whichPLM

Digital
Storyboards

A BUYER'S GUIDE TO PLM MODULES AND STANDALONE SOLUTIONS

EXECUTIVE SUMMARY

Digital storyboard solutions offer compelling environments for collaboration and creative design, development, and planning activities during the earliest stages of the product lifecycle.

Where traditional paper-based alternatives are currently used, storyboard solutions offer a range of immediate benefits. Together, these can improve creative execution and increase the commercial odds of a given product or collection succeeding in the open market - all at the same time as improving the day-to-day lives of key internal stakeholders and supply chain partners.

Marry these quick wins with longer-term transformations in the way brands, retailers, and manufacturers work – and the composition of their workforces - and it's little wonder that storyboard solutions have seen a sudden spike in popularity. As of early 2018, several of the world's leading PLM vendors have made big strides with either standalone storyboard solutions or integrated storyboard modules, and third parties are innovating in similar areas.

But as with any piece of extended-PLM functionality that suddenly and rapidly becomes the centre of a competitive market (see 3D, the IoT, and others) customers must be careful to find the right fit for their business. And this applies whether they are selecting based on pure functionality or also looking for the right partnership potential and roadmap promises.

This buyer's guide and its accompanying checklist equip everyone – technical and non-technical readers alike – with a grounding in the history of storyboarding, its role in the most essential parts of planning, design, and development, and the differences between simple white spaces and modern, multifunctional, storyboard solutions.

THE STORY OF STORYBOARDS

Fashion is a visual industry. The people who work in fashion are, for the most part, visually-geared people. So, while office workers in the apparel industry, like those in almost every other industry, are spending more and more time working with desktop computers and mobile devices, many of them still have a soft spot for physical storyboards.

In practice, these are exactly what they sound like: large-format physical boards made of cork, cushioned fabric, or a similar material. They often take up entire walls in the offices of designers, buyers, merchandisers, and other creative teams.

These boards become home to almost everything that goes into bringing a single designer or a team's vision to life. Material swatches, magazine clippings, colour chips, Post-It Note conversations, Polaroids and printouts – all get attached with pushpins.

For many design teams, who today work remotely with satellite offices and suppliers on the other side of the world, physical storyboards are more than just a convenient place to consolidate inspiration; they represent the only chance they have of making the essentials of their products feel tangible before a physical prototype is made.

Similar boards do exist in other industries, where being able to visualise key components of products or services in one physical location is beneficial. But the difference between these and fashion storyboards lies in speed; in the retail, footwear, and apparel (RFA) industry, real-time capture of trends, ideas, and other fleeting things is the key to keeping pace with consumer demand and collaborating effectively with in-house and external stakeholders.

In day-to-day operations, people gather around physical boards at both scheduled and spontaneous times. Based on the information posted on them, ad-hoc decisions are made about everything from colour variants to collection plans, and patterns and prints can change in an instant as they're unpinned from one style and moved over to another.

In both the elements they contain and the way they are used to support natural, visually-oriented collaboration, these boards tell the ongoing, evolving story of a designer's intent – from the point of initial inspiration to the moment a fledgling style makes its way into the next stage of design and development. For this reason, WhichPLM refers to all boards used for these and similar purposes as storyboards. They may be labelled by vendors and users as mood boards, trend boards, digital concept boards, visual collaboration boards, or even named after their base material and called corkboards, but this buyer's guide uses the catch-all term "storyboard" to encompass all of these.

DOING THINGS DIGITALLY - DELICATELY

Given the relationship that many people have with physical boards, we can perhaps understand why technology providers and executives have, on the whole, been reluctant to try and replace them. We need only look at the history of computer aided design and 3D, which both took decades to achieve maturity and widespread adoption in the design community, to appreciate how carefully brands and retailers must approach the introduction of new creative tools..

Unlike CAD and 3D, the underlying technology to support feature-complete storyboards is not new. Cloud deployments may have only just become viable – and affordable – for the mass market, but replicating the core functionality of a collaborative physical board through software has been within our reach for at least ten years. In fact, one of the earliest vendors of what we might class as modern PLM, Freeborders, offered a comprehensive storyboard module as early as 2005, and WhichPLM has included storyboards as one of the 40+ functional areas we assess during our PLM evaluations since 2013.

So why now? Why are we seeing the introduction of major new integrated modules and standalone products in an area that has remained relatively static for so long?

The short answer is that the industry is changing, and as a result the traditional method of storyboarding has become unsuitable for the way brands and retailers now need to work. No longer can essential product data – and this includes the roots of inspiration, not just information associated with finished garments – exist only in the physical world. To support digital transformation initiatives, everything must be digitised, consolidated, and made accessible to actors at every stage of the product lifecycle.

Using physical storyboards, a lot of vital information can be easily lost or left undocumented. At best, this information is only brought into PLM or other design and development solutions days after the fact through time-consuming and error-prone manual data entry. With no centralised data repository or change log, it's all but impossible to retrieve and reuse information, and it only takes one person to accidentally misplace a material swatch or misinterpret a hand-scribbled note to cause serious confusion further down the line. Perhaps most importantly, beyond snapping and sending a photograph, there is no method of extending access to physical boards beyond the walls of a single headquarters, leaving satellite offices and suppliers working from second-hand insights for the purposes of collaboration and co-design.

At the same time, the RFA industry's attitude to technology in general has also undergone something of a paradigm shift. Where we once faced scepticism when we evangelised PLM, we now see a real hunger for replacing manual methods and processes with proven digital alternatives throughout the product lifecycle – sketch to point of sale. The international PLM market has grown in relative and absolute terms every year for which we hold data; cloud adoption has increased from zero to a nearly a quarter of all sales; and in the last two years we have seen an explosion of interest in 3D solutions for design, prototyping, marketing, and other activities.

It took time in all these cases for the market to reach a tipping point where a given process became a problem best solved by technology, and the same logic seems to apply when it comes to storyboards. Today, the best digital boards neatly address every concern that plagues their physical counterparts, as well as providing a foundation for future design, development, and decision-making processes that will be entirely data-driven.

A NEW GENERATION OF DIGITAL NATIVES

The cloud is a cornerstone of modern collaboration. Except for the most strictly desk-bound job roles, travel and telecommuting (more accurately: working from home or a hotel) are now normal modes of working. And wherever they are, users require access to the same data – consistent and accurate across every device.

Once the exception, the expectation is now that key team members will remain engaged and able to execute critical tasks on the road. According to recent research, more than a quarter of employees are given corporate mobile devices for this purpose, and around 40% instead use their personal smartphones and, to a lesser extent, tablets to remain in touch while they travel.

This trend leads us to two conclusions. First, that the software and solutions we provide to our personnel must work across a broader range of devices, screen sizes, and operating systems than ever before, supported by cloud services. Second, that users' working environments must now measure up to expectations set by the intuitive, attractive, consumer-grade applications that reside on the same devices.

The latter is particularly important for so-called millennials, who already account for a large percentage of our workforce - and not only in design and other creative roles, since the oldest millennials are now in their mid-thirties, making them prime candidates for middle management. These are users who are accustomed to "beautiful" software, who make little distinction between Snapchat and enterprise solutions when it comes to usability, and who will instinctively pinch to zoom rather than search for a scroll wheel. To the old guard of designers, pinning materials to a virtual storyboard may seem odd at first; to digital natives, copying and pasting inspiration images from a Google reverse look-up will be second nature.

MEETING MARKET DEMAND

On top of these broader trends, direct evidence also shows us that customers of PLM are keen to embrace digital boards. Storyboards specifically – and creative design functionality more generally – were named as the top priority for further development among the real users of PLM who took part in our 2017 Customer Survey, with the results reported in the WhichPLM 7th Edition.

Clearly vendors feel similarly; among the new entrants to the storyboard market are several major PLM vendors who, through development or acquisition, have made digital boards of different kinds the centre of their marketing strategies for 2018, hoping to capture existing customers who use other PLM functionality but have not yet chosen a to adopt a third party storyboard solution.

And among those third parties, it's interesting to see that many are translating functionality originally designed for other creative industries like advertising and digital media into a feature set more specific to fashion.

MAKING AN INFORMED CHOICE

This buyer's guide is not intended as a comprehensive evaluation of the entire market for storyboard solutions, nor as a comparison between solutions. Instead, the criteria and checklist that follow are designed as a handbook for any brand, retailer, or manufacturer who is interested in exploring the potential of a storyboard solution – either as part of PLM or as its own independent project.

The following section is broken down into the key business and commercial considerations, baseline technical functionality, advanced technical functionality, enterprise integration potential, and our predictions for possible future development priorities. Accompanying these is a checklist (also available as a separate download) which presents only the functional elements in short form, and can be used to assist with quick assessments during demonstrations.
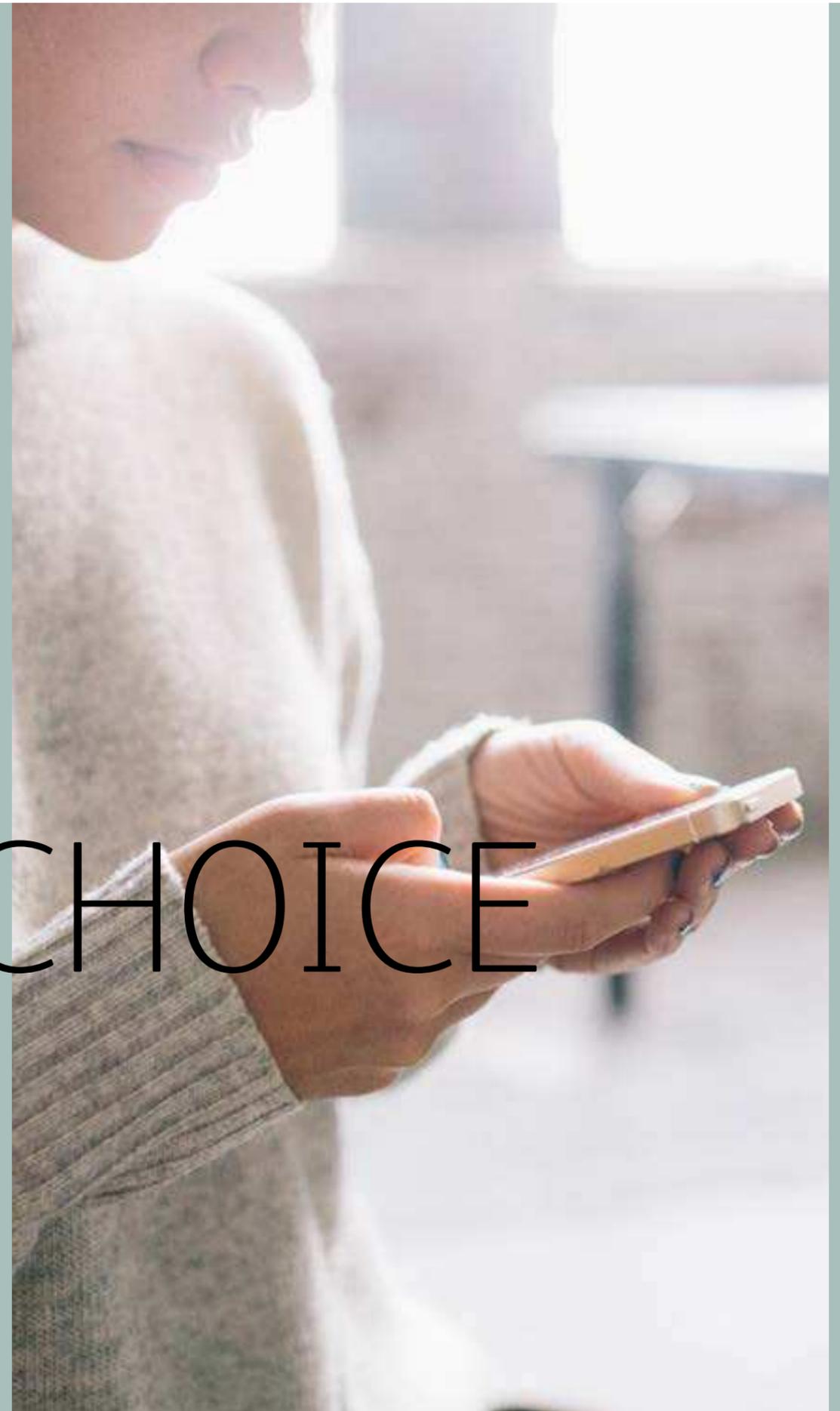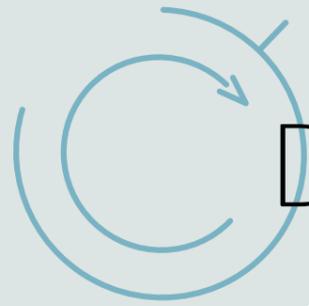
Definition

As often happens when a module or solution becomes sought-after, some less-than-scrupulous vendors will attempt to claim they have its functionality covered via workarounds or other means. With this inevitability in mind, it's important to understand not just what a storyboard solution is, but also what it is not.

In the interests of total clarity, to qualify as a viable storyboard at the most basic level, a solution or module must allow users to import, place, manipulate and interact with images, text, and other elements without the need to work in another piece of software.   Static collages of images and text that can be shown alongside product data or planning information but that must be created and edited in an external design tool do not meet these criteria. They do not tell the story of a product or collection themselves – only show snapshots of it.

Accessibility

As a fundamentally collaborative tool, the most basic qualifying criteria for a storyboard solution should be accessibility. If a digital board is to replicate and enhance the functionality of a physical one, it must be seamless and simple for both internal users (fellow designers, buyers, merchandisers, and sourcing teams) and curated supply chain partners to sign into, interact with, and use to share information.

At a basic level this means ensuring that the solution you select covers all the required platforms (Windows, macOS, iOS, Android) and will scale to every screen size you can envision using. To begin with this may only be desktop computers and smartphones, but to truly recreate the physical board experience, some solution vendors have also targeted large multi-touch displays.

In a more technical sense, cross-browser compatibility is likely to be important. While in-house I.T. may control whether your users access web applications through Chrome, Safari, Firefox or Edge, it will be difficult to exert the same control over satellite offices and suppliers.

Key to the sudden uptake in adoption of storyboard solutions, cloud deployments and subscription pricing have put a range of different technologies in easy reach of smaller businesses, or those that simply want to spread the cost of software licensing as operational expenditure. Similarly, the ease of adding new licenses, and the guarantee of regular upgrades make cloud implementations all but essential – particularly when we consider the importance of on-boarding suppliers.

Usability

While the attractiveness of a user interface is subjective, the smoothness of a user experience is not. Similarly, while the aesthetic design of a particular storyboard is difficult to objectively assess, it will be essential to involve real designers and other end users in the demonstration process for any prospective storyboard solution. From their perspective, a digital board should offer clear efficiency benefits over and above a physical one, so they should road-test the solution by running through all key interactions in their daily work and making notes of where the solution improves or impinges upon their existing ways of working.

The whole selection team should also approach each solution with their suppliers in mind. Where designers and garment technicians may be used to working in design-oriented environments like Adobe Illustrator (which many other creative tools try to mirror in their design language) the same may not be true of the factory worker or agent tasked with responding to requests. A good storyboard solution should, therefore, be straightforward to pick up and use for basic tasks like comments and replies.

Baseline Technical

As we mentioned before, the basic functionality of a storyboard solution involves inserting images and other multimedia elements onto a board or canvas, and then manipulating, sharing, and collaborating on these with other users.

More specifically, though, we consider the following as must-haves for any storyboard module or solution being actively sold in 2018:

- The ability to create custom board or canvas sizes that conform to the size specifications of physical boards and paper stock.

- The ability to professionally print a finished storyboard in any size, with no loss of quality on embedded elements – images and patterns, for instance, should look the way they did when originally inserted.

- The ability to create different pages, sections, or parts of a single board within a clear hierarchy, for experimenting with product sizes, channels, colourways and so on.

- The creation of reusable templates from a finished board, allowing users to quickly start work on iterative styles, or those that share a material, season, silhouette and so on.

- Users should be able to – within reason – insert essentially any kind of asset (including vector artwork, raster images, video and more) into the storyboard and have its existing metadata carry over. So for example, a designer takes a photograph from a particular runway show and adds it to her or his latest storyboard; in the background, the solution keeps track of where that image originated, its copyright status, original file size and dimensions and so on.

- All of these assets, once inserted, should reside in a single library – ideally one that is also shared with your PLM platform or independent Digital Asset Management (DAM) solution where this approach better fits your broader IT ecosystem.

- Linked to the above, users should be able to add new assets from PLM, DAM, or another external library from within the storyboard application.

- Carrying on this link, support should be present for turning finished boards into styles and / or collections with export to either PLM or your next-stage product design and development solution. This may or may not pre-populate fields in PLM, but some key information must carry over.

- Similarly, colour palettes, materials and other components that are created within the storyboard solution should be exportable to PLM or another development and collaboration platform.

- When it comes to collaborating further with suppliers, a storyboard solution should offer external user licenses at a cut-down cost, allowing customers to provide their suppliers with access to certain boards and libraries, governed by strong security credentials.

- Images and other static assets should support all common manipulation tasks once inserted onto the board: cropping, rotating, tweaking, and non-destructive resizing which allows the user to later resample the image and return it to its original dimensions and resolution.

- Once placed, all elements should be freely moveable and support stacking, so that a single image or video can, for example, overlap the one below it.

- In addition, users should have the ability to free type in their choice of fonts and colours, and to create freehand drawings and simple shapes.

- Lastly, we consider support for different devices and screen sizes to be mandatory. While massive multi-touch screens are an edge case, mobile access will prove all but essential for most businesses.

Advanced Technical

With the above constituting what we believe to be the basics of a storyboard solution, this section looks as areas in which vendors might choose to try and differentiate themselves. In effect, our list of basic technical functionality could be considered a template for creating a long-list of potential solutions are partners, while this more advanced section might serve as an aid to shortlisting.

At this level, we would also expect to see extensive integration or API-based access to external sources of assets. These might be asset exchanges such as thread libraries, material libraries, stock image libraries, personal photo clouds, professional colour libraries, and even social media, where an increasing number of designers gather first-stage inspiration from services like Pinterest.

With the addition of external libraries comes an even more acute need for change tracking and revision histories. Every image or other asset brought in from a third party source will need to have its origins tracked and its future use further supported by a complete change log that reflects every alteration, comment, removal or replacement.

Beyond these core elements, we also see the following as potential avenues for storyboard vendors to begin tailoring their solutions in order to stand out from the growing crowd:

- The ability to link to external font libraries to supplement either the user's system library or the solution's own. Sensible targets might include cloud-based, synchronised font sources like Adobe's TypeKit.

- In-solution image editing for common tasks. These might involve adjusting brightness, hue, saturation, contrast and other simple edits that avoid the need for the user to extract the image to Photoshop or another editing platform unless he or she has a more complex task in mind.

- The ability to create type blocks that wrap around the bounding boxes of other elements, and type paths that follow the edges of a curved image or other artwork element

- The ability to create and issue reference boards and receive amended versions from suppliers – all within the same solution.

- The ability to import limited business intelligence elements to aid in decision-making. For example, snapshots of a previous season's SKU retail performance or style-level markdown history could be extracted from a connected PLM or other intelligence solution and brought into a board to support informed decision-making. This may sound overly complex for a simple storyboard application, but all of it is information that is readily available and widely used in PLM dashboards and simple Business Intelligence solutions.

Integration

For many users, placing an inspiration image or material sample on a virtual storyboard will be the first time that element has become digital. Traditionally these elements would have remained physical-only, so in this sense, a storyboard solution serves as an on-ramp for the process of digital transformation, making it essential that the data entered into it can be exported, reused, and transferred to other enterprise solutions.

In some cases, integration to PLM comes as standard; storyboards are present as part of several PLM platforms, and a smaller number of these are currently offering more comprehensive products. For customers who already work with one or more portfolio solutions from these vendors, the promise of ready-made integration is likely to be persuasive, as a single platform can potentially play host to every piece of product data – from storyboard to sourcing and supplier management.

However, this should not be considered a reason to write off independent vendors or third parties, who will more than likely be able to build (or offer standardised) integrations between their storyboards and a range of other solutions through open Application Protocol Interfaces, or APIs.

Fit for the Future

Like PLM, it is possible to visualise some common areas in which all storyboard solution vendors will look to improve or add to their current products. But we also fully expect storyboard offerings to begin to diverge in the very near future, with different vendors looking to differentiate their solutions by drawing on their own heritage and experience.

Broadly speaking, though, we would expect the following to potentially emerge (or at least be considered by vendors for possible development) in the coming one-to-three-year period:

- More advanced image editing and manipulation functionality, including Photoshop-style layering and opacity options, a "blend if grey" option for quickly removing backgrounds, and freehand or smart selection tools to allow for the cropping and extracting of only certain parts of an image.

- Rapid iteration: a custom-built workflow designed to support small, incremental revisions to a style, accompanied by full change tracking and a threaded conversation view intended to enable greater transparency.

- Support for 3D assets. Rather than rotatable renders, however, these will likely be compressed down into a front, side profile, and rear view upon import, but with these views kept in sync as the actual 3D model or its underlying 2D patterns are amended.

- Real-time remote collaboration: the ability for multiple users to edit a single board simultaneously, with the addition of text chat, voice and video conferencing.

- More comprehensive decision-making toolsets that extend storyboard functionality beyond the single style level, to collection planning, assortment planning, and even hypothetical scenarios for product cost, bill of materials and more. A PLM connection, however, will be essential for these scenarios to be realised, since they are essentially a more approachable face on existing PLM functionality, and vendors of standalone solutions will not be able to replicate them easily.

- Support for consumer engagement. Although storyboards are currently used mainly in design and development, the possibility exists for a marketing department to pull the same or similar assets from PLM or another DAM solution and use these in a retail setting, allowing a shopper to assemble his or her own lookbook, or to potentially vote on themes and styles for a future season with some element of gamification.

- Finally, support for different industries. Although fashion functionality counts for a great deal, the same collaborative, visual workspaces have considerable potential in other creative industries, with the possible knock-on effect of more investment flowing back into fashion and retail applications.

None of these avenues of development are, however, guaranteed. If you identify any of them as being particularly important to your business in the future, it will be important to raise them with your shortlisted vendors, ensuring that their roadmap priorities match your own.

CONCLUSION

More than a decade after our CEO helped introduce comprehensive digital storyboards to the RFA industry, we are thrilled to see that vision reach the mass market. In WhichPLM's opinion, the best of the current crop of storyboard solutions capture the essence of fashion technology – taking an inefficient but well-loved creative process and not just replicating but enhancing it with the help of cutting-edge digital tools.

But just as we do with other PLM and extended-PLM solutions, we caution readers to invest carefully. Not all storyboard solutions are created equal, and much of the most exciting functionality that will define their future relies on other solutions for support: PLM, DAM, and so on. Prospective customers should make sure that they select not just a storyboard product that supports their intended use cases, but also one that reflects the reality of their current IT ecosystem.

Similarly, not all storyboards – whether standalone or part of PLM – will develop along the same track from today. It will be equally important, therefore, to find a vendor whose vision for visual, virtual collaboration aligns with your own – whether it's for collaborative working in design and collection development, consumer-facing marketing initiatives, or executive-level decision-making.
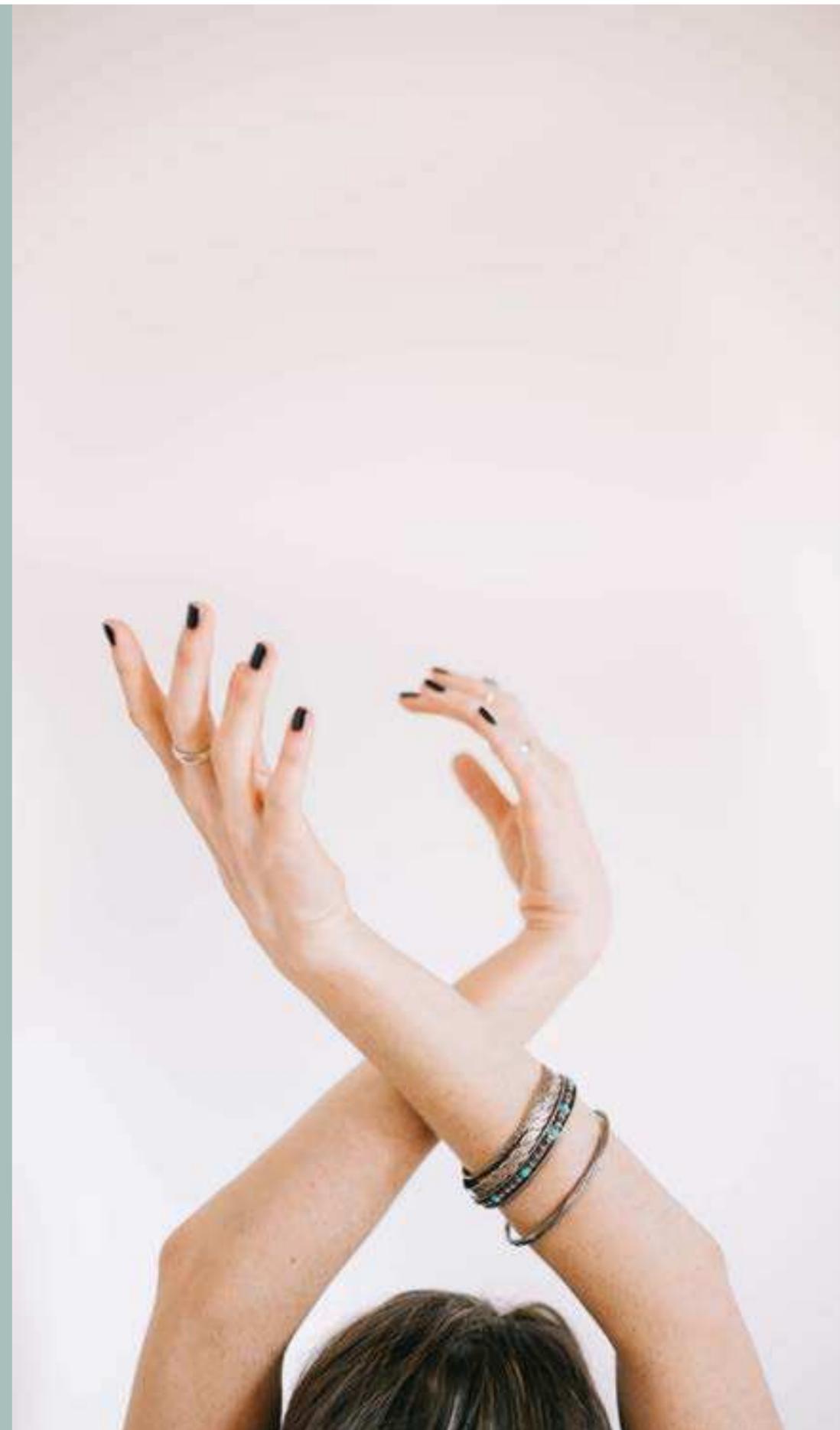
DEMONSTRATION CHECKLIST

BASELINE FUNCTIONALITY (LONGLISTING)

This checklist is informed by the detailed Storyboard Buyer's Guide put out by WhichPLM in early 2018. While that publication contains detailed analysis of the market forces that are shaping adoption of storyboard solutions, this checklist is a simpler prospect: it contains a list of basic functionality and a list of advanced functionality, which prospective customers of storyboard solutions can use to narrow down their choices and become better informed about the capabilities of different solutions.

Any solution that meets all criteria under the "baseline" umbrella can be considered feature-complete, while more mature modules may include some elements of advanced functionality.

CUSTOM BOARD SIZES

HIGH QUALITY PRINT SUPPORT AT IMPORTANT PAPER SIZES

CREATE SECTIONS WITHIN A SINGLE BOARD

SAVE BOARDS AS TEMPLATES

INSERT MULTIMEDIA WITH METADATA

OWN ASSET LIBRARY OR INTEGRATION TO PLM / DAM

ASSET IMPORTS FROM PLM / DAM

EXPORT STYLES TO PLM WITH KEY INFO. CARRIED OVER

EXPORT LIBRARIES - MATERIALS, COLOURS ETC.

EXTERNAL USER LICENSING WITH ROBUST SECURITY

STANDARD IMAGE MANIPULATION: CROP, ROTATE, RESIZE & TWEAK

STACKABLE ELEMENTS

FREE TYPING WITH CHOICE OF FONTS & COLOURS

ABILITY TO COMMENT ON ALL ELEMENTS

SUPPORT FOR MULTIPLE DEVICES & SCREEN SIZES

DEMONSTRATION CHECKLIST
ADVANCED FUNCTIONALITY (SHORTLISTING)

INTEGRATION TO INDEPENDENT ASSET LIBRARIES & SOCIAL MEDIA

MORE COMPREHENSIVE, BI-DIRECTIONAL INTEGRATION TO PLM

COMPREHENSIVE CHANGE TRACKING & REVISION HISTORY

SUPPORT FOR EXTERNAL FONT LIBRARIES

DETAILED IMAGE EDITING; NO NEED FOR PHOTOSHOP

ADVANCED LAYOUT OPTIONS: TEXT BLOCKS WITH BOUNDING BOXES & PATHS

ADVANCED SUPPLIER COLLABORATION THROUGH REFERENCE BOARDS

BUSINESS INTELLIGENCE & DECISION-MAKING FUNCTIONALITY

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