

# PHP in a Whole New World

## Desktop Applications Built in PHP-GTK

# What Is PHP-GTK?

- PHP extension
- Language bindings for GTK+
- OO Interface to GTK+ classes
- Way to create cross-platform, portable GUI applications in PHP

# What Is GTK+?

- Stands for “GIMP Tool Kit”  
(originally developed for the GNU Image Manipulation Program, or GIMP)
- C library used to create graphical user interfaces
- Central part of Gnome desktop on Linux, but libraries ported to Windows

# Why PHP-GTK?

- Originally a proof-of-concept (inspired by PyGTK) to show that it could be done
- Because PHP isn't just for the Web anymore
- If you need a GUI application, why not use your favorite language?

# What this talk is not...

- Discussion on the GTK+ bindings that are the core of PHP-GTK
- Instructions on how to install PHP-GTK
- Introduction to PHP-GTK 2  
(that was yesterday and you missed it)

# Overview

- Tutorial: pedit
- Applications:
  - PHP-GTK Manual Browser
  - Tulip
  - Agata Report
  - Deep Dungeons RPG

# A Brief Tutorial: pedit

- pedit is a simple text editor
- It can open text files, modify, and save them
- It can copy, paste, and cut
- That's it--I said it's simple

# A Look At pedit

```

/Users/ramsey/pc/manualBrowser/WidgetHTML.php
File Edit
<?php
/*
+-----+
| PHP Version 4
+-----+
| Copyright (c) 1997-2002 The PHP Group
+-----+
| This source file is subject to version 2.02 of the PHP license,
| that is bundled with this package in the file LICENSE, and is
| available at through the world-wide-web at
| http://www.php.net/license/2_02.txt.
| If you did not receive a copy of the PHP license and are unable to
| obtain it through the world-wide-web, please send a note to
| license@php.net so we can mail you a copy immediately.
+-----+
| Author: Alan Knowles <alan@akbkhhome.com>
+-----+
*/
/**
 * WidgetHTML - the HTML rendering widget
 *
 * Displays HTML/web pages
 *
 * @author Alan Knowles <alan@akbkhhome.com>
 *
 * Christian Weiske did some extensions
 * (callbacks, file:// protocol, link tooltips, variable font size
 * and some other tweaks)
 * @author Christian Weiske <cweiske@cweiske.de>
 */
/*
Notes about this:
1. why is this all in one big class?

```

# The Code Behind pedit

```
<?php
if (!extension_loaded('gtk')) {
    dl('php_gtk.' . PHP_SHLIB_SUFFIX);
}
...
$w =& new GtkWindow();
$w->set_title('Untitled');
$w->set_usize(800, 600);
$w->connect_object('destroy', array('Gtk', 'main_quit'));
$w->connect('delete-event', create_function('', 'return false;'));
...
$w->show_all();

Gtk::main();
?>
```

# pedit's Menu Code

```
<?php
/* Application menu bar */
$menu =& new GtkMenuBar();
$box->pack_start($menu, false, false);

/* File menu */
$file =& new GtkMenuItem('File');
$menu->append($file);

$file_menu =& new GtkMenu();

...

$save =& new GtkMenuItem('Save');
$save->connect('activate', 'save_file');
$file_menu->append($save);
?>
```

# pedit's Text Editor Code

```
<?php
$text_area =& new GtkHBox();
$box->pack_start($text_area);

...
/* Editable text field */
$textpad =& new GtkText();
$textpad->set_editable(true);
$textpad->set_style($textpad_style);
$textpad->set_line_wrap(false);
$textpad->set_word_wrap(false);
$textpad->connect('changed', 'text_changed');
$text_area->pack_start($textpad);

/* Vertical scrollbar */
$textpad_vadj = $textpad->vadj;
$textpad_vscrollbar =& new GtkVScrollbar($textpad_vadj);
$text_area->pack_end($textpad_vscrollbar, false);
?>
```

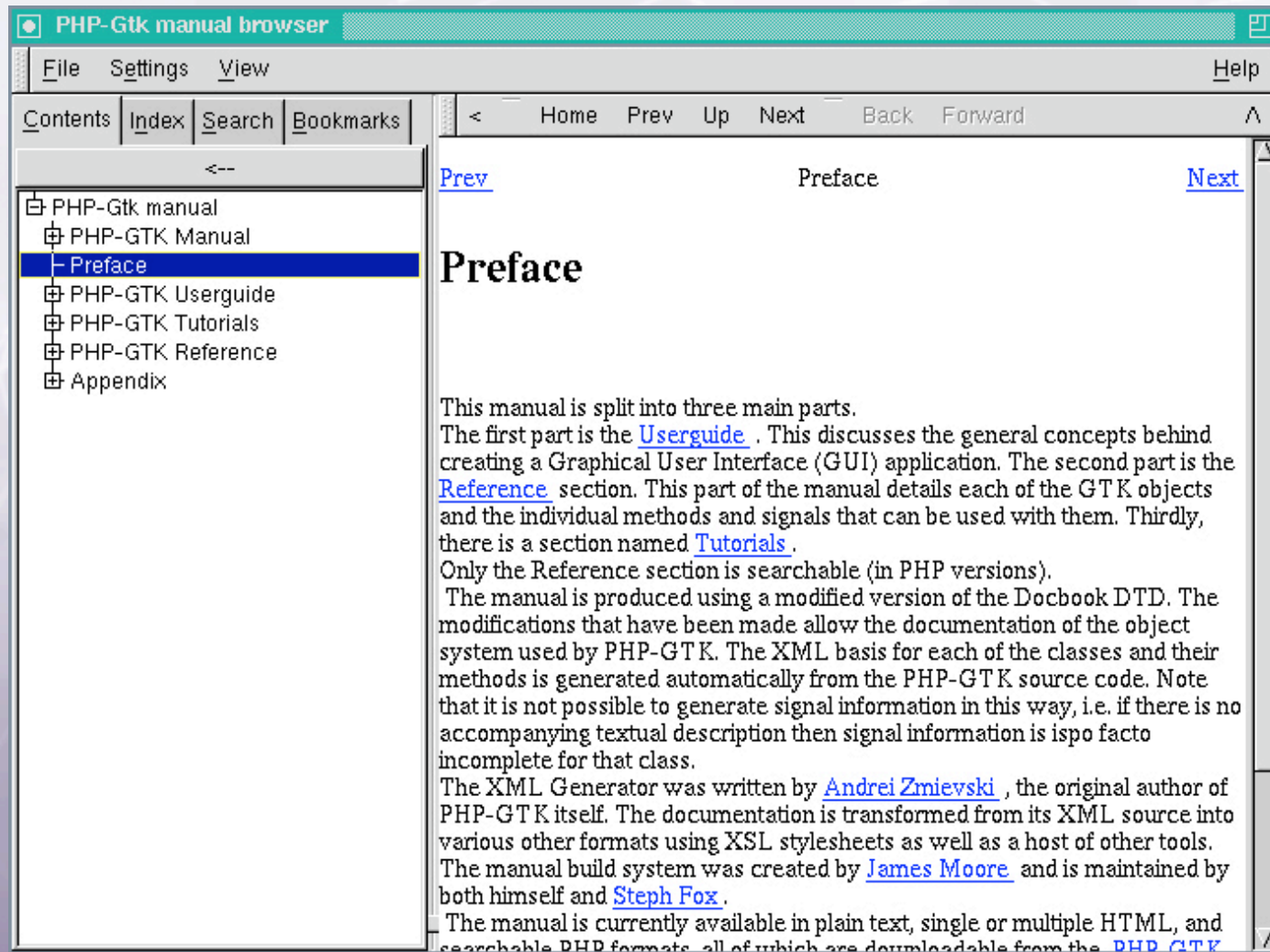
# pedit's Actions

```
<?php
function save_file()
{
    global $text_changed, $loaded_file, $textpad, $w;
    if (!is_null($loaded_file)) {
        $bytes = file_put_contents($loaded_file, $textpad->get_chars(0, -1));
        if ($bytes === false) {
            save_error_dialog();
        } else {
            $text_changed = false;
            $w->set_title($loaded_file);
        }
    }
    else
    {
        file_save_dialog();
    }
    return true;
}
?>
```

# PHP-GTK Manual Browser

- PHP-GTK application
- Allows you to easily browse the PHP-GTK manual
- Reads PHP-GTK manual HTML files and displays them, so it acts somewhat like a Web browser

# PHP-GTK Manual Browser



The screenshot shows a web browser window titled "PHP-Gtk manual browser". The browser has a menu bar with "File", "Settings", "View", and "Help". Below the menu bar is a navigation bar with buttons for "<", "Home", "Prev", "Up", "Next", "Back", "Forward", and "v". The main content area displays the "Preface" page, which includes a table of contents on the left and the main text of the preface on the right. The table of contents lists "PHP-Gtk manual", "PHP-GTK Manual", "Preface", "PHP-GTK Userguide", "PHP-GTK Tutorials", "PHP-GTK Reference", and "Appendix". The "Preface" page content includes a title "Preface" and several paragraphs of text describing the manual's structure and production process.

PHP-Gtk manual browser

File Settings View Help

Contents Index Search Bookmarks

< Home Prev Up Next Back Forward v

Prev Preface Next

## Preface

This manual is split into three main parts. The first part is the [Userguide](#). This discusses the general concepts behind creating a Graphical User Interface (GUI) application. The second part is the [Reference](#) section. This part of the manual details each of the GTK objects and the individual methods and signals that can be used with them. Thirdly, there is a section named [Tutorials](#).

Only the Reference section is searchable (in PHP versions).

The manual is produced using a modified version of the Docbook DTD. The modifications that have been made allow the documentation of the object system used by PHP-GTK. The XML basis for each of the classes and their methods is generated automatically from the PHP-GTK source code. Note that it is not possible to generate signal information in this way, i.e. if there is no accompanying textual description then signal information is ispo facto incomplete for that class.

The XML Generator was written by [Andrei Zmievski](#), the original author of PHP-GTK itself. The documentation is transformed from its XML source into various other formats using XSL stylesheets as well as a host of other tools. The manual build system was created by [James Moore](#) and is maintained by both himself and [Steph Fox](#).

The manual is currently available in plain text, single or multiple HTML, and searchable PHP formats, all of which are downloadable from the [PHP-GTK](#)

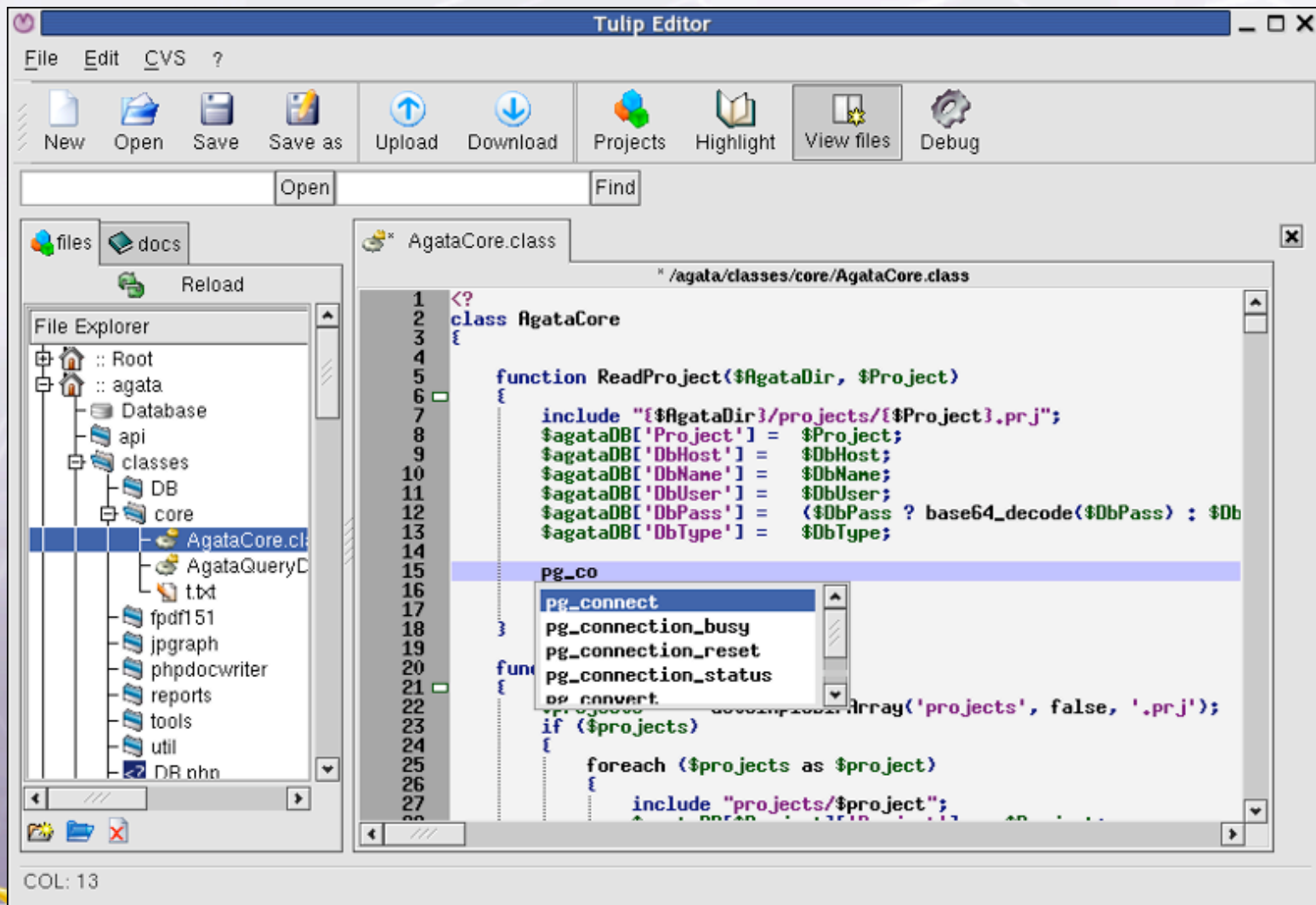
# Tulip

- PHP-GTK based IDE for writing PHP applications
- Allows you to set up projects
- CVS controls (create, modify, and remove files from a remote server seamlessly)
- File-locking feature for added security when working in a networked environment

# Tulip

- Auto-completion of PHP code
- Syntax highlighting and syntax hints
- Standard editing features (copy, cut, paste, search, go to, etc.)
- Embedded database navigator to access MySQL or PostgreSQL, make queries and edit or delete records

# Tulip



The screenshot shows the Tulip Editor interface. The menu bar includes File, Edit, CVS, and ?. The toolbar contains icons for New, Open, Save, Save as, Upload, Download, Projects, Highlight, View files, and Debug. Below the toolbar are 'Open' and 'Find' buttons. The left pane shows a File Explorer with a tree view of the project structure, including folders like Database, api, classes, DB, and core. The right pane shows the code editor for 'AgataCore.class' with the following PHP code:

```
1 <?
2 class AgataCore
3 {
4
5     function ReadProject($AgataDir, $Project)
6     {
7         include "{$AgataDir}/projects/{$Project}.prj";
8         $agataDB['Project'] = $Project;
9         $agataDB['DbHost'] = $DbHost;
10        $agataDB['DbName'] = $DbName;
11        $agataDB['DbUser'] = $DbUser;
12        $agataDB['DbPass'] = ($DbPass ? base64_decode($DbPass) : $Db
13        $agataDB['DbType'] = $DbType;
14
15        pg_co
16
17
18        pg_connect
19        pg_connection_busy
20        pg_connection_reset
21        pg_connection_status
22        pg_convert
23        pg_convert_encoding
24        pg_convert_encoding_array('projects', false, '.prj');
25        if ($projects)
26        {
27            foreach ($projects as $project)
28            {
29                include "projects/$project";
30            }
31        }
32    }
33 }
```

A dropdown menu is open over the `pg_co` variable, listing the following functions: `pg_connect`, `pg_connection_busy`, `pg_connection_reset`, `pg_connection_status`, and `pg_convert`. The status bar at the bottom left shows 'COL: 13'.

# Tulip

Projeto

Novo Salvar Deletar Fechar

Projeto  
finan

Nome do Projeto  
finan

Servidor CVS  
200.248.113.111

Diretório  
/sagucvs/html/financeiro

Usuário do Servidor CVS  
pablo

Usuário Banco de Dados  
postgres

IP do Servidor FTP

Senha Banco de Dados  
\*\*\*\*\*

Usuário do Servidor FTP  
univates

Nome do Banco de Dados  
sagu

Senha do Servidor FTP  
\*\*\*\*\*

IP do Banco de Dados  
192.168.0.62

# Tulip

The screenshot shows the Tulip Editor interface. The menu bar includes File, Edit, CVS, and ?. The toolbar contains icons for New, Open, Save, Save as, Login, New, Update, Delete, Logout, Projects, and View files. Below the toolbar are input fields for 'Abre' and 'Procura', and a 'Reload' button. The File Explorer on the left shows a tree structure with 'Database' expanded, listing various tables like 'acordos\_obs', 'areas\_ensino', etc. The main window displays a query editor with the text 'select \* from pessoas order by 1 limit 100' and an 'OK' button. Below the query is a table with two columns: 'nome' and 'rua'. The table contains 20 rows of data, including names like 'ADELENE SCHEID WOLMEISTER' and 'JÚLIO DE CASTILHOS'.

nome	rua
ADELENE SCHEID WOLMEISTER	JÚLIO DE CASTILHOS
ADRIANA CELESTINA MENEGHINI LERMEN	THEOBALDO KAFFER
ADRIANA MARIA BRATI	DOS IMIGRANTES
ADRIANA WERNER	SEVERINO AUGUSTO F
ALBERTINA MONICA ZANATTA AGOSTINI	GUERINO LUCCA
ANA ELISA BALDO BASTIANI	MARECHAL FLORIANC
ANA LEONICE WINCK JACQUES	ERVINO HEEMANN
ANA MARIA GOMES	VENEZA
ANDREIA FABIANA PLENTZ	JOÃO ABOTT
ANGELA MARIA DA SILVEIRA FLECK	AV. BENJAMIN CONST
ANGELA MARIA PASETTI SCHMITZ	JOSÉ JANTSCH
ANNA MARELI JANTSCH	CARLOS ARNT
ANNA ROSA SCHONARTH	CRISTIANO GRÜN
ARLETE MARIA VALERIUS	PONTES FILHO
AYRTON COSTA DA SILVA	RUA 3 - QUADRA 9
BERNADETE LERMEN JAEGER	EMILIANO DIAS SIQUEI



# Agata Report

- Cross-platform database reporting tool
- Graph generation
- Query tool
- Support for multiple databases (PostgreSQL, MySQL, MSSQL, Oracle, etc.)
- Multiple export formats (text, HTML, XML, PDF, CSV, etc.)

# Agata Report

- Define levels, subtotals, and a grand total for the report
- Merge data into a document
- Generate address labels
- Generate a relationship diagram of the database
- Not a database management tool; just a tool for reporting

# Agata Report

Agata Report

File Report Tools ?

Tables Structure

Tables Selection Constraints Adjustments

Require tables to proceed the selection

Tables

Require Tables Join Clear

Query

Click on line to edit the content

Clause	Content
Select	
From	
Where	
Group by	
Order by	

Reports

- samples
- samples\_old
- bug\_faturamento.agt
- carta.agt
- carta2.agt
- carvalhaes.agt
- carvalhaes.agt.bkp
- carvalhaes2.agt
- carvalhaes3.agt

Agata Report

Ben Ramsey

# Agata Report

DataBase Connection Setup

Project Name

- Samples

### Database Connection Setup

Samples

Database Host/SID/DSN	127.0.0.1	Password	*****
Database Name	samples	Database type	native-pgsql
User	postgres	Data Dictionary	

Connect

+ Add  
✖ Delete

Loaded from projects directory

# Agata Report

**Data Dictionary : Not Connected**

Table Families | Linking Settings | Data Description

Data Structure

Load the database structure

Tables Structure

- ref\_state
- customer
  - code
  - name**
  - phone
  - address

Data Structure: table:customer:field:name

Data Description: Customer Name

Add

Delete

Clear

Data	Description
table:customer:field:code	Customer Code
table:customer	Customer Table
table:city:field:ref_state	State Code
table:city:field:description	City Description
table:city:field:code	City Code
table:city	List of Cities

Save Dictionary

Ben Ramsey

# Agata Report

The screenshot displays the Agata Report software interface. The window title is "Agata Report [Samples]". The menu bar includes "File", "Report", "Tools", and "?".

The interface is divided into several panes:

- Tables Structure:** A tree view showing a hierarchy of tables. Under "List of Cities", there are "City Code", "City Description", and "State Code". Under "States Table", there are "State Code" and "State Description". The "State Description" field is currently selected.
- Selection:** A pane with tabs for "Tables", "Selection", "Constraints", and "Adjustments". The "Selection" tab is active. It shows "Type of Selection on Field" with a dropdown menu set to "Select this column" and a text box containing "as State Description".
- Ordering:** Radio buttons for "Ascendant Order" (selected) and "Descendant Order". An "Apply" button is present.
- Apply Function:** A dropdown menu set to "sum" and an "Apply" button.
- Options:** A checkbox for "Distinct Values" which is currently unchecked.
- Reports:** A list of report files including "samples", "samples\_old", "bug\_faturamento.agt", "carta.agt", "carta2.agt", "carvalhaes.agt", "carvalhaes.agt.bkp", "carvalhaes2.agt", and "carvalhaes3.agt".
- Query:** A pane titled "Click on line to edit the content" showing a table with columns "Clause" and "Content". The content is:

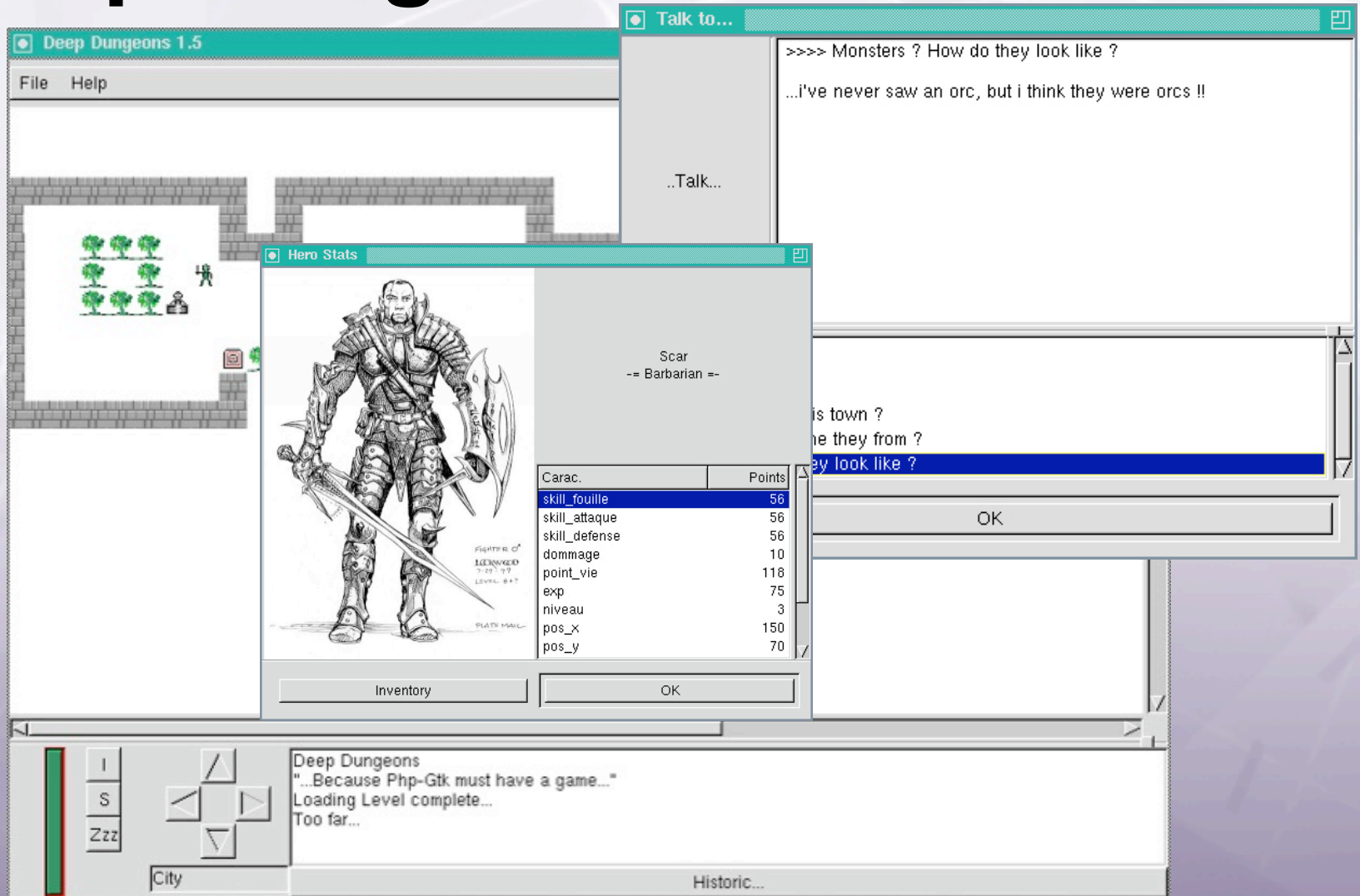
```
Select city.code as "City Code", city.description
From city,state
Where city.ref_state = state.code
Group by
Order by
```

A vertical sidebar on the right side of the window contains several icons, including a bar chart, a pie chart, and a globe. The text "Agata Report" is written vertically along this sidebar.

# Deep Dungeons RPG

- Classic RPG (role-playing game) written in PHP with the PHP-GTK extension
- Not very complex, but includes NPCs (non-player characters) you can interact with
- Includes monsters to fight
- Keeps track of your stats and hit points

# Deep Dungeons RPG



# PHP-GTK Pitfalls

- Portable in theory, not in practice
- PHP speed good enough for the “Web problem;” not fast enough for desktop (Parrot?)
- Compiler for single executable/binary? (Roadsend, PriadoBlender?)

# What's Next?

- PHP-GTK 2 with PHP 5  
(binds GTK+ 2 libraries with PHP 5)
- PHP 6 on Parrot? (BIG “maybe”)

# For more information...

- **PHP-GTK:** <http://gtk.php.net>
- **GTK+:** <http://gtk.org>
- **pedit:** <http://pedit.sourceforge.net>
- **Tulip:** <http://tulip.solis.coop.br>
- **Agata Report:** <http://www.agata.org.br>
- **Deep Dungeons:** <http://deepdungeons.sf.net>
- **Roadsend Compiler:** <http://roadsend.com>
- **PriadoBlender:** <http://priadoblender.com>

*Questions?*