Imaginia Studio

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Development Reference	http://www.aleReimondo.com
License	Commercial Product (@2008 ImaginiaSoft)
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Introduction

One of the "side" effects of availability of new digital devices is that printing is not requested by end users. People didn't reflect on what they loose when they do not print their photographs. In the recent years, people are learning more and more about the importance of printing and the limitations of digital media.

The have started to learn that digital media complements (do not replace) facilities of traditional media (like paper).

They understand that they can take thousands of photographs and it is better to do that, but they has also learned that it is not funny to loose the possibility to show the photos in a party and to the family.

Some consumer related companies are trying to redefine (use) TV as a media for sharing images in a party; but the constrains imposed by the device make it insufficient in practice.

We have designed a business plan and tools to help people and companies in the photograph market to build products with hundred of photographs fast and cheaper enough to make it feasible to sell more than one copy of photo books or promote the use of photograph based gifts.

The business plan requires agile software assistance to organize, design and build a wide spectrum of products using digital photographs. Our system let people compose images to build high quality products based on digital photographs. We have also designed machines and methods to let people build the products by themselves, to make it possible in practice to attend end user requirements (many products with the same photographs, cheap prices, customized and delivered as fast as possible).

Here we described some details about the software system developed to support design and composition of products based on digital photographs (e.g. photoalbums, mugs, calendars, party souvenirs, from hand sized books & gifts to wedding books one meter wide, etc.).

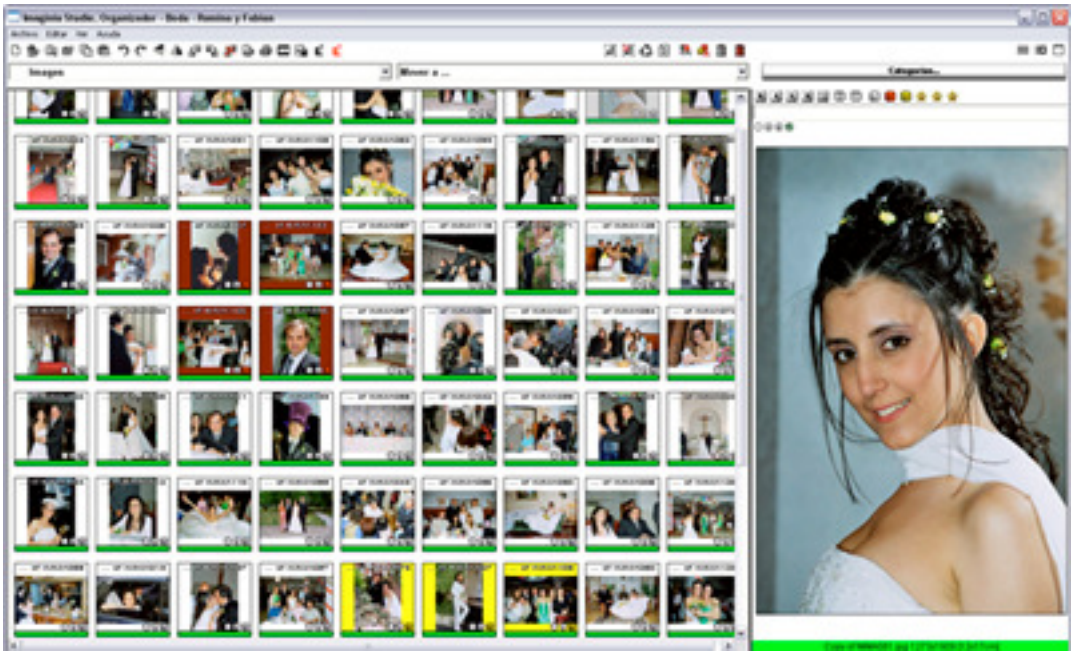
Software support

The system let the user create a project and organize the photograph collection and resources that will be used to build a set of products based on digital images.
Each product can be built from templates (3 steps wizard) on from a product built in the past.

The photographs are composed automatically, with a method based on computer vision. One of the composition experts detect faces in the images and use the result to adapt the image to the composition (e.g. vertically oriented shots are cropped when used on horizontal layout).

The system let the user make any change on the resources used, but without modifying the original files. All processing is done in real-time when needed and with the minimum requirements on memory and time requested by the target output. The system make image management and compose output in real-time when editing and rebuild output when exported to a different target.

The interface for organizing photographs is easy to understand and let the user apply effects, rotations, classifications, tags, and more.



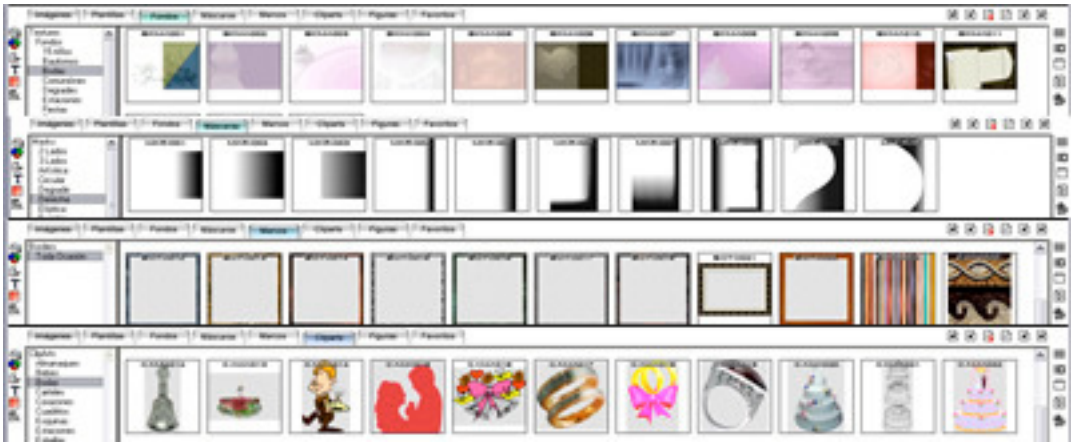
The user can build a product based on a template, based on another product or from scratch.

To build a photoalbum, the user has a powerful editor with all the capabilities required for high quality image composing at much less requirements than working with other image composition tools.

The software has all the tools, wizards and assistants to make it easy to build/edit complex compositions in minutes.

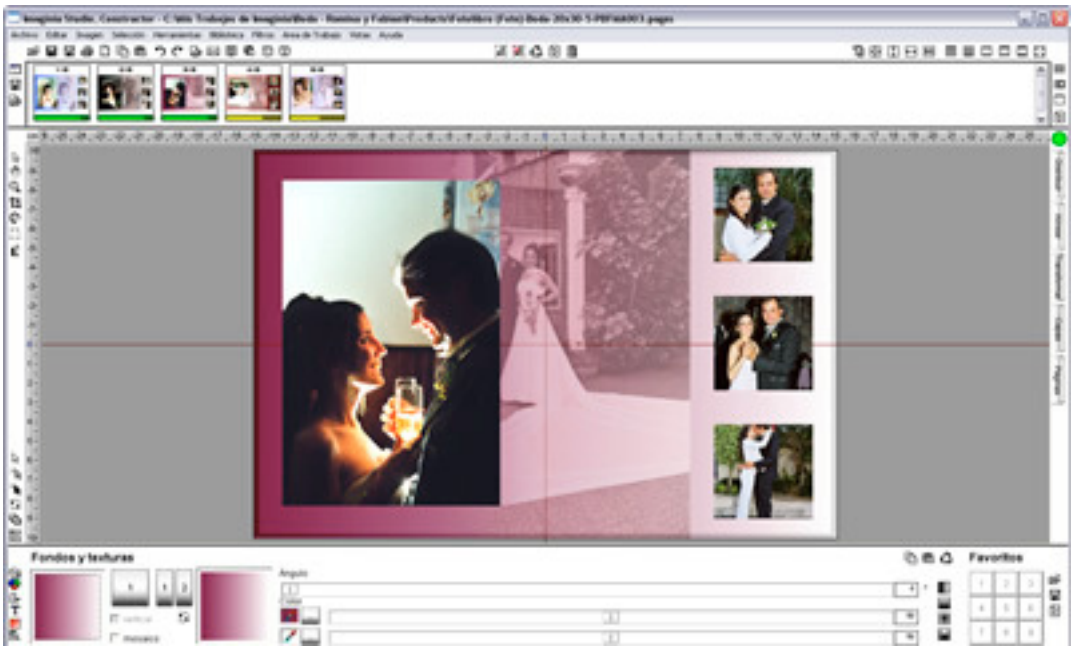
A huge library of editing elements, transparences, effects, cliparts is included in the system and can be extended and changed by the user. Any resource managed by the system can be complemented with scripting. Smalltalk is used as scripting language and

any part of the system can be extended or complemented at any time. Dynamic loading/unloading of frameworks are managed by the system in runtime to support the assistance to the user when building products.



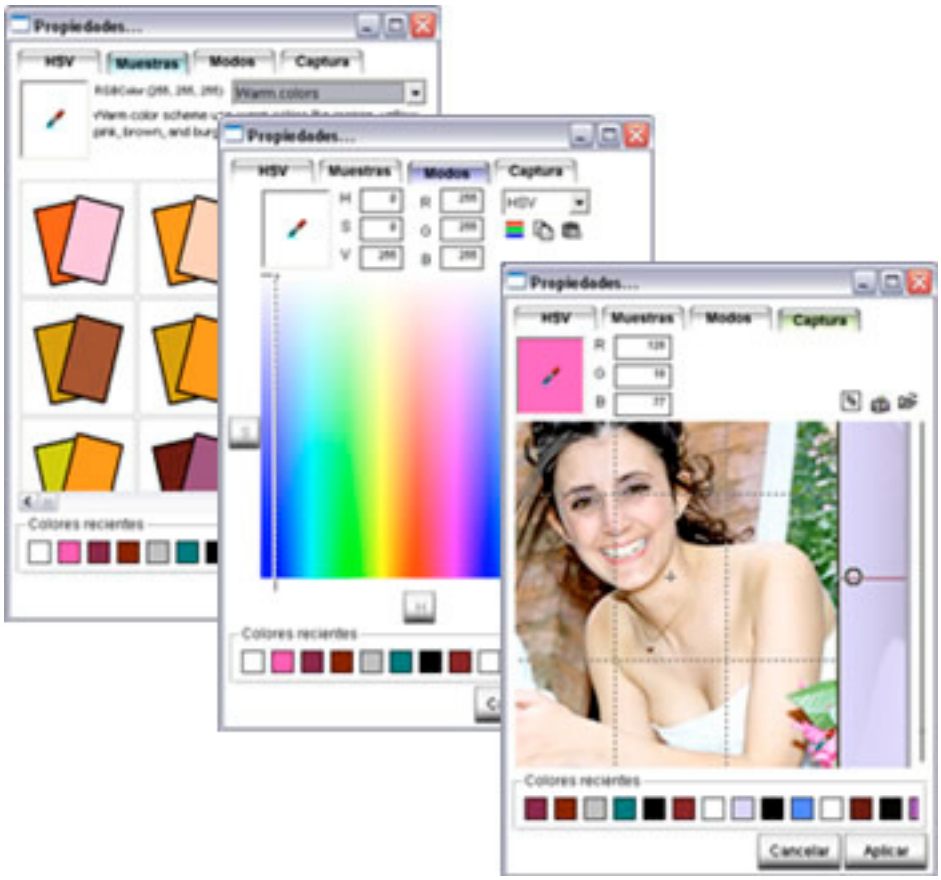
Toolbars and one-touch widgets are ready to assist on each visual element to adjust image properties, apply effects, and/or change any property.

The software has support for editable backgrounds, layouts and more. Any change or property setting can be saved in favorites to apply later to one or more elements.



The software manage color schemas and let the user expand color palettes.
The results can be exported in different definitions (DPI) and adjusted to the output required by the machine used to build the end product.

Export options includes Powerpoint slideshow, export to Google Earth, export to web pages, to printable compositions (to build digital photoalbums), output to thermal printers, sublimation devices, offset devices, etc.



Conclusion

The software is a high performance support for high quality composition of images.
Smalltalk was used for development because it is the best platform for the author to implement an open and agile system. The use of Computer Vision and IA techniques make it possible to reduce design time (the major cost of building this kind of products is the costs of designers, and how much time is spent making design ideas real).
The use of Visual Smalltalk as a platform for development of the product was important to get the best results without spend time and effort in other platforms. Our customers use Windows installations and the cost of computer and O.S. are low compared with the money we put in their hands with our Business plan. Now with the availability of Lesser Software VM and development platform we have a real way to make our investment make money without porting to another dialect nor high weight platform.

Future plans

The software is part of a major business plan and new releases are planned but no major releases for this year. More tools and customizations are planned but it is not needed important changes in the system. Most functionality is already implemented.
In the near future we plan to move to LesserSoftware Smalltalk development platform to be benefited by multitasking, .Net integration (100% in Smalltalk), and new frameworks that are currently in development by the author and Lesser Software.
The version of the software presented for evaluation at ESUG 2008, is running as a normal Visual Smalltalk runtime.
Any question and comments about this software, computer vision with Smalltalk or Lesser Software support will be appreciated if sent to aleReimondo@smalltalking.net

References

Alejandro F. Reimondo	http://www.aleReimondo.com
Smalltalking	http://www.Smalltalking.net
Lesser Software	www.lesser-software.com
Imaginia Software	http://www.ImaginiaSoft.com