

# Using templates in web-to-print

## Introduction

The broader concept of web-to-print is fairly simple from the customer's standpoint. If you are the user, you simply go to the website, choose the product, select the template you like, and customize it by uploading your images, adding your text, or choosing a color theme.

Once you finish personalizing your design, you simply approve it and send it for printing. It's really no different than ordering a pizza from the Domino's website.

It's difficult for a customer to get excited about a complex pizza ordering process with tons of hidden processes, starting with an advanced CRM that can handle thousands of concurrent users to a smart system that redirects the order to the closest, least busy location. It's the same with web-to-print. Who cares how exactly a business card goes from being an image on the web to a stack on the desk. Most processes in web-toprint are hidden from the customer. **USER** INTERFACE INTEGRATION **API** UX .NET PLUGINS JS DATABASE **C++** C#



Templates are the big exception. From the end-users' perspective, the product template is web-to-print. Having said that, it is possible to run an operational workflow automation system without decent template support, but this is usually what differentiates successful projects from others. In many cases, it is not only appealing designs that increase conversion rates, but also advanced templates that enable complex personalization scenarios.

This white paper will examine the different use cases of templates in web-to-print and highlight the best practices of such usage for commercial printers and marketing automation platforms.



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## The anatomy of web-to-print templates

Templates in web-to-print are aimed at solving many tasks. First of all, they are utilized to enable clients to personalize a product online. Secondly, they are used to transfer the information about a customized product to the production process.

Finally, they help customers visualize he order they are editing as a product, not just a blank white rectangle, thus increasing the conversion rates and usability of the online editor. Let's take a look at all of the components that make templates tick. Templates used for web-to-print may consist of the following elements:

- Print area
- Visual aids
- Elements that aid the production process





## **Print area**

This is what will be printed on the final product.

#### **Editable elements**

These are items that users can change and move. This includes texts, images, placeholders, or artwork that users can edit in a WYSIWYG editor, form-based editor, or even programmatically. A good example of such an item is the text field "full name" in a business card template.

#### Non-editable elements

These are also design elements in the template, but they are locked to prevent the end-user from changing them. This is a useful feature to maintain brand consistency, follow industry standards, or prevent accidental changes by customers. Some common non-editable elements are logos, backgrounds, addresses, and other important information.





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## **Visual aids**

These elements will not be printed, but are essential to make the personalization process easier for customers.

#### Mockups

These are design elements that display additional information that helps in the design process. These elements are helpful for paper products and physical items. A good example of a mockup is a paper texture or rounded corners for business cards, or an image of a mug or a pen.





#### Bleed and safety margins

These lines help customers navigate their design. For some products, they can also serve as mockups by delineating the product's shape on a blank sheet.



## Elements that aid the production process

These items may not be seen by end-users, but are essential for making a product.

#### **Printer's marks**

These elements help your personnel and equipment perform production operations like trimming and folding.



#### **Post-press**

If your product has foiling or UV-coating options available, spot layers can pass the necessary data to that equipment.



#### Slug marks

This includes any additional information needed for production, such as comments for employees.





Not all of these elements are always necessary for each template. Some products do not require all of them at once.

However, if you plan your web-to-print project to operate with complex personalization scenarios or support a variety of products, chances are that you will need all of these elements in various combinations at some point. Such a project makes it necessary for web-to-print templates to support a layer structure.

Additionally, an inherent feature of templates is the ability to lock certain elements from editing, which is a valuable feature that has many useful applications.



## Limitations of web-to-print technology

Creating print product designs is a long-established process with desktop publishing software. In contrast, the web is a platform with several restrictions that make it much more complex to perform flexible and complicated personalization interfaces compared to the desktop.

Among those restrictions are:

- **Pixel perfect rendering.** It is extremely difficult to transfer the design that the user sees in the browser to the print-ready file. Web-to-print applications must support different browsers and screen resolutions, so achieving consistent rendering is a challenge.
- Working with text. Desktop publishing software users enjoy a variety of text features and metrics. This is not the case for web technologies where text features are very limited.
- **Browser restrictions.** While simple designs can be rendered within the browser, rendering large, complex designs is impossible online. Web-to-print applications require a robust and complicated backend to perform such renders.

These and other limitations and constraints affect the templates that are used to personalize print products via a web-to-print system.



### Web-to-print template features

- File size. Even though Internet connectivity is much more reliable and RAM is much more affordable these days, they are still not enough to load huge templates within a reliable timeframe. Also, there may be a lot of concurrent users on your website. Thus, using large templates can drastically reduce the usability of your web-to-print integration and increase your infrastructure costs.
- Layers support. As we discussed in the previous section, templates for more or less complex use cases will always contain different elements, which should be located in separate layers. This is why the ability to create different layers is a must-have feature.
- **Personalization logic.** Aside from the graphical elements, web-to-print templates must somehow pass on the information that dictates which items users are allowed to change and which they are not. With this information, web-to-print software is able to lock these elements after loading a template.
- **Considering browser restrictions.** When creating such templates, it is important to take browser limitations into account, for example, the level of support for text layers. Not every font or text metric is supported.

All of the above limitations illustrate that it is impossible to use PDF templates or templates created in desktop publishing software without making additional adjustments.



## How templates work in web-to-print

Technically speaking, the process of template personalization in web-to-print requires the following steps. A new product configuration is created in the product management system. This includes the template itself, plus all of its attributes and assets (fonts, artwork, product options, etc.). Of course, it is impossible to allow users to customize the base template because other customers will see every change they make to it.

After a user clicks on the "Customize product" button, the web-to-print system creates a new item – we can call it a "User design" – separated from the initial configuration. So, the customer edits this new item instead of the original template. Not only does this solve the "one-time template" problem, but it also creates the opportunity for further customization of the orders. You can save the user designs in their private account to enable repeat orders, which they can edit further, for example, by changing the name or other information on business cards.

Moreover, if you implement this system with private B2B storefronts and allow customers to have their dedicated template library, they can change the original template, and then all designs created from that template will be changed retrospectively.



## **Creating web-to-print templates**

Now that we know the fundamentals of the anatomy and requirements for web-to-print templates, we can move on to the creation process. As we mentioned earlier, each template has to be modified to use in online personalization.

There are three major ways to create web-to-print templates:

- Create them in third-party desktop software and then import them to a web-to-print system
- · Create templates in the web-to-print system's built-in editor
- Programmatic template creation



## Create them in third-party desktop software and then import them to a web-to-print system

#### Pros

- No need for your designers to learn a new tool.
- You have the unmatched functionality of desktop software compared to the limitations of a web platform.
- You can save time and labor costs by importing existing or purchased templates.

#### Cons

- Not every feature from desktop software works on the web.
- Not every W2P software supports working with third-party templates.



## Create templates in the web-to-print system's built-in editor

#### Pros

• Templates will work properly on the web upon the first attempt at creating them.

#### Cons

- The capabilities of such editors are pretty limited compared to professional publishing software.
- The cost of transferring an existing template library can be enormous. Your designers will basically need to create all of the designs from scratch.
- These editors have a learning curve and will require your designers to learn a new tool.



## **Programmatic template creation**

Your designers make a design and send it to developers, who will then try to recreate them programmatically. This method is quite hard to maintain because it requires a high level of cooperation between the design and development departments as well as extensive quality control.





### Using Adobe software to create templates for web-to-print

When we think about third-party desktop publishing software, Adobe is probably the first thing that comes to mind. Adobe products have been the de-facto standard for many years. This extends to the designers in the printing industry, who have relied on Adobe products as their workhorse for the last couple of decades at least.

If you offer design personalization services for your clients, there is a good chance that your template library was mainly created with Adobe software like Photoshop, InDesign, and Illustrator. This makes sense as these products are very powerful and many designers use them on a daily basis. Let's explore the main use cases for creating product personalization templates in Adobe software and importing them to a web-to-print application.





Adobe Photoshop, InDesign and Illustrator are quite universal. For example, a business card template can be created in all of these tools. However, there are certain products and use cases where it is preferable to use one of these tools over the others.



#### **Adobe Photoshop**

Adobe Photoshop is a very powerful tool that was designed specifically to work with raster images. However, it can be used fairly universally to create various types of product templates.

#### **Appropriate Use Cases**

Photoshop is a solid tool for creating print or physical product designs of a comparatively small size. It's a good fit for products with one-line text fields or small 1-2 paragraph text areas. Products that require raster images as the centerpiece of the design are the most suitable for Photoshop. Some of these products may include postcards, photoproducts, flyers, and posters.

Other than templates, Photoshop is perfect for creating photo-realistic mockups that demonstrate to the customers how their design will look on a product when it is finished.



#### Inappropriate Use Cases

It's better to avoid using Photoshop for large format products, mostly because templates saved as PSD files tend to be very large for products that have big dimensions. These files can easily "weigh" over 100 Mb. As we mentioned earlier, such large files cannot easily be accommodated on the web. Another weak point of Photoshop is its lack of layout and text features. You cannot create such layout-centric products like brochures or collateral in Photoshop. It is also not suitable for creating multipage templates.



#### Adobe InDesign

InDesign is widely used to create product designs that require a complex layout and text features. It supports advanced text functionality like multicolumn text support, text autoflow, and many others.

If your template revolves around the layout and complex text, InDesign is the best choice from the Adobe lineup. This is not only applicable to magazines and catalogs; even business cards might require such features as well. Another appropriate use case might be creating multipage templates like photobooks with lots of placeholders or calendars. Unlike Photoshop, an additional raster layer is not created when you save your design as an IDML file, resulting in much smaller file sizes for large format products compared to PSD files. For example, the same feather flag template could be only 30 Kb when it's saved as an IDML file compared to 10 Mb if it's saved as a PSD file. Again, this is much better in terms of speed and infrastructure costs to add such a small IDML file to the server instead of a massive PSD file.





#### Using templates in web-to-print

#### **Adobe Illustrator**

When it comes to vector graphics, Illustrator is the go-to application. Just like with Photoshop and InDesign, you can still create a variety of products with Illustrator, but there are some that the program particularly excels in.

Unsurprisingly, these are products where vector art is dominating the design – not raster images. Some common products that fall into this category are invitations, T-shirts, mugs, and other promotional products. Stickers, nameplates, or safety signs are a few other products that are usually composed of the vector art that Illustrator works so well with.





<b>Comparative table:</b> Using Adobe software to create templates for web-to-pri
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Application	Products to create	Products not to create
Photoshop	Raster image-based designs: • Postcards • Photoproducts • Posters • Flyers	<ul> <li>Layout-based designs</li> <li>Artwork-based designs</li> <li>Vector-based designs</li> <li>Multipage designs</li> </ul>
InDesign	Layout-based designs: • Brochures • Collateral • Photobooks • Calendars	<ul> <li>Raster image-based designs</li> <li>Artwork-based designs</li> <li>Vector-based designs</li> </ul>
Illustrator	Artwork-based designs: • Invitations • T-shirts • Mugs Vector-based designs: • Stickers • Safety signs • Nameplates	<ul> <li>Raster image-based designs</li> <li>Layout-based designs</li> </ul>



# **Checklist:** Adapting existing Adobe templates to be used in web-to-print

Whether you already have a library of Adobe-based templates or you plan on creating one from scratch, the essential part of making them usable for web-to-print is adapting them for online personalization. You may use the following steps to ensure that your users can customize them without any issues.

- Make sure your template meets all requirements. There are unique requirements for each product, but typical requirements are one-to-one size, bleed area, 300 DPI resolution, CMYK color scheme, and your preferred color profile.
- Check the layers in the template. Remove any hidden layers to increase the performance of your online personalization process.
- Check if all effects and features from Adobe are working properly in the web-to-print software. If you find a problem with an effect, try to replace it with a supported effect, or remove it from the template.

- Make sure all raster images in the template are adequate for the final resolution to avoid unnecessary traffic consumption for you and your customers.
- Set up the personalization logic (restrictions, mockups, etc.)

## Creating templates in a custom template format

Another method for creating a web-to-print template is utilizing a proprietary format of a web-to-print solution by using its built-in editors. This is the only available option for the applications that don't have the ability to import templates created in third-party desktop software. It is still possible to create professional-looking designs with this option. Built-in editors allow you to add images, text fields, and placeholders. You can also set the personalization logic for each element you add within such editors.

These proprietary formats are usually rooted in SVG, which is an open-source graphic format that allows extensions.

The major flaw here is that these templates will be useless if you ever decide to switch to a different web-to-print tool because the new software may not support them.

Additionally, such editors are far behind their desktop counterparts in terms of functionality and usability. Designers have to put in some extra effort and spend more time creating a decent-looking template. Additional resources must also be invested to recreate your existing library in this editor.



## **Creating templates for different products**

Today's web-to-print not only includes paper products, but also physical items. Pens, mugs, socks, T-shirts, and almost any object you can think of can now be personalized online. Templates for each product category may have their own elements and different structure. In this section, we will discuss the most popular products and the specific features of their templates.





## **Paper products**

The print area for these products generally covers 100% of the product area, so the mockups are mostly used to show product options, for example, paper texture or rounded corners for business cards. If you sell personalized envelopes, you can add an image of an envelope to show your clients how their design will look on an actual envelope instead of a blank print area. Another example is adding a mockup with a lanyard to an event badge.





For many paper products – business cards, brochures, and other promo materials – elements that cannot be deleted or modified play a huge role. These locked elements provide brand consistency and make it easier for designs to follow certain required guidelines.



#### Single-page products

This is a comparatively easy use case due to the simplicity of single-page products. Templates for such products can be a single-layer file, and may sometimes even be empty if the personalization scenario is based on creating a design from scratch.



#### **Multipage products**

This case is a bit trickier. There are two ways to create templates for multipage products. One way is to work with separate files that will be combined after uploading them to a web-to-print system. Another option is to create a multipage template and upload it to the server.





#### Packaging

Online packaging personalization has one major peculiarity. The design itself is extremely uninformative when it is displayed flat. Designers need to see how the box will appear when it is assembled. This is true for both desktop and web personalization. To overcome that problem, web-to-print software must show the final layout. Otherwise, there could be issues with design positioning on the different sides of the box.





## **Physical products and clothing**

The personalization of physical items has become a growing trend in recent years. An increasing number of companies are constantly adding new products to their mix. The traditional portfolio of pens, mugs, and T-shirts has now expanded to include socks, slippers, sweaters, and even baseball bats. Each of these products can be personalized online using web-to-print software.

It's hard to imagine making templates for physical items without including mockups. The print area is often just a small part of these products. Creating a T-shirt or mug is much easier when you can see the image of an actual T-shirt or mug in the background. However, these mockups will not be printed – they are simply guides for the end-user. If your product has personalization options that are not related to printing, mockups will show how that product changes when the user selects a certain option. For example, it can be the color of a pen or a different number of holes in a safety sign.



Templates for these products must be designed with the manufacturing process in mind. For example, sweaters are made of a few different parts that are eventually stitched together. Each part needs its own template. Sometimes, they contain important information for manufacturing, such as the material, desired thickness, color, and other qualities.

Much like the sweater itself, all of these different templates must be combined in the web-to-print editor to show customers the image of the complete product. No one wants to personalize sleeves without understanding how it affects the design of the rest of the sweater.





## **Automated template creation**

Modern web-to-print software allows us to perform some fairly complicated automated manipulations with templates. In this section, we will go over a few examples of how automation can address many challenges that web-to-print software users may encounter:

- Programmatic generation
- Filling in content automatically
- Automatic dielines generation
- Anchoring

- Combining pre-existing elements
   to make templates
- Programmatic design elements creation
- · Generating templates from datasets





## **Programmatic generation**

Depending on the situation, it might actually be impractical to use designers to create templates. It may sound strange, but consider this example: you need a very simple design that only consists of a placeholder, but you also need several different sizes. The most efficient way to get these templates could be to generate them automatically by programming basic rules for them.



## Filling in content automatically

If you are doing business with a large number of clients, you may want to create basic templates for products like business cards or brochures that can then be personalized for each client. By adding their logos and brand colors, you can basically merge brand books with the pre-made layouts. This will really help save a lot of time as you set up a new private storefront. Adding "dummy" templates instead of personalizing each template for each client will maximize the efficiency of your web-to-print project.

Another use case is generating templates for complimentary products based on information uploaded by a customer, which can be used for upselling modules. These products can be enticing when they are bundled to the original order and the customer doesn't need to do any extra work.





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### **Automatic dielines generation**

This time-efficient functionality will allow your users to generate templates on the fly simply by entering their parameters. For example, they can set their own imensions for packaging and the web-to-print system will generate a unique template based on that information. By implementing this feature, you can generate a virtually unlimited number of templates of any size.



Customer's Canvas

## Anchoring

When you have designs with a variety of text fields containing different information, this feature allows the user to skip over some of that data, such as a secondary phone number on a business card. Without some form of automation, each configuration must have its own template. Anchoring enables templates to be more universal by changing the positioning of other fields if the user skips over a data field.

# Your Name

+1 123 456 7890 +1 123 456 7890

> email@website.com www.website.com

1234 Main Street Alexandria, VA 54321

## **Combining pre-existing elements to make templates**

Imagine that you are preparing a brochure template. They are comprised of several basic elements, including the layout, background, and styles. Combining these elements can give you a large variety of quality templates. You can combine them manually, but you also have the option to do it automatically. Using web-to-print software to generate these different combinations automatically can significantly reduce the manual operations required of your designers while also producing several high-quality templates.



### **Programmatic design elements creation**

Let's say that you would like to offer your customers T-shirt print personalization. This type of print usually consists of a tagline and some professional artwork. Depending on your customers' tastes, they may prefer different combinations of the artwork and word lengths of the taglines. In this case, you could prepare lots of designs suitable for any word combination and allow your customers to combine their taglines with the appropriate artwork. All of this is can be accomplished with just a few lines of code in a web-toprint system configuration file.



### **Generating templates from datasets**

This feature is a lifesaver for creating calendars, schedules, or menus. You can generate templates for these types of products based on information stored in some type of database. For example, you've prepared some great templates for calendars, but they will all become outdated next year. If you want to continue using these templates year after year, you would have to update them in desktop software like InDesign. This is doable if you only have one template that needs updating, but what if you have a few hundred? Instead of updating them one by one, you can set up auto-refreshing for all of your templates based on the calendar data that you've prepared separately. This method gives you the additional functionality to tailor your calendar to local holidays and non-working days around the world, which could significantly expand your customer base.



## **Storing template libraries**

Product templates need to be uploaded to some type of server so that your customers can personalize them online. The same server can also host the web-to-print instance, or you can limit it to host templates exclusively. The configuration of your infrastructure depends on the project scope and other characteristics unique to your situation. Some of these factors may be the number of concurrent users on the website, the expected amount of orders, the geographical distribution of users, and the desired reliability of the service. In this section, we will discuss the possible options for storing web-to-print templates online, including:

- Storing templates in a file system
- · Storing binary files in a database
- Storing templates in the cloud



## Storing templates in a file system

This is the traditional way to store files on a server. There are two possible options for storing templates:

• On the same server as the web-to-print software. This will be fine for relatively small web-to-print projects without a high volume of traffic that can be distributed in a small area.



• Storing templates on a separate server(s). This option is for projects that require a higher level of reliability from the system. Templates are stored in a shared folder that can be accessed by a web-to-print editor hosted on another server.





### Storing binary files in a database

The arguments surrounding the storage of binary files in a database management system have been raging for decades. On one hand, placing a template in a database directly guarantees comprehensive data integrity across your project. On the other hand, it requires serious attention during the planning stage. If the architecture is poorly designed, then there could be serious problems maintaining it down the road. As you make this decision, you should be sure to explore your DBMS capabilities and discuss it with your development and database operations teams.

# CO 62 FF D4 08 1B C5 04 4B 88 3E 2A = = = 25 04 61 = = 0D 4F 00 = =



## Storing templates in the cloud

Using cloud storage services like Microsoft Azure or Amazon S3 provides you with access to virtually limitless storage capacity and performance capabilities an unmatched option compared to using your own infrastructure. This option typically works quite well for large projects that serve customers in different locations or for those projects that require 100% uptime no matter what. Cloud storage can also expand dynamically, which is a very useful feature if your business has seasonal peaks of customers. It's great if you need to add more capacity for a short period, and then reduce it to save on infrastructure costs when business is slower.





There are also some web-to-print projects that require the virtual separation of templates. For example, your project may require private storefronts where your clients have their unique templates available to themselves but not other users. To support this functionality, the webto-print system must be able to restrict access to those files. You may also need to connect the user's file systems to their own templates.



## Conclusion

Templates are an indispensable component of any web-to-print project. A wide range of high-quality templates is necessary to bolster the customer's desire to order products and services on your website, guarantee a professional-looking final outcome, and implement different personalization scenarios.

While essential, templates can be difficult to maintain. If you happen to choose a suboptimal process for creating, importing, or adding new templates, it may prove to be a serious headache for your employees down the road. Not to mention that the different characteristics, like size, can affect user experience and impact infrastructure expenses.

This is why when choosing between a web-to-print system on the market or developing one in-house, it is crucial to ensure that this system has a straightforward yet robust method of handling template libraries that will fit your project's requirements.

If you need more information on using templates effectively in web-to-print applications, don't hesitate to contact our specialists. It's our pleasure to share the years of experience we have put into creating and handling templates that are tailored for online personalization and ordering.



## **About Customer's Canvas**

Customer's Canvas by Aurigma is a flexible web-to-print solution capable of performing almost any imaginable product customization scenario. This is a robust set of tools that leverages web-to-print technology to achieve your business's goals.

Our development team has specialized in image processing and web-to-print related tasks for more than 15 years. Our software is currently powering and fulfilling the web-to-print needs of more than 300 companies, including some major players in the print industry in the US and Europe, web-to-print platforms, and marketing automation solutions. Although introducing new technology always presents some challenges, we consider ourselves technology partners in our customers' ventures and share a vested interest in reducing risks and project costs wherever possible. We have gained years of experience in web-to-print and we are eager to share it with you.

You may find more information about our product at: customerscanvas.com

Or contact our team at: info@aurigma.com

