

Brand Compliance Through Software Critics

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The Problem: Assisting Non-designers In Implementing a Brand's Style Guidelines

A brand is much more than the look of company materials, but a significant portion of any brand is represented by a specific visual style.¹ That visual style is codified in style guidelines.² These guidelines specify rules for what graphical elements can be used and how those elements can be used. The elements include logos and symbols, typefaces, colors, layouts, etc. Guidelines are typically written for a human audience. Many rules are simple and straightforward, such as specifying the allowable typefaces. Other rules are rather subjective, such as describing the types of photography allowed.

In many organizations, in-house graphic designers³ produce graphic designs to comply with the brand's style guide. Additionally, non-designers also produce materials that should be brand compliant. Yet, non-designers frequently lack the skills or knowledge to evaluate their own documents for compliance with brand style guidelines. In-house graphic designers can review the documents, make proper adjustments, and/or return the documents with comments on how to attain brand style compliance.

Microsoft Office is the tool most often used by non-designers. Word documents, PowerPoint slideshows, and Excel spreadsheets seen outside the organization should meet the brand style guidelines. Templates for these programs can give a starting point that meets style guidelines, but templates are unable to enforce guidelines. Users are able to violate the style guidelines as they add and edit content.

1 See Wikipedia for a reasonable definition of "brand" (<http://en.wikipedia.org/wiki/Brand>).

2 See the Bibliography for some example brand guidelines.

3 I write from personal experience, as I'm employed as an in-house graphic designer.

A Proposal for an Agent-Based Critical Brand Compliance Assistant

I propose a brand style compliance assistant that uses software agents to analyze Microsoft Office documents. Such an assistant could be integrated into Microsoft Office, or operate as a stand-alone application. Just for the purposes of this description, I'll explore a hypothetical stand-alone application. There's no reason why this assistant couldn't also be implemented as a pallet or ribbon within Office applications.

Additionally, the assistant application is a teaching tool. As users of the assistant receive critical feedback, they will be given the opportunity to learn the specific guidelines. Eventually a user's work may conform to the guidelines on the critical run.

The proposed agent software will read saved documents, analyze the content, and report elements that violate the style guidelines. Agents within the assistant application will be responsible for each of the guidelines. Agents can range from fairly simple to quite complex.

A simple agent would check for approved typefaces. The logic for such an agent is a simple comparison of the typefaces used in the document and the allowed typefaces listed in the style guideline.

Brand guidelines can also prescribe aspects of the writing used in documents, especially during a branding update. Organizations will use certain words and phrases to describe the products, activities, and audience of the organization. An organization transitioning to new set products, activities or audience will want to use new phrases. An agent can check for obsolete word and phrase usage, and suggest updated language.

Simple agents can check for very specific rules applicable to a small subset of documents. A brand style guideline can specify that business communication documents such as letters and press releases maintain minimum margins. The software agent can check to make such template settings for margins are not overridden, and that free-floating items are not placed outside the margins.

A little more complex agent can check for color compliance. Brand style guidelines may specify a small set of allowable solid colors. These colors are frequently specified with a color matching system

such as those from Pantone⁴ or Toyo Ink⁵. Microsoft Office doesn't include such color specifications, so the agent software must be able to analyze the colors used to ensure they are within the tolerances of the systems.

A brand's style guideline document can have multiple pages describing the master logo, allowable variations in the logo, and proper placement of the logo. Specific layouts may have prescribed logo usage requirements. For example in PowerPoint, the logo should be on every slide, be a minimum size, placed in the corner, and have a minimum clearance from other elements. An agent responsible for proper logo usage may get very complex, checking all these rules. The logo is supplied as specific graphic files. Since users could change those files by editing the contents of the file, checking just for the use of specific files is insufficient. The agent may have to use image-processing to recognize the logo in any graphic, and then decide if that logo usage is allowed.

Photos should also fit within the brand. Photo guidelines are necessarily more amorphous than other style guidelines. Some aspects can be analyzed, while others cannot. For example a guideline can state that primary photography should show heroic people. An agent could use a face recognition algorithm to ensure a photo shows a human face, but deciding if the person looks heroic may be beyond a software agent.

Where brand guidelines specify requirements that can't be implemented as an agent, a more shallow approach can be taken. The agent can merely recognize where a type of element is used, and advise the user on the pertinent guidelines. The agent can see that a letter is being written, and advise the user to refer to the brand guideline page about writing style.

Reasons an agent can't be implemented can range from merely lack of resources to implement a complex agent to the state-of-the-art artificial intelligence techniques are insufficient to implement the requirements. For example a brand style guideline may specify all images should show happy people, yet no image processing algorithms exist that can recognize happy people in a photograph.

4 <http://www.pantone.com/>

5 <http://www.toyoink.com/>

Example Run of the Assistant Software

The stand-alone brand compliance assistant application will analyze saved Microsoft Office documents. When a user is ready for feedback on their document, they open that document in the assistant application. The program will run the appropriate agents on the layout, collect feedback, and display that feedback for the users.

Figure 1 shows a hypothetical analysis a PowerPoint slide. It shows the graphical user interface of the assistant. The offending PowerPoint slide is shown in a background window. The advisor window shows a list of the problems the agents found with the slide. As a user clicks on a problem, the assistant will highlight that area in the slide, and display further explanation of the problem. Shown in the figure is highlighting of the logo clearance area.

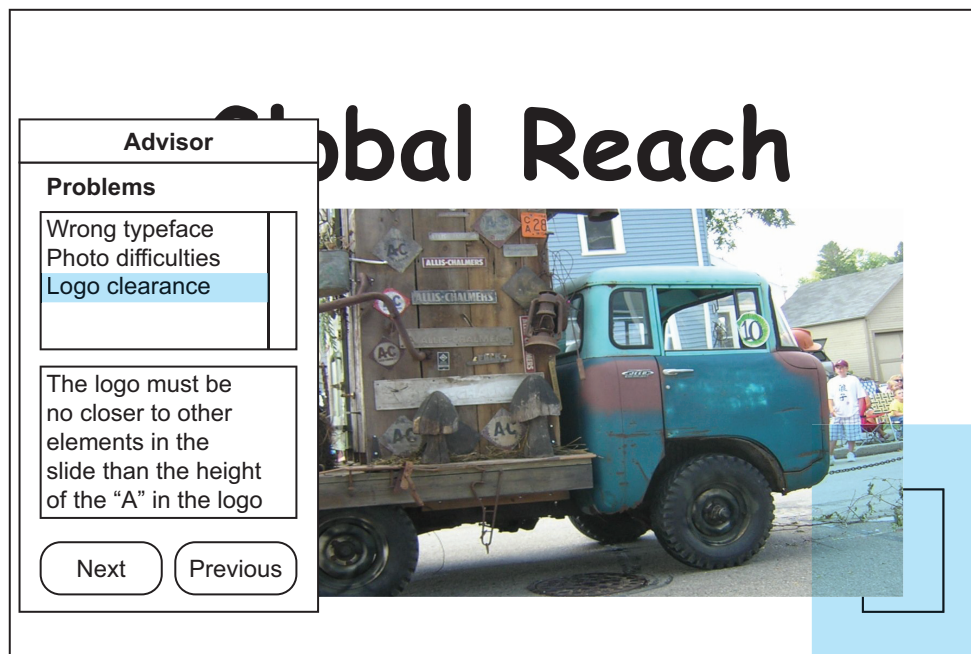


Figure 1: Example advisor run showing problems with a PowerPoint slide layout.

The user can return to the Microsoft Office application to complete the edits of the layout to meet the brand style guidelines. The user should then check again to ensure the changes do meet the requirements of the brand style guide, and that the changes do not introduce any new violations of the guidelines.

Implementation Concerns

The brand style guideline assistant application can be supplied with a library of common agents. These library agents can be customized through parameters. Brand guidelines typically specify that all materials should use a specific set of typefaces. A library agent that checks typeface usage can be supplied. That agent can take as a parameter a list of approved typefaces. A flexible set of library of agents could be sufficient for many brand guidelines.

Agents can be implemented as plug-ins to the assistant application. A brand style can be implemented in the assistant application by selecting a set of plug-in agents, and specifying appropriate parameters.

To handle an arbitrary range of brand style guidelines, the agents should be implemented process calls. With a standard interface specification, the agents can be written in any programming language. For example, agents can be delivered as compiled binaries written in C, or as JavaScript code interpreted when needed. Rules based processing in many agents could benefit from logic programming languages such as Prolog.

Graphic designers are usually responsible for the development of brand style guidelines, and typical graphic designers do not have the skills and knowledge to implement agent plug-ins for this assistant application. Yet developing brand guidelines is usually a high profile, well-funded endeavor for organizations. Major design firms specialize in developing brand for organizations.⁶ So the investment of bringing software engineers into the team to implement agents for this assistant application is well within the financial realm of most brand development endeavors.

Similar Commercial Products

In the printing industry, customers supply printers with electronic files for processing into the printed final product. The process for converting a graphic layout program's data file into images a printing press can use to place ink on paper can be error prone. The graphic designer can address many errors by properly formatting the contents of the data files. Printing companies will preflight, check for formatting issues, the data files before placing those files into production. Printing companies are willing to correct those errors for designers, at an additional cost. To avoid those

⁶ My employer used Ogilvy & Mather (<http://ogilvy.com>) for our latest brand update.

costs, graphic designers will try to preflight their own documents, but many graphic designers lack sufficient knowledge of printing practices to properly check their own documents. Software developers have produced products to address preflight needs of designers.

An example is FlightCheck⁷, a stand-alone application from Markzware. This program analyzes data files of graphics layout programs such as Adobe InDesign and QuarkXPress, and produces a report of what areas violate the standards of the printing industry. Like our brand compliance assistant, FlightCheck operates as a stand-alone application that analyzes saved documents and reports on potential errors.

In contrast to the brand compliance assistant, Markzware maintains tight control of their product. FlightCheck does not support plug-ins and has limited preference-based control of what rules are applied. A brand compliance assistant must be customizable for each brand, but FlightCheck checks for compliance with industry standards, and therefore one set of rules is sufficient.

FlightCheck is unable to accomplish many of the image processing requirements of the brand compliance assistant. FlightCheck has no checks that handle similar processing to the agents described above that check for logo usage or photo content. Yet FlightCheck does make checks very similar to the agents described above that check for proper color and typeface usage.

Similarly, Adobe includes a preflight pallet in InDesign, a page layout program.⁸ Although this paper describes the stand-alone version of the brand compliance assistant, the concept could also work as an integrated palette in Microsoft Office applications, similar to Adobe's preflight pallet. Adobe's preflight compares to the brand compliance assistant very much the same as FlightCheck compares.

Comparison to “Embedding Critics in Design Environments”

“Embedding Critics in Design Environments” by Fischer et al. presents HYDRA-KITCHEN, an example kitchen design environment that uses agents to criticize the design and offer suggestions for improvements to meet various requirements. They describe a system that uses three types of critics: generic, specific, and interpretive critics. Their knowledge base expands as the system is used, but requires a significant seed of domain knowledge for minimal usability.

⁷ <http://markzware.com/products/flightcheck/>

⁸ See the Adobe InDesign online help section on the preflight features (http://help.adobe.com/en_US/indesign/cs/using/W5a285fff53dea4f8617383751001ea8cb3f-7060a.html).

The work by Fischer et al. is the initial inspiration for the brand compliance assistant. This paper's brand compliance assistant applies to a significantly different domain, graphic design rather than kitchen design. Furthermore, the brand compliance assistant seeks to limit the designs to comply with style guidelines, while HYDRA seeks to expand the designs possibilities available to the designer.

The brand compliance agents are responsible for the specific style guidelines. This paper's agents only incidentally ensure adherence to general design principals or standards. Most brand style guidelines are based on sound general principles, so compliance will lead incidentally to following general design principles. These agents don't interpret the overall design to criticize the layout's suitability in meeting different sets of criteria as HYDRA's interpretive critics do. Therefore these agents are similar to HYDRA's specific critics.

HYDRA is designed to build the knowledge base used by the critics as a designer uses the program for successive design projects. This expansive design is much different from this paper's assistant application. Brand guidelines fail to maintain consistency if the users in the trenches are allowed to expand the guidelines as they implement individual projects. This paper's application can be extended and expanded by adding additional agents, but that expansion should only be done by those responsible to maintaining the brand.

Comparison to “A Pedagogical Assistant for Learning Object-Oriented Design: Nagging Students into Self-Reflection”

“A Pedagogical Assistant for Learning Object-Oriented Design: Nagging Students into Self-Reflection by Tholander et al. presents assistant software that teaches object-oriented design. Their “learning companion” follows the actions of a student, interjecting comments and questions as an object-oriented model is built. The questions are intended to encourage the student to reflect on the reasons behind taken model building actions.

The work by Tholander et al. was the inspiration for the teaching aspects of this paper's assistant application. Although the teaching aspects are of secondary importance, including these features will make the application more palatable for many users. Cast as an assistant to learn and follow the brand style guidelines should be easier to accept than casting it merely as an enforcer of the rules.

The approach of Tholander et al. to ask shallow questions that encourage student self-reflection inspired the fallback implementation strategy of agents in this paper's assistant application.

Tholander et al. present an assistant integrated into the design environment. In contrast to this paper's assistant, it follows the user as they work through a design problem. Since this paper explored a stand-alone interface for the assistant, it is unable to follow a design as it is implemented. If this assistant is implemented as an integrated aspect of Microsoft Office applications it could certainly follow along and interject critiques as the user is developing their layouts. Above we compare our assistant to the preflight features of Adobe InDesign. Those features of InDesign can function as a constantly active assistant, but in a much less obtrusive manner.

Tholander et al. depict their assistant as an animated bird. With the failure of Clippy⁹ in Microsoft Office I thought it best avoid any avatars representing the assistant.

Tholander et al. describe an assistant that builds multiple models including a student model. This paper's assistant as described does not include a user model, and will not adjust critiques based on the status of a user. Once a user learns not to violate certain rules in the style guideline, the assistant will stop presenting those problem notifications. A possible improvement to the assistant would be adding a user model for agents that can only notify users of potential problems, such as the photo agent. A user model could record that a user has been warned many times, and not bother the user with that warning each time the assistant finds a photo.

Summary

This paper explored an agent-based assistant for non-designers to conform their Microsoft Office documents to an organization's brand style guidelines. This assistant application can be customized for specific brand style guidelines by selecting existing agents, specifying parameters for agents, and implementing new agents.

This application is similar to existing commercial products that preflight graphic layout application data files for compliance with printing industry applications. The application was initially inspired by the work of Fischer et al. on design critics, with further influence by the work of Tholander et al. on pedagogical assistants.

⁹ <http://www.engadget.com/2007/02/09/microsoft-clippy-rip-1997-2007/>

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Brand Guidelines

ASQ Brand Book <http://filetransfer.asq.org/download/brand-guide-asq-november-2010.pdf>

Parallels Corporate Style Guide http://www.parallels.com/r/logosandartwork/parallels_sg.pdf

WebEx Brand Style Guide http://www.webex.com/pdf/WebEx_Style_Guide.pdf