'BonziBUDDY'
as an example of an intelligent software agent

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Introduction

Whether you are surfing the Internet or employing any advertising-financed application, chances are that you've come across a promotion of an Internet companion in the form of a cute, little, purple gorilla called 'BonziBUDDY' [1]. Even if you never heard of this free software from www.bonzi.com, it is definitely worth taking a look at. The intention of this paper is to point out the possibilities you have with Bonzi on your desktop, to show his capabilities as an intelligent software agent and, at last, to give a brief introduction to the programming interface, so you can use Bonzi in your own applications or web sites.

Abilities

Despite his toyish looks, Bonzi fulfills many "serious" functions as a personal digital assistant. The tiny animal has an easy to setup menu interface that 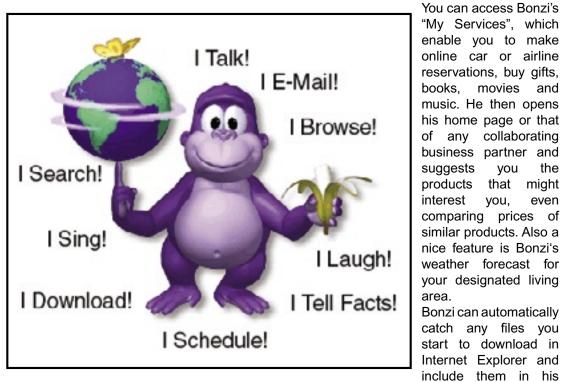he walks you through step by step. You will enter some brief information like your name and he will talk you through the rest. You should have Bonzi set up in just a matter of minutes.

Bonzi swings onto my computer screen with a warm greeting, „Good Evening Alex". He then sits wide-eyed, with his hands folded over his chest waiting for my commands. To activate Bonzi, just click on his tummy to go to the menu page. Here you have several possibilities to continue:

The most obvious feature is Bonzi's searching ability. He surfs the net via the Lycos Search engine. With a click you are taken to his jungle-style homepage, where you can enter keywords to search or URLs to visit. If that is not enough, you can access several categories of the existing web catalog, like entertainment, sports, shopping, finance, ...

With BonziMail, you can send animated email messages to your friends using Bonzi as a communication tool. You simply enter the address, the message, and from the menu to the right you then select the actions that you want Bonzi to perform. He will perform animated actions after reading the e-mail message to your friend. Some of these actions include blowing a kiss, clapping his hands, beating his chest, doing a backflip, and 13 other actions. You insert these actions into the e-mail by dragging and dropping the ones you want into the actual message on the left. Select just one action or combine several for more fun. After you have created your message, you may preview it or send it directly.

Bonzi helps you keeping your records organized and reminds you of special dates. He looks over your calendar and gives you a quick reminder of friends' birthdays or national holidays. The calendar feature allows you to add, edit, and delete entries including meeting times, descriptions, special events, and more.

You can access Bonzi's "My Services", which enable you to make online car or airline reservations, buy gifts, books, movies and music. He then opens his home page or that of any collaborating business partner and suggests you the products that might interest you, even comparing prices of similar products. Also a nice feature is Bonzi's weather forecast for your designated living area.

Bonzi can automatically catch any files you start to download in Internet Explorer and include them in his really comfortable Download Manager. Broken downloads are a thing of the past, thanks to the "Resume Broken Download" function. The purple ape tells you with a bright smile immediately when a download is complete.

Bonzi's calendar interface

Bonzi can look for your friends that are currently online. He unites classical Instant Messenging qualities like chatting or writing small messages to your online buddies. He can read these messages, incoming e-mails and every typed document aloud, so can he with any web page you want him to read. You can just lean back and let the ape do the screen reading work for you.

You can ask Bonzi to speak anything you type into a text area, to tell a joke ("What did one fish say to the other? If you keep your mouth shut, you won't get caught."), sing a song, tell an amazing fact (in my opinion the most useful Bonzi feature) or read a story. The Lernout & Hauspie Text-To-Speech-Engine is astonishingly well-working, as long as you don't have to listen to the high-pitched voice for a too long time.

Other menu functionalities include mainly features to configure Bonzi and/or his abilities. You can look for new add-ons or software updates on the Internet, or change Bonzi's activity mode. "Relax Mode" makes him sit quietly without doing any talking, "Hide" makes Bonzi leave your screen – at least temporarily – and "Goodbye" shuts him completely down until rebooting your computer or doing a manual restart.

Interaction

Bonzi acts like he was a live creature. He talks spontaneously, gets bored or tired, giggles when you drag him across the screen and is sad when you try to shut him down. He swings to and fro on a jungle vine, getting smaller and larger, creating a nice 3D effect. He juggles coconuts, follows passing butterflies with his eyes and wears sunglasses to look cooler. Concerning his moves, you never realize anything that is very repetitive or visually boring. His adorable appearance is perfect to make you look over all eventual disadvantages that might occur (if there are any ...).

You mainly interact with Bonzi via mouse and keyboard. There is a speech plug-in available to make Bonzi listen to voice commands, but this plug-in is unfortunately not free. The built-in menu released by the tummy-click earlier mentioned is quite intuitive to use, you seldom click the wrong button for a desired action. Any keyboard input in a designated text field like the "Browse" input field results in a reliable opening of the typed location. If necessary, Bonzi opens your Internet browser first. You can drag Bonzi anywhere you like if you need the currently occupied

corner of the screen. If Bonzi's constant chatting gets on your nerves, you can "adjust his personality". In this special command window, you can alter values that indicate how many jokes/stories/facts/... Bonzi tells and how talkative he is in general. Very useful. So you can customize Bonzi to match your needs, either if you want an ever-talking entertainment machine, that comments every action you make with a more or less intelligent phrase or an on-demand assistant, that sits quietly in his corner, playing his "Idle" animations, just reminding you of important appointments or the like.

The most interesting thing about Bonzi is his ability to learn from you as you use him. The ape reacts to your input and adjusts his behavior. If you interrupt his speech for a certain amount of times, he adapts to your needs by lowering his talkativity level. Bonzi keeps track of your web history and suggests in times of low computer interaction (or if you ask him to) similar web sites that might match your taste. The more you use him, the more precise Bonzi's suggestions get.

The Dark Side

Every light casts shadows and so does Bonzi, too. What this gorilla is supposed to do is help you with all your internet activities, like checking e-mail, surfing webpages, and helping you find anything you want. I have to say that the purple guy is rather an obstacle than any help. Bonzi tends to swing himself always toward that corner of your screen, you are at the moment desperately trying to concentrate on. Additionally, the buddy talks all the time. If this would only concern jokes and other fun features, it could be looked over (and adjusted, by the way). Instead, Bonzi is permanently trying to sell the user upgrades, that make him bigger, better and more interesting. Users that download the initial Bonzi version are lured by telling them the free character exists only for a limited time, a $40 value for free. So far, so good. But this basic version includes only very limited features, such as one song or a hand

full of jokes and amazing facts. While the general talkativity is adjustable, the continuous advertisements keep on flowing out of his little mouth or popping up in the middle of the screen. This is extremely annoying. This guy just keeps on telling you to order, order, order. "Don't you want to send me to school, so I can learn 500 new jokes?" Fine, but at a cost of $19.95??? Voice recognition module: $15, 250 facts vol. 1 & 2: $10 each, entertainment center module to play multimedia content: $30, ... Bonzi is also supposed to tell stories. He does not. At least not unless you order another expansion pack. The entire package would cost about $150 to upgrade Bonzi totally. So much for Bonzi being freeware ...

I have serious security concerns when running BonziBUDDY, as the program is permanently sending user data to the Internet, which definitely will be processed and archived at bonzi.com. By doing so, it does not only invade your privacy, but slows down your Internet connection considerably. According to online bulletin boards, users of slow connections are sometimes even unable to surf when Bonzi is somewhere on the set. Bonzi, as program under

the flag of Microsoft Agent technology tends to be very resource hungry. Windows, the only supported operating system, seems to get very unstable when running Bonzi, every once in a while the screen freezes, resulting mostly in a system crash, the user is forced to reboot. Generally, I would appreciate an assistant application not entirely constricted to the Microsoft product realm, since the best browsers, e-mail clients and similar are definitely not Microsoft ones. Just for the sake of fairness and freedom of choice ...

API

As we should have heard by now, the 'Bonzi Buddy' is a software based on the Microsoft Agent technology [2], empowering also well-known buddies like the MS Office assistants, for example Merlin or Genie. This technology enables programmers to place agents with an easy scripting interface in their programs or on their web sites. There are lots of agents on the Internet, which you can access for free [3], but it is also possible to built own custom personalities with the Microsoft Character Editor, available at the Microsoft homepage. Either way, any MS Agent has several standard animation states, like *MoveTo* (to move the character to a specified screen position), *GestureLeft* (to make the character point to its left-hand side) or several *Idle* states, played in times of low user interaction. These standard movements must be implemented in a custom agent. Additionally you can define any number of your own animations, like for example *InsertCD* (... if you implement your agent in a music player, making your character get a CD case and insert the disc in a player or something like that ...). 'Bonzi' has a set of 137 animations to access, which enabled the programmers to make the purple gorilla come to life at your desktop. You won't get bored by the same movements over and over again, there is enough variety to let it seem natural, how the little animal lives at your screen.

To create your own little 'Bonzi' program you have two possibilities. If you want to program your own Windows application, you may use any Microsoft programming language, i.e. Visual Basic, Visual C++ or Visual J++. If your agent is to guide visitors through your web site, you use either VBScript or JavaScript embedded in standard HTML. Note that a MS Agent can only be included – naturally – in a Microsoft Browser (Internet Explorer 5.0 or higher).

Either way, you have to initiate the MS Agent controls at the beginning of your script. Since there are substantial differences in the different programming languages and these specific lines of code have nothing to do with the core programming of the agent, I will leave them out. They can be obtained at the Microsoft Agent pages.

To explore the possible animations of your designated character, there are two simple free- or shareware applications available: the Softnik Agent Animation Browser [4] and the MS Agent Scripting Helper (MASH) [5]. The first being only an animation explorer and the second being a full animation tool, that enables even total computer laymen to animate an agent. With the help of these programs, it is a piece of cake to include Bonzi in your source code. See the textbox on top for exact coding instructions.

Conclusion

Bonzi is for sure one step towards an always-around personal assistant. He qualifies as an intelligent agent for being adaptive to your specific needs, autonomous as he suggests you content meeting your interests via pattern recognition in your working behavior. He embodies several other agents, like a searching agent (intelligent Internet search), a communication agent (text-to-speech conversion, voice recognition) or a mobile agent (obtaining information from different online resources, concerning product pricing, site updates). Some of these abilities are really nicely integrated and implemented.

But all this is not enough to make Bonzi a personal digital assistant that eases the life of the future computer user. Besides being less annoying and more customizable than our purple friend, the intelligent agent of tomorrow has to be able to lower the amount of time needed to complete tasks at a computer. That is by far not the case. You spend so much time dragging the purple nuisance out of

your working space or silencing him when you need to concentrate. There is absolutely no task I can imagine, that could not be solved extremely faster without Bonzi than with him. Although I can imagine, that he might help absolute Internet novices to get an idea of the World Wide Web. But this target group is also the one, that gets mainly exploited by the aggressive marketing philosophy of bonzi.com, as they do not realize the dangers within.

If you have little kids, the ape is quite cute to speak personally typed sentences or to sing a song. It is definitely hard to hate Bonzi's little monkey personality, but I agree with the majority of Internet users that state: Bonzi is annoying, time-consuming and a considerable security risk.

When drawing the optimal digital assistant in my mind and watching Bonzi at the same time, I have to say it seems to be a long, long way to go ...

Sources

[1] *Bonzi Buddy Homepage:*
http://www.bonzi.com/bonzibuddy/bonzibuddy/freehom.asp

[2] *MS Agent Homepage:*
http://www.microsoft.com/msagent/

[3] *Free Character Downloads:*
http://www.msagentring.org/chars/

[4] *Softnik Agent Animation Browser Homepage:*
http://softnik.com/products/aganim/

[5] *MASH Homepage:*
http://www.bellcraft.com/mash/

[6] *Homepage of this paper:*
http://www.alexloeffler.de/bonzi/

Starting the presentation

Be sure to view the accompanying presentation "BonziBUDDY - an example of an Intelligent Software Agent".

To view the BonziBUDDY presentation, you have to take the following 2 steps:

1. Installing the Character files

In the [Character Files] folder you have to install MS Agent 2.0 (msagent.exe) and the Lernout&Hauspie Text-To-Voice-Engine for American English (TTS_AmEng.exe). Next, execute the self-extracting Bonzi Character File (bonzi.exe). When prompted to unzip the Character File, make sure the following destination is entered (with %WINDIR% as your Windows directory):
c:\%WINDIR%\msagent\chars

2. Executing the Bonzi HTML file

Open the file "bonzi.html" in the [HTML] folder. Make sure you previously installed the above files properly. As the MS Agent technology - naturally - supports only Microsoft browsers, better choose Internet Explorer (with JavaScript enabled) to view the file.

Note that the presentation does not install the BonziBUDDY program, but only the MS Agent character file 'Bonzi' and supporting ones. The presentation is designed simply to show the possibilities of the BonziBUDDY software, if you want to install BonziBUDDY, you have to download it at [1].

Any missing files can be downloaded at my homepage [6].