

A woman with long dark hair is smiling while wearing a white VR headset. She is holding two white VR controllers in her hands. The background shows a brick wall and some greenery, suggesting an outdoor or semi-outdoor setting. The image is overlaid with a dark blue gradient.

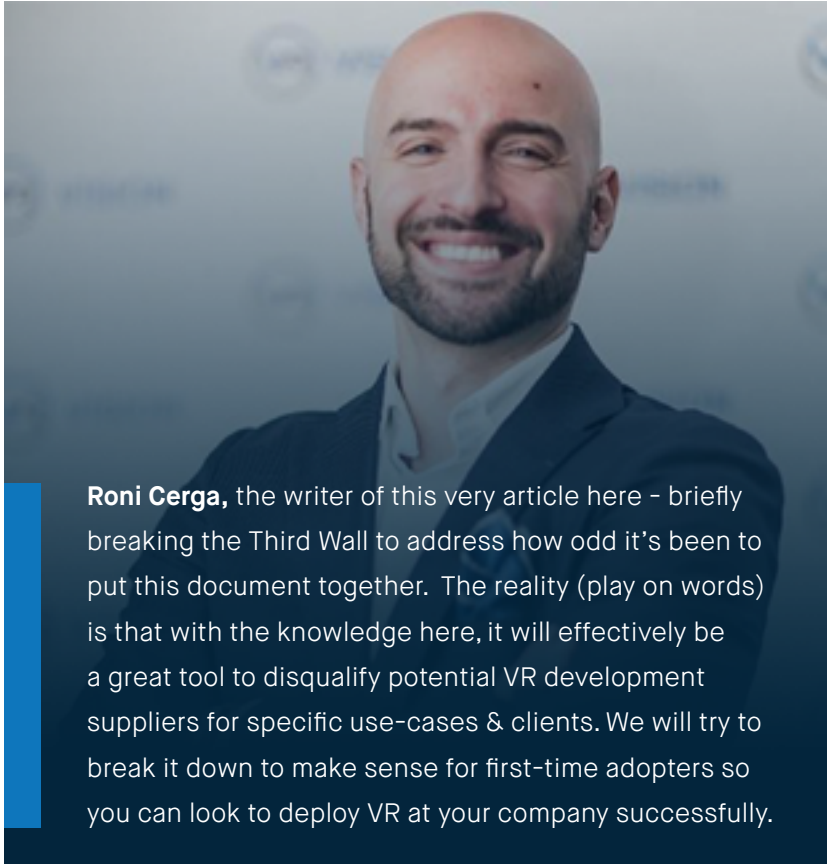
Supplier Selection Guide for Virtual Reality (VR) Services

A comprehensive guide for enterprise organizations to evaluate vendors and VR technologies for business purposes.

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Roni Cerga, the writer of this very article here - briefly breaking the Third Wall to address how odd it's been to put this document together. The reality (play on words) is that with the knowledge here, it will effectively be a great tool to disqualify potential VR development suppliers for specific use-cases & clients. We will try to break it down to make sense for first-time adopters so you can look to deploy VR at your company successfully.

Selecting a new software supplier or application is challenging but rewarding at best and nerve-wracking at worst. You typically have dozens of qualified options, with various technical features, user experience and pricing models that range from free to thousands of dollars per user. If that was not enough, you have to consider implementation times, ease of use and support.

Choosing a vendor for VR development, unfortunately, includes even more decision-making criteria than the above. The good news is that this document is designed to help simplify and streamline that process.

We'll do this by combining all the relevant traditional vendor measurement criteria and some unique ones that are more relevant to VR. To pull it all together, you can also download a pre-prepared **VR Supplier Evaluation-matrix Template**.

Establish Requirements

Having a clear idea of what software/ system you need is key to establishing the importance of the different evaluation criteria. There are a few steps you can take to prepare.

- Looking into existing training/marketing initiatives and determining areas underperforming or creating challenges that can be addressed by implementing Virtual Reality.
- Put together a list of objectives/outcomes you would like to achieve by incorporating Virtual Reality; this will be instrumental in determining which product or supplier best fits your needs.
- Establish if the applications will be for VR that's PC powered or Standalone.
- Decide if the applications will be interactive 360 or CG (or a combination of the two).



Evaluate Early

How the suppliers engage with you during this planning stage (If you choose to involve them early on) is a crucial element. It will set the tone for all your future communication with them. To the right, you will find several areas to measure vendor performance during your initial calls:

- **Responsiveness**

How long it takes for them to respond to your ongoing communication.

- **Technology Expertise**

How knowledgeable are they about the technology, its benefits and drawbacks.

- **Professionalism**

Their capacity to listen, understand your specific needs and respect your time.

- **Transparency**

How clearly they elaborate on topics of cost, timelines and project risk.



Involve The Right People

Involving the right internal stakeholders in the evaluation process helps to not only better evaluate suppliers but also ensure future project success. This becomes much more apparent once the technology is about to be rolled out or post-roll out. This is because many of the roadblocks, especially on user adoption and integrations, can only be practically observed post-implementation.

The following roles will vary slightly by the organization; we find that the essential functions you need to be involved in early are listed below.

Subject Matter Experts (SMEs)

This is usually the person or people taking the lead on the project. They can vary depending on the initiative, from learning and development experts to marketing leaders. It's a given that an SME is involved early on.

Note for SMEs: Rarely is the technology supplier both an expert in the technology and your unique expertise (as it could vary widely), they should nonetheless demonstrate that they can clearly understand your goals and prove to have done so for others on similar projects in the past.

Information Technology (IT)

The exact role will vary depending on the organization, but you will want to include someone or people who are responsible for Application Management, Networking Administration & Helpdesk.

Note for IT: You will typically want to own/control your hardware infrastructure. This way, you won't be locked to a single vendor for software development. When evaluating the vendor, rate their ability to integrate with your network infrastructure and third-party applications such as your LMS.

Involve The Right People



Finance / Procurement

They will establish early not only what you can afford but also the type of solution you can deploy. Depending on where the funds are coming from OPEX, CAPEX or a combination of both, it will determine if you can even work with certain suppliers. For example, some suppliers (typically the ones with a SAAS offering) can only engage on a subscription basis, necessitating OPEX.

Note for Finance / Procurement: Establish payment terms/milestones and currency early. Get clarity on potentially out-of-scope items, their financial impact, and any additional expenditure for maintenance & support.

Legal

Involvement will vary depending on the project type. If you share anything confidential, a mutual NDA is best completed before your team shares any details. They are also more involved in the later phases of custom development projects. This is because content & system ownership plays a more significant role in custom work than a self-serve creation tool or a fully out-of-the-box SAAS solution.

Note for Legal: Content created bespoke for your organization should and is traditionally wholly owned by you. Unless otherwise specified. If so, ensure that there is adequate compensation/discount received in exchange for the resale or asset re-usage of your content by the vendor.

Choosing The Right VR Technology for Your Needs

Before evaluating your suppliers, it's essential first to determine the type of service product that best suits your organization. This can, at times, be a combination of both. For example, it was using a SAAS product for content management and vendor production.

GUIDES:



Cost



Time to Delivery



Content Modification

Out of The Box VR



Very Fast



Very Low

If you can find an out of the box solution that fully suits your organisational requirements, it's usually the best choice. In this case you would focus on evaluating it's functionality, cost structure and support. Unfortunately, VR is still new and the variety of available out of the box solutions is limited. That said, VR companies are commercializing what started out as custom solutions to make them available to their respective industries and this is creating a new wave of turnkey applications.

One segment where you will find some great & relatively mature VR applications is around the collaboration space. Development here was also fueled by the disruption to collaboration that COVID caused. A great example for a company creating outstanding Out of The Box VR Solutions is <https://glue.work/>



Choosing The Right VR Technology for Your Needs



Self-Serve VR Creation



Very Slow

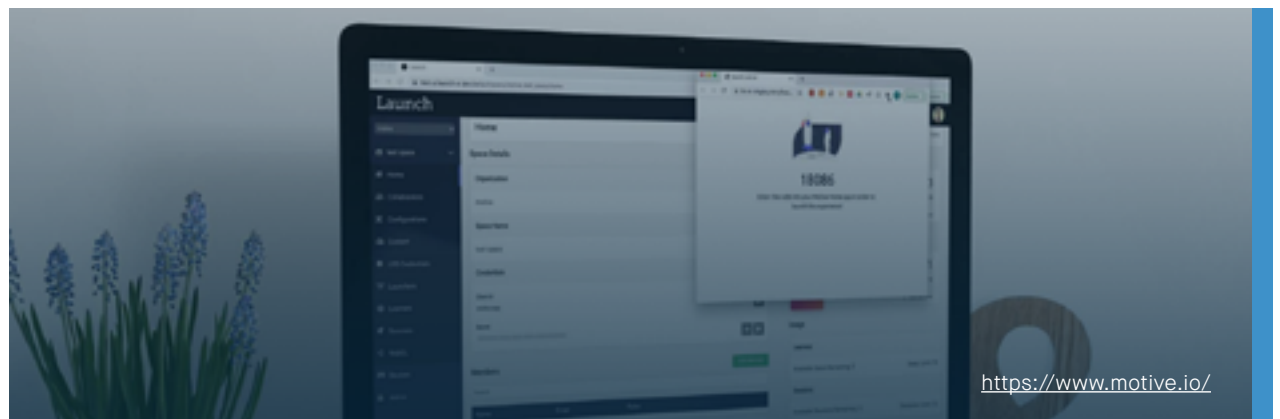


Moderate

This category is similar to self-serve applications like WordPress for website creation. They enable your employees to create in house VR applications without the need to have expert programming knowledge with more sophisticated game creation engines such as Unity or Unreal.

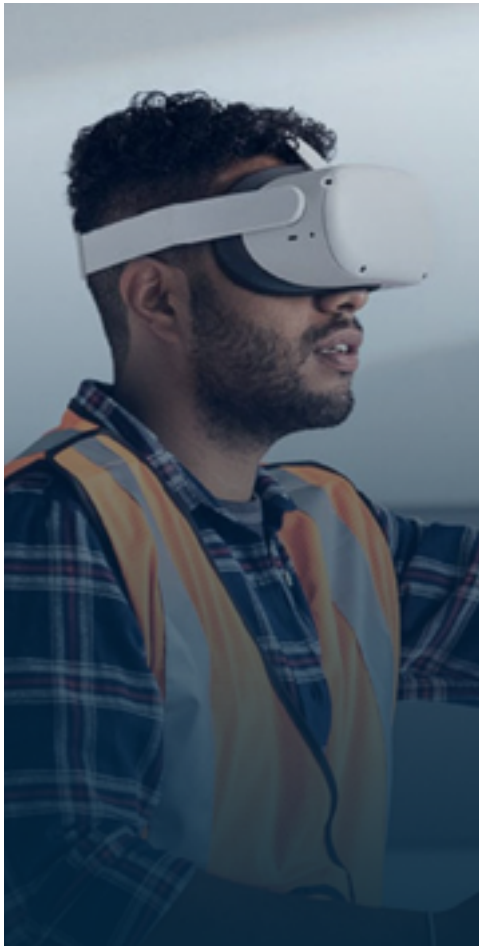
We would advise in prioritising this option if you have qualified but not expert technical team members with technology experience. It's also best for modules with simple workflows and a lesser complexity of object interactions.

When engaging with vendors offering self-serve software, ensure that you get all the required information around the cost of services outside of the actual tool licensing. This includes but is not limited to modeling, 3D filming, strategic planning and integrations.



<https://www.motive.io/>

Choosing The Right VR Technology for Your Needs



Self-Serve VR Creation



Very Slow



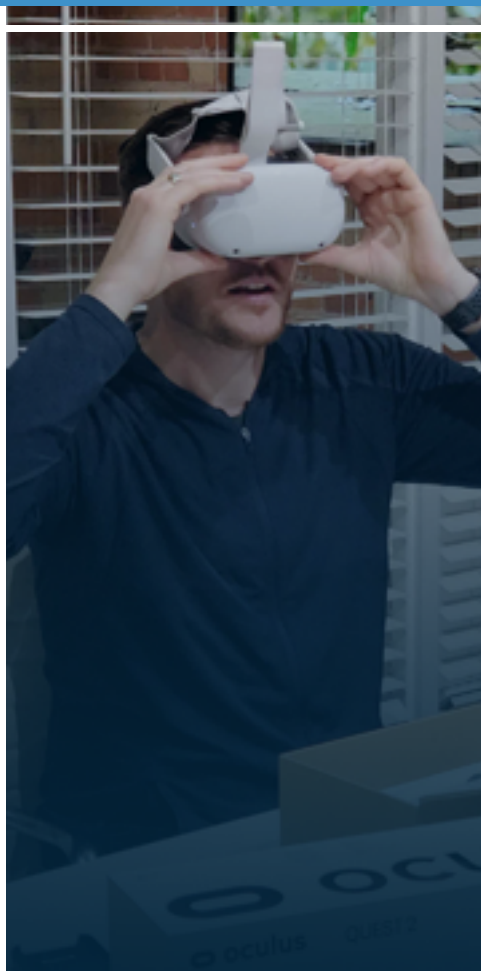
Moderate

The benefit is that you can create a large number of modules, they can be as simple or complex as the effort that the team can put into it as well as what the application can support. Creating these modules in house also eliminates the knowledge transfer needed for a custom development company to roll out similar projects.

The drawbacks are that the tools are typically limited in their interaction capabilities, most allow for simple point and click interaction but not much in terms of tools and equipment interaction. Another limitation to this solution is that the output will be only as good as the skills of your team, and if they are not experienced (or just busy) it can cause delays due to upskilling them to use the application, as well as potential quality issues if there is turnover.



Choosing The Right VR Technology for Your Needs



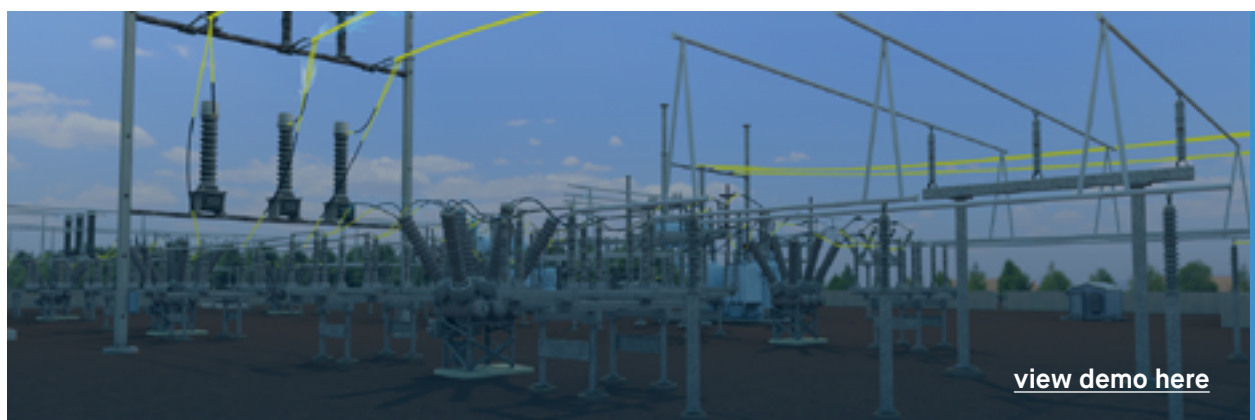
Custom Developed VR



Custom developed solutions are completely bespoke to your organizational needs. You engage with a vendor who is able to collaborate with your team and support them from conception to completion.

This is the choice option if you need modules exactly to your specific needs. It's also a good choice for organizations who need modules with a high degree of complexity.

Key to a successful engagement with custom VR development companies is to dedicate time to planning and storyboarding the flow of your module(s). Understand their development process and make sure that you have the required internal resources to support the vendor with subject matter expertise. A great example for a successful custom VR Development company (besides yours truly) is [Mammoth XR](#).



[view demo here](#)

Choosing The Right VR Technology for Your Needs



Custom Developed VR



The benefit to these solutions is that they have a high degree of success rate. This is because subject matter experts are working on your project with a proven track record of rolling out similar solutions. They also take into consideration all your brand guidelines and standards thus delivering a cohesive corporate experience for your employees. If your modules require unique and proprietary documentation, out of the box solutions simply cannot deliver while self-serve typically lack interaction complexity.

The drawbacks to custom development is that it usually comes at a [premium cost](#); this can often be a deciding factor. Another concern is that modules take months to create and implement, this is much slower than out of the box solutions and usually slower to even self-serve once the team has been fully trained and is experienced in using the self-serve applications. If you change vendors often this may cause an inconsistent look and feel to your applications. Leading providers will provide all of the below services to ensure successful deployment:

- Technical consulting & module storyboarding
 - Some vendors offer this service at a cost others for free
- 3D Modeling, Animations, Special Effects, UI/UX Design
- Integrations to your existing tools
- Implementation support
- A Guide on how to Select a VR Development Company

Evaluation Criteria for VR Development Companies

Once you have involved the right people and decided on the right VR Technology, you can move to evaluating vendors across several aspects that range from their technical competency, cost structure, ability to execute and track record.

- **Specialization**
- **Hardware Focus**
- **Integrations**
- **Analytics**
- **Pricing & Financials**
- **Demos**
- **References**

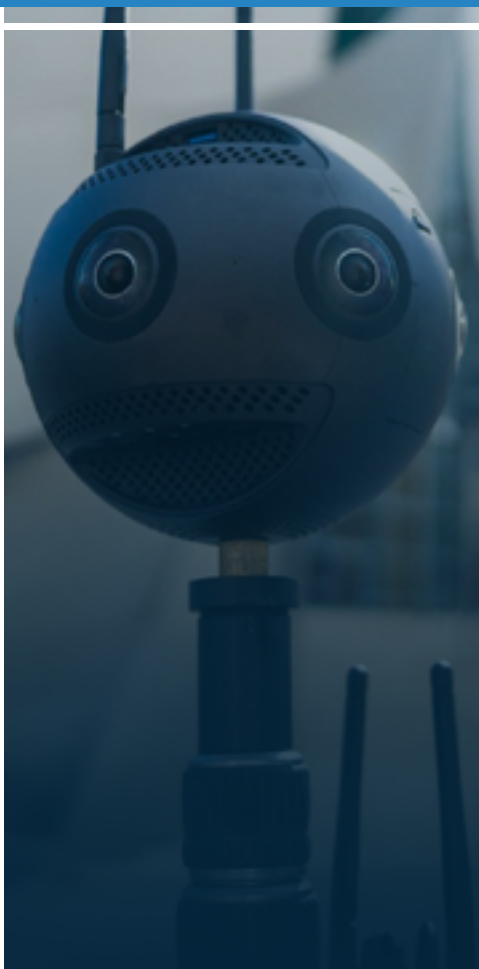
Content Specialization

There are two main delivery vehicles for the base VR content, the first is 360 Video and the second is Computer Graphics. One of the very first steps in establishing your requirements is deciding which is best for your specific needs. Most organizations eventually end up using both technologies as they have their own strengths and weaknesses depending on the use case. Without going too deep into this topic below is a chart distinguishing between the two.

	Visuals	Interactions
CG	3D Generated	Complex object manipulation
360	Lifelike	Point & click with visual overlays

When selecting a vendor, decide early what technology is most important to you, as well as if this may change in the future. If you plan to start with 360 content but expect to add CG, choosing a vendor that can deliver for both becomes crucial. Alternatively as an example, if you know that you will only need CG, a vendor's ability to deliver 360 content is irrelevant for your evaluation purposes.

Evaluation Criteria for VR Development Companies



360 Vendor Evaluation Criteria

Your vendor evaluation for 360 will depend on your highest priority requirements. For example, if the content is meant to be more experiential the ability to produce high quality video content is the determining factor, meanwhile if user interactions with the content is your main objective their ability to deliver interactive user friendly content takes precedence over the visual content. Ideally, you would be looking for a vendor who can deliver both high quality content and a great experience through their UX/interactivity.

Content Production

Ensure the supplier has the right equipment to capture and deliver high quality 360 Stereo Footage. We would advise for minimum specs to support 8K 3D (Stereoscopic filming) , this is in line with cameras such as Insta 360 Pro 2 , Insta360 Titan, Obsidian S/R and the Obsidian Pro. Anything better is nice to have especially for PC Powered systems. For Standalone VR, anything with higher specs won't make a noticeable difference as they are limited by processing power. You can learn more about 360 Video Production on another [white paper we released here](#).

Besides video capturing hardware, the vendor needs to have a proven ability to capture 360 Audio, a talented team that can direct, storyboard and understand the best practices for capturing this type of content.

Evaluation Criteria for VR Development Companies



360 Interaction Design

Once the 360 stereoscopic footage has been captured and edited, the next step is to layer in functionality. This will vary in degrees depending on your module goals. A simple way to break it down is by levels of complexity.

- **Basic 360 interaction**, this is a simple video that plays out, with visual callouts and overlays and a voice over with the option to pause & replay the content.
- **Moderate 360 interaction**, in this module the user will have the ability to navigate seamlessly to different points of view or scenes using hot spots. They will have the ability to interface with the UI, which can range from making specific choices to quizzes.
- **Advanced 360 interaction**, this includes all the aspects of moderate 360 interaction but also has the added functionality of “**branching storyflow**”. This means that the choices the user makes while interacting with the module can trigger different scenarios (scenes) to play out with a cascading effect.



Evaluation Criteria for VR Development Companies



A vendor's competency to deliver VR content can be broken down into two core components: 3D Modeling and CG Interaction Design.

CG Vendor Evaluation Criteria

3D Modeling

Here you will be evaluating the vendor's ability to create 3D worlds and objects that are specifically designed for interaction in virtual reality. They can use a variety of tools and systems to create these environments and assets. What's most important to you is the end result.

IMPORTANT: When comparing vendors' 3D modeling capabilities make sure that you are benchmarking standalone creations and PC powered creations separately.

A successful vendor needs to be able to demonstrate proficiency for 3D modeling in two core areas:

- Creation of the static world/environment that the experience will take place in.
- Creation of the interactable and non interactable assets such as tools, vehicles and other products.

You can rate your vendors based on the below criteria:

- **3D recreation from existing assets**, compare the existing 3D assets to what they recreated for VR.
- **3D recreation from photos**, compare the photo of the object to what they recreated for VR.
- **3D Optimization**, compare their most complicated scene, and measure frame rates & realism between vendors. Checking the polygon counts for their more complex objects is also a great way to benchmark.

Note on 3D Modeling: Ensure that what you are evaluating is original content and that the vendors are not using stock images or photos for asset libraries that can be purchased online. Reverse image lookup can work as a great vetting tool.

Evaluation Criteria for VR Development Companies



CG Interaction Design

How a user interacts with their virtual environment is the most important component to deliver a truly immersive experience. In 360 the user's interaction is very limited to point and click, as the focus is on the visual experience. For CG evaluation the importance is reversed, as long as a vendor can deliver non-nausea inducing acceptable visuals then the evaluation focus should be around their ability to generate natural feeling interactions with the virtual environment.

There are two ways users interact with virtual content, the first is through UI interactions and the second is through object manipulation. Below we'll go into detail for what you should be looking to evaluate these interaction types.



Evaluation Criteria for VR Development Companies



UI Interaction

This is the overlay interface found in VR, basically windows, panels, teleportation system, call outs and a lot of similar elements that we covered in 360 interaction design. One thing to look out for is how the vendors utilize the above mentioned elements. For example, do you use your hand / fingers to interact with these objects or are they using a laser pointer? If so, does it feel natural?

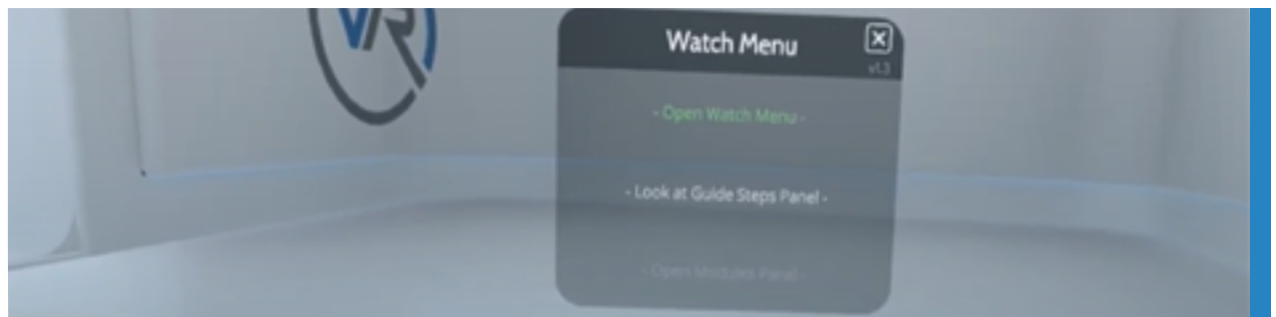
Ways to evaluate UI Interaction in CG:

Visual consistency

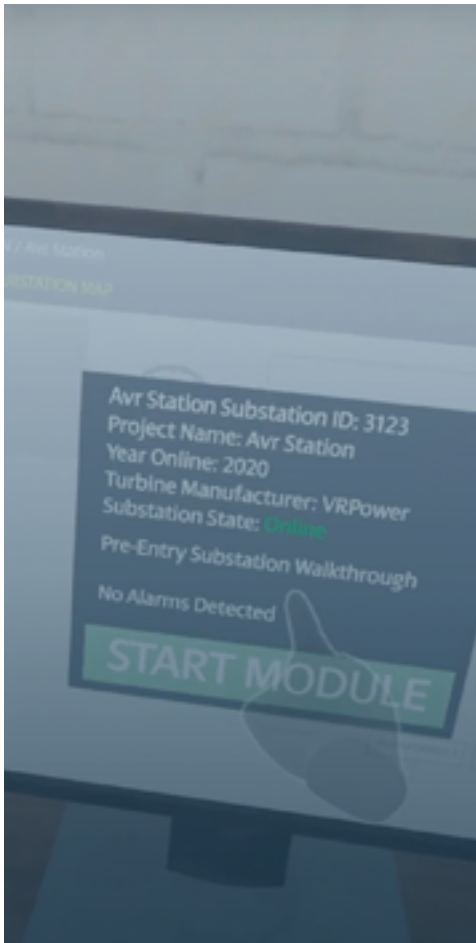
- Are the interaction elements styled in a similar manner? For example, consistency of font & type size, menu color and scale, teleportation and highlight colors.

Ease of use

- How intuitive is the tool overall? A simple baseline to measure ease of use is to base it off how much time it takes new users to pick up and use the system. A more sophisticated approach would involve testing it on a variety of users at different tech completeness levels.



Evaluation Criteria for VR Development Companies



Object Interaction

Essentially object interaction is the user's ability to engage with the virtual world, for example pushing buttons, picking up items and using them to interact with other objects for example using a wrench to tighten bolts.

Creating the right kind of interaction in VR is a balance of accurately replicating those very actions from the real world and when to implement simpler mechanisms that would produce the same result.

When evaluating the vendors ability to properly implement object manipulation, look to rate both when and how they implement 1:1 real world transition of hand gestures, picking up objects, interacting with them but also their ability to implement simple point and click mechanics. This is good to do for mundane tasks that are not critical in either developing muscle memory or instrumental in showcasing a feature from a product as it decreases the cost of development and reduces unnecessary engagement with the VR system.



Evaluation Criteria for VR Development Companies

Hardware Focus

The vendor's competency, specifically when it comes to world-building through 3D modelling, is closely tied to their proficiency at developing for either Standalone VR Devices such as the Oculus Quest 2, Pico Neo 2 and the HTC Focus 3 or high-end PC powered systems like the Varjo VR-3, HTC Vive Pro Eye and the HP Reverb G2.



Evaluation Criteria for VR Development Companies

From an evaluation perspective, you need to ensure that when comparing applications between vendors, you are benchmarking PC-powered and Standalone separately. Additionally, any 360 apps should be rolled out in standalone VR as the systems can run those visual applications at high resolutions/quality, not necessitating PC performance.

Hardware Focus

Standalone

A vendor's ability to create high-quality, low polygon count 3D models is a critical competency when evaluating them for standalone VR - because they need to have the skills to create realistic scenes and assets while making sure that the polygon count is within an acceptable range. This is critical because these apps will run on mobile devices/processors that are limited in power output.

PC Powered

For PC-powered applications, the vendor's ability to optimize is secondary to creating extremely high-end visuals. This is because compelling graphic processing computers are handling the processing. These visuals are most critical for detailed simulations such as flight training, product design and medical surgery.

Oculus Quest 2
Standalone



Varjo VR-3
PC Powered



Evaluation Criteria for VR Development Companies

For a VR application to be appropriately adopted by an organization, the deployment should not be split apart from the software infrastructure your company relies upon. These integrations prove the effectiveness of the application to the stakeholders and guide future initiatives.

Common Integrations

- Learning Management Systems
- Customer Relationship Management Software

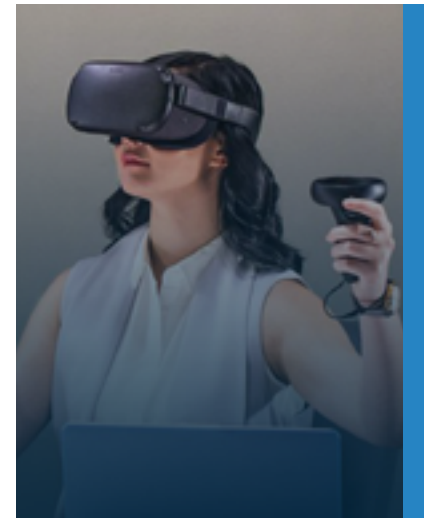
Integration Capabilities

- **xAPI** - This is an e-learning protocol designed to report a broader range of learning activities. It allows for virtually any training that does not take place on a browser to be fully tracked, which was not possible in the past. In addition, it also provides the infrastructure to submit detailed information about a training session.
- **Vendor API** - Many LMS's offer an API (Application Programming Interface) to connect external systems. This is a crucial component, as it provides the potential to retrieve and post information to a training environment. This is useful because it allows for a wider variety of options to integrate VR to more easily fit in with your organization's typical course setup. For example, if your learning sessions require pre-registration, but your training sessions are completed based on fluctuating capacity, you may need to utilize the API to register and mark courses completed.

Learning Management Systems(LMS)

To minimize the manual efforts required by trainers and trainees, training applications rely on LMS's. This allows organizations to collect training initiatives from across an organization into one place. It is a staple to any form of learning to take place, and as such, VR must have its place in these systems.

Many organizations require these training sessions to be scheduled and for attendance to be submitted and scores to be tracked for trainers to evaluate the competencies of their team and plan out their training initiatives. As such, this is typical for any form of e-learning, and VR is no exception.



Evaluation Criteria for VR Development Companies



Customer Relationship Management (CRM) Software

If your VR application is more related to your products being used by your customers, a great opportunity is to integrate with your CRM. This offers a way for your marketing and sales team to understand how your customers engage with your products. In addition, this is a unique opportunity to observe their interactions because they're likely either doing this at their desk or the comfort of their own home, where they can be comfortable interacting with your products without feeling as if someone is watching. As your content is distributed worldwide, you can further understand the consumer behaviour in each of your target markets and see how different demographics interests change.



Evaluation Criteria for VR Development Companies



Ability to Deliver Insights (Analytics)

An often-overlooked element for long-term success in evaluating vendor technical capabilities is their ability to deliver insights on application usage and user behaviour. This is a crucial component because it quantifies the effectiveness of the content, providing accurate business intelligence. A vendor must be savvy in collecting the metrics from the application and providing a variety of options to allow you to use this data for your specific needs.

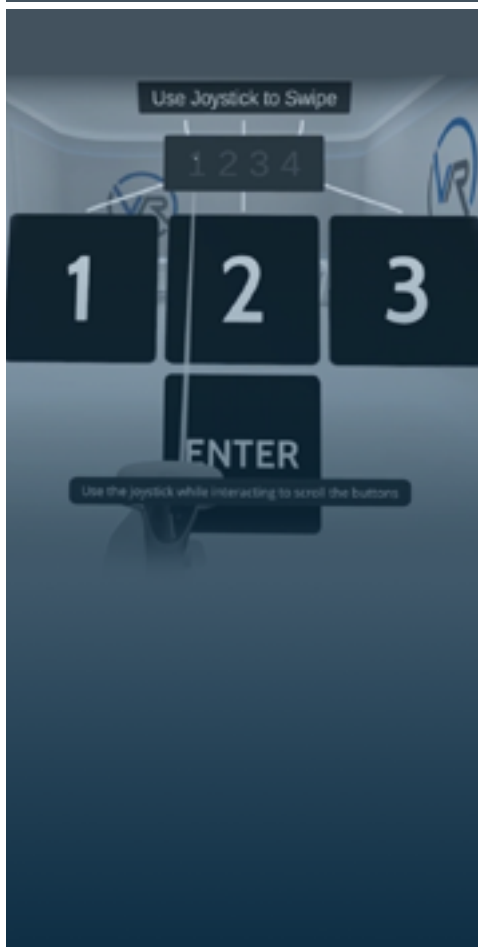
- **Usage**
- **Geographic**
- **High-Level Application**
- **Individual User**
- **Multiplayer**

Accessibility & Localization

It's critical that the vendor can showcase some examples of accessibility features. For instance, if your organization is multinational or bilingual, it's good to have language localization options.

The core features regarding accessibility are; voiceovers, audio prompts, closed captioning and haptic feedback. In addition, part of advanced accessibility features is the vendor's ability to provide systems and tools that aid the user remotely.

Evaluation Criteria for VR Development Companies



Demos

The only way to effectively measure a vendor's capability is to trial their applications. Therefore, all the information needed for the different evaluation criteria such as Content Specialization, Hardware Focus, Integration Capabilities should be based on first-hand demo experience and not videos & presentations.

Your prospective vendors can either ship you the devices preloaded with the trial apps for a several-week trial period or provide you instructions on installing them on your own devices.



Cost Structure / Pricing



VR SOFTWARE ROI CALCULATOR

The ROI calculator is designed to be a guiding tool in establishing feasibility for VR training in a realistic way. Although effective, there are certain aspects that are difficult to quantify in a straightforward way.

The numbers provided below are pre-populated as a reference based on industry averages.

Company Name:

Number Of Employees: Avg. Hourly Pay:

INVESTMENT

VR Content Development: Implementing VR Training Hardware:

Licensing / Maintenance & Support: Internal Resources Cost:

TRAVEL SAVINGS

Trip Reductions: **ESTIMATED SAVINGS ON TRAVEL**
Savings From Reduced Travel Expense:

Cost Per Trip: Travel Productivity Gain Savings:

Work Hours Lost:

TRAINING

Traditional Training Duration: **SAVINGS ON TRAINING**
Productivity Time Cost Savings:

Training Sessions: Efficiency Time/Cost Savings:

Cost should be one of the highest rated criteria in vendor selection. When looking at pricing you would do well to consider the total cost of ownership over a period of time, the standard is 3-5 years. This is in line with typical IT/Technology renewal periods.

We have also launched a tool that will help you calculate return on investment for deploying Virtual Reality (this is specifically designed for training scenarios, not applicable to other use cases such as marketing).

There are typically going to be two types of costs to consider, the first is a one time fee and the second is annual recurring. Different solution providers will offer a wide range of pricing options and structure. These can range from a per user basis, company wide, one time engagements etc.

When calculating the vendors pricing, make sure it's in line with your budget whether it's CAPEX or OPEX as well as basing your score on TCO (Total Cost of Ownership).

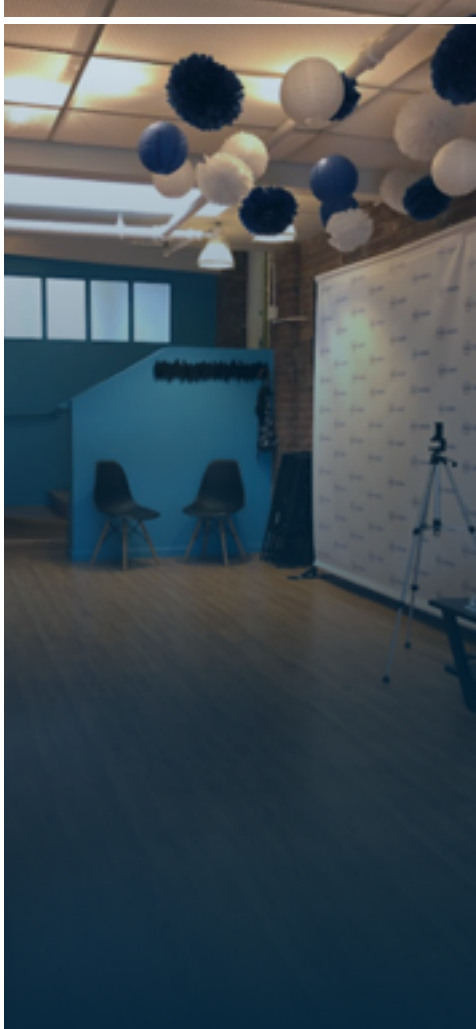
Two tips on getting the best pricing from your chosen vendor:

- **Ask for a BAFO** - Best and Final Offer. You will be surprised how much this can impact your bottom line.
- **Offer to provide marketing support.** This can be exchanged for further discounts / product, etc. Make sure that it is conditional on a successful deployment.

Ensure you are made aware of any hidden costs, in the event of software failure, bugs, user tiers, ongoing integrations, data hostings, etc.

<https://vrvisiongroup.com/roi-calculator>

About VR Vision



We are a cutting edge technology company. Our goal is to help organizations provide innovative, immersive & impactful experiences using the power of Virtual Reality!

Who We Are

At VR Vision, you will find the most diverse and exceptional group of people. We are innovators, dreamers, and thought leaders in the Virtual Reality metaverse.

Our team is passionate in what they do, and are driven to make the transformational power of VR accessible to all. Our culture is one of collaboration, free thinking, flexibility, and overachieving.

Our Mission

Our mission is to make it possible for businesses to deploy and take full advantage of emerging Virtual Reality and Augmented Reality solutions.

We achieve this by offering full turnkey solutions. We provide hardware deployment as an authorized ISV Oculus Partner, HTC Vive and Pico Interactive authorized reseller as well as professional services through our dedicated technical team, and unparalleled quality of custom developed applications from our incredibly talented in-house team.

VR Vision Executive Team

VR Vision is a rapidly growing organization that is focused on hiring quality people that are passionate and driven by moving virtual reality and immersive technology as a whole forward in the world of business.

Each member of VR Vision has a core competency that yields to a greater goal for the company and helps bring together the perfect blend to help provide the best that immersive technology has to offer.

CONTACT INFO

WE'D LOVE TO HEAR FROM YOU!

We live and breathe VR & AR (XR) and all types of immersive technologies; We would love to hear from you to start your next project, simply fill out the form below and we'll get back to you within 48 hours but usually sooner!

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