrating the differential; diagnosis of confusional state and psychiatric disorders in a patient on multiple medications.



The IMAGE Case Presentation Manager Screen

Below you will find a screenshot of the IMAGE Case Presentation Manager screen. It will suffice to illustrate the main parts of the Presentation Manager.

You might notice that the screen looks something like a web page displayed within a web browser. That is no accident: while this is an Access database application (or 'client,' if you will), we intentionally tried to give it the familiar look and feel of a web site application. In fact, most of the prompts, feedback, and explanatory materials are actually live HTML content, that can include hyperlinks to resources on the World Wide Web. It is not a stretch to say that the IMAGE Case Presentation Manager is a specialized HTML browser - a species of "Content Management System," or CMS.

Main Elements of the Case Presentation Manager

At the top left are two ***navigation buttons***. These can be used to move forward or backward through the case.

To the right of the navigation buttons is the ***navigation bar***. This is a drop-down list of the 'nodes' that comprise the case. You can think of a node as a page: it's a place at which you are presented with a set of decisions, choices or perhaps simply an explanatory prompt. You can use the navigation bar to quickly jump to any point in the case.

A note about navigation: The path through a case is not necessarily linear. Branchings can be determined by the choices you make, so that potentially no two users will follow the same route.

The middle portion of the screen is the ***prompt***. This is where a question might be posed, or instructions displayed.

Below the prompt will usually be a set of ***choices*** for you to make. Choices are checklist items that range from simple "yes / no" responses to comprehensive listings of possible diagnostic tests, medications, diagnoses, and so on. *Warning*: the set of choices is a *scrollable list*, so make sure you have inspected them all before making your selection(s). In the example shown below, there are 18 possible choices, but only four are displayed, so you must scroll down for the other choices.

If you make inappropriate choices, you will be so informed, and encouraged to revise and resubmit. The generated *feedback* (see below) will explain the problem.

The prompt and choices in the middle portion are flanked by three vital decision-support elements: the ***chart*** and ***feedback*** components on the left, and the ***resources list*** on the right.

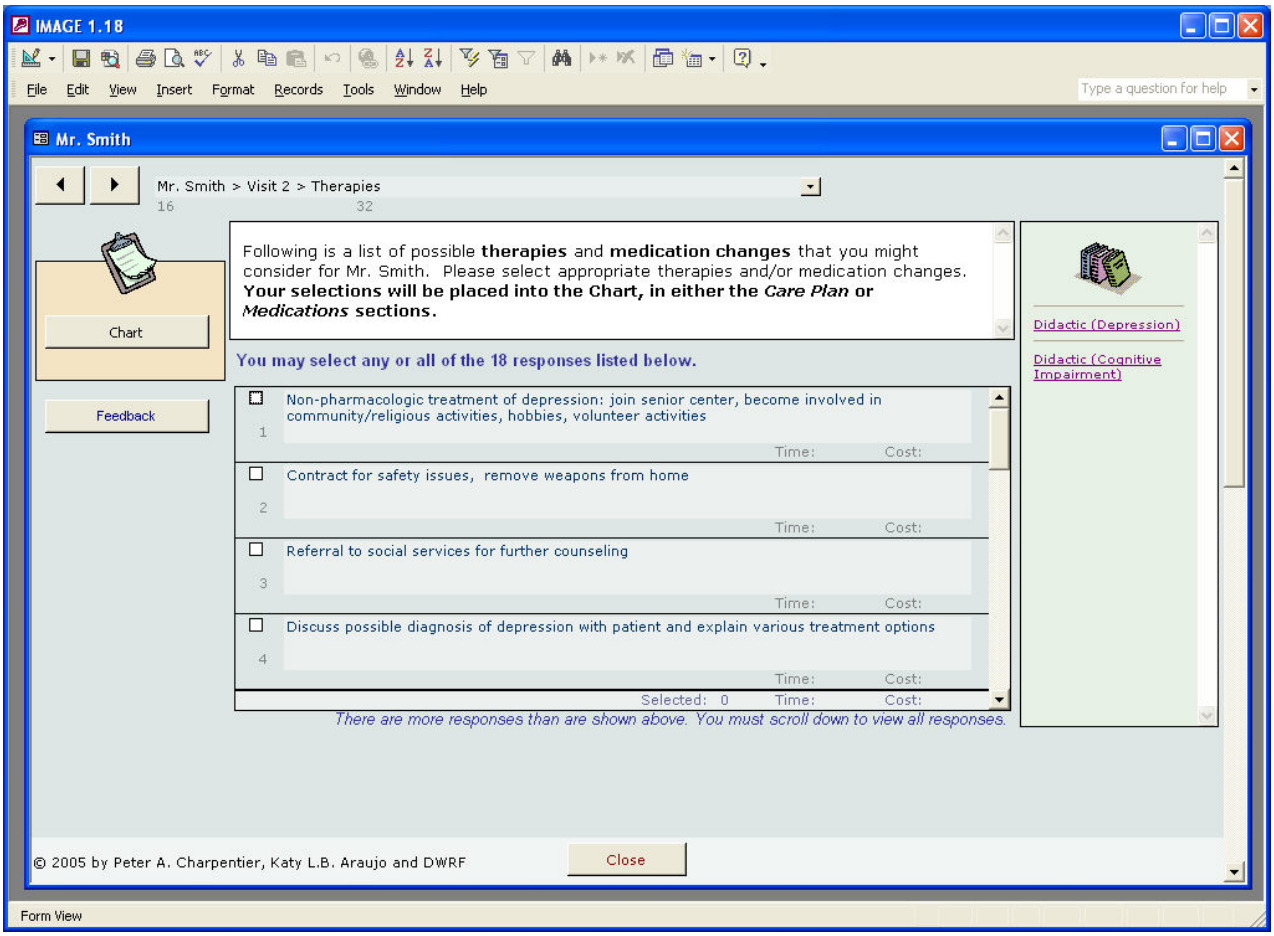
The ***chart*** is a collection of information about the case that has accumulated up to the current point in the case session. We have organized the chart into the following sections: Prior Visits; Patient Interview; Caregiver Interview; Exam; Medications; Care Plan; Tests; and Problem List. Click the Chart button to display the current chart. A screenshot of a sample chart is provided at the end of this topic.

The chart adapts to your choices as you proceed. For example, you might be asked top select an appropriate set of diagnostic tests from a list that includes both appropriate and inappropriate tests. The results for the selected tests will be sent to the chart, in the Exam section; and the case may be designed so that you won't be able to view the results until a later visit.

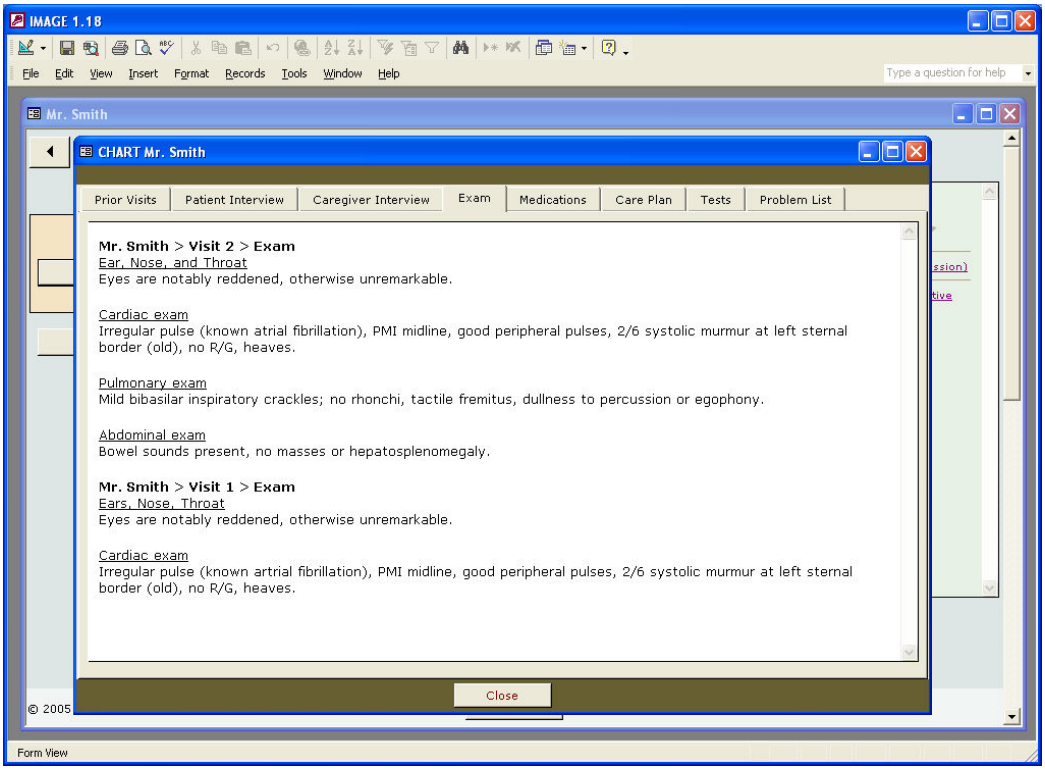
Feedback is commentary generated by the program in response to specific choices at the current node. If feedback is generated by your response(s), you will be asked to display it before advancing to the next node. You may also view feedback by clicking the feedback button that is just below the chart. NOTE: Feedback is given for both appropriate and inappropriate choices. A screenshot of a feedback example is shown below.

The ***resources list*** is a set of hyperlinks that will retrieve explanatory material relevant to the case. The list of available resources builds as you progress through the case, and can depend on your choices to the various prompts. Resources are actually HTML pages that are loaded into your web browser. Resources can include any type of live HTML content, including PubMed links, images, animations, and so on. In the example shown below, there are two resources available at this point in the case. A resource example - in this case, *Assessment of Cognitive Impairment* - is shown in a screenshot at the end of this section.

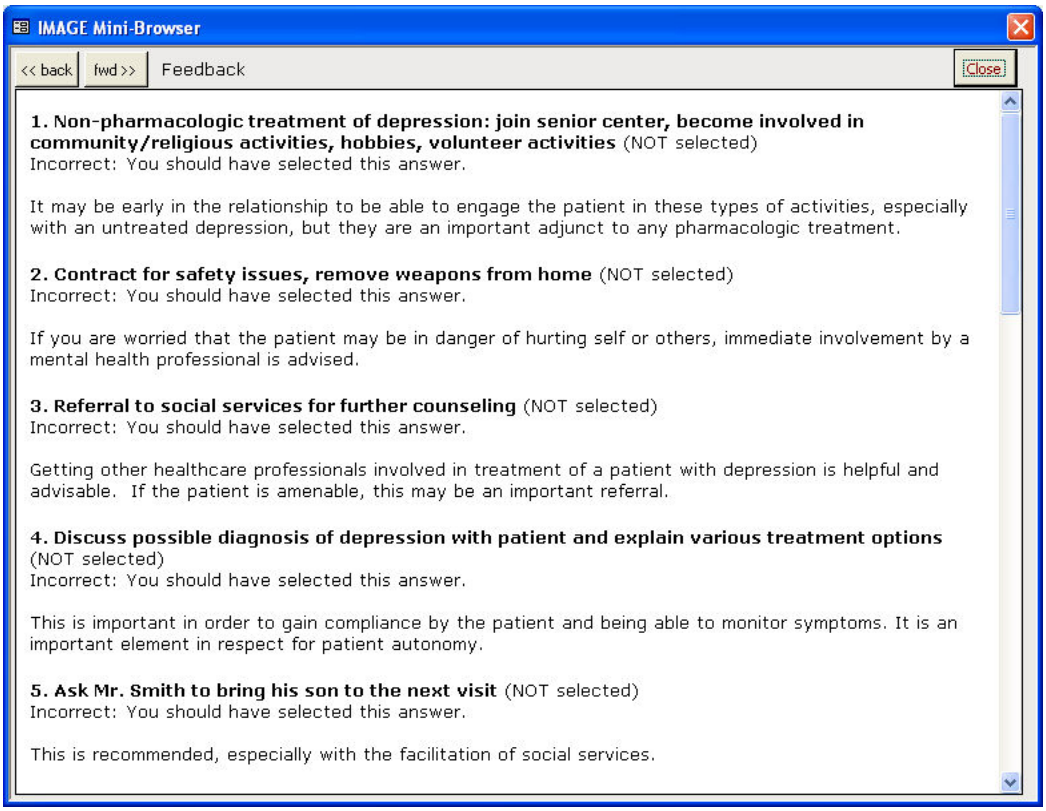
Screenshot 1: The IMAGE Case Presentation Screen



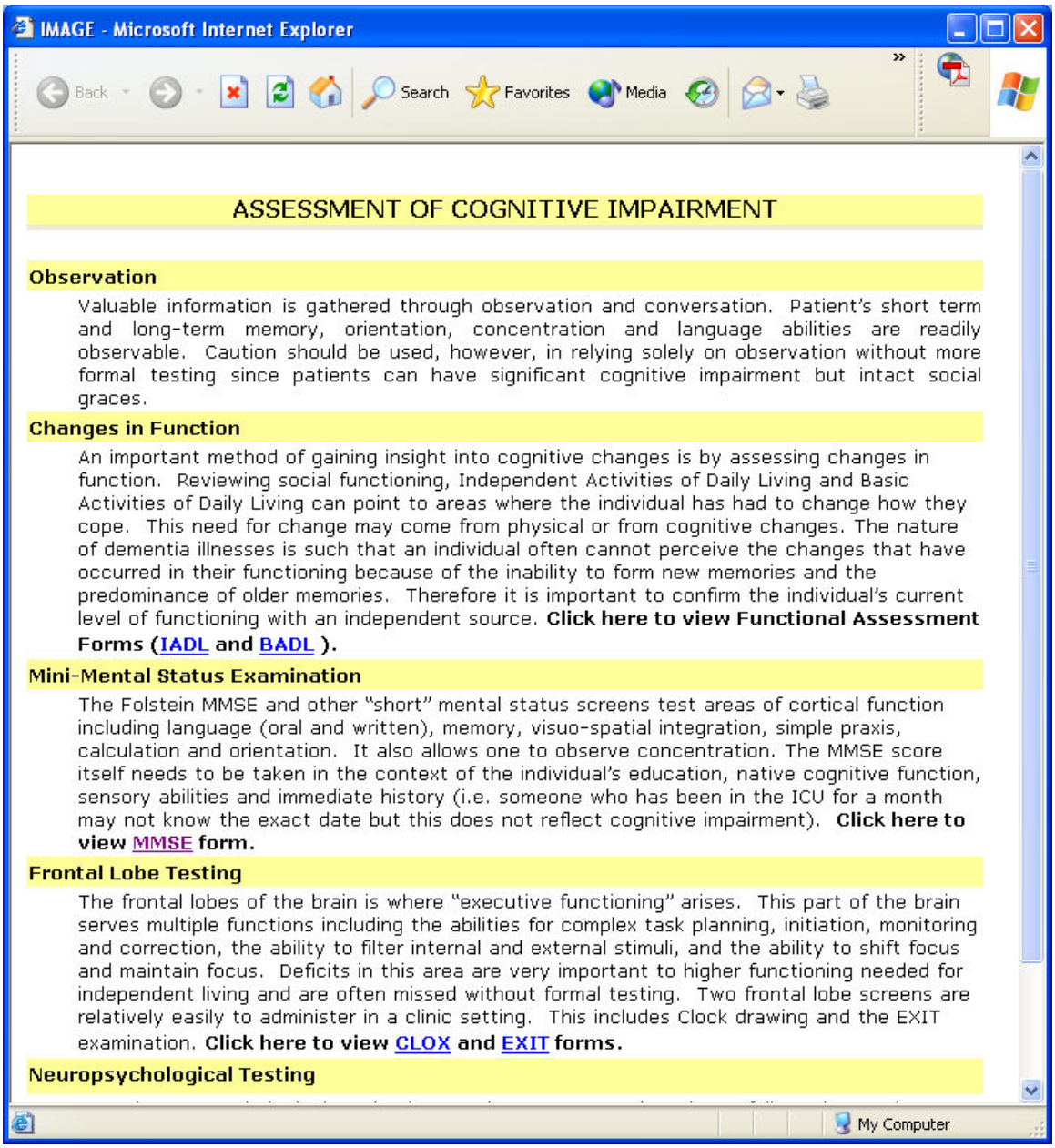
Screenshot 2: The Chart



Screenshot 3: Feedback Example



Screenshot 4: Resource Example



The KPF

What's a KPF? KPF stands for "Known Problem File." Here you will find bugs, anomalies and annoyances that have been reported to us and verified (and not fixed yet). Below is the current KPF.

1. ***Too many didactics in the Navigation Bar***. A "didactic" is a mini-lesson built into the system that can be made available to any case. Usually a didactic is triggered by a specific user response, but sometimes didactics are included as part of the normal pathway through the case. Anyway, the Navigation Bar - which is a tool used to quickly jump to any part in a case - always includes *all* of the didactics defined in the system, including didactics that are not part of the currently presented case. Version 1.18. Reported January 27, 2005.

Parts

The IMAGE Case Presentation Manager consists of several components, which are briefly described here. All of the files mentioned below are installed in the program directory, by default **c:\program files\image**.

Microsoft Access Databases

There are three Access databases, as follows:

Database file name	Description and discussion
image.mdb	The Case Presentation Manager *front-end*, or interface, or 'client,' if you will. This is where all the programming is located. IMAGE software updates will consist of replacing this database with the latest version.
image_designdata.mdb	The case definitions *back-end*. This is where the metadata that drive the Presentation Manager are located. We will periodically issue case design updates, in the form of replacements for this database. Eventually we will provide a means to download individual case updates over an Internet connection.
image_cmdata.mdb	User data, including user account information and detailed data about user responses.

Resource materials

During installation, a set of "resource materials" will be extracted and copied to your computer (in a subdirectory named **resources**). Resource materials are HTML pages and document files that are called by prompts, didactics, feedback or other case elements.

Generated Content

Most of the information displayed by the Case Presentation Manager is actually live HTML content. This content is stored within the case metadata in **image_designdata.mdb**. To make this content more readily available to the program (recall that the Case Presentation Manager is really a specialized HTML browser), it is extracted and stored as HTML pages in a subdirectory named **content**. In the current version (1.18) there are almost 1200 such pages.

Updates

IMAGE software and case definition updates will be posted to the POGOe web site.