HOW THE WIZARDS WALTZ:
STATS FROM OVER 300,000 WALTZ OF THE WIZARD SESSIONS

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Waltz of the Wizard is a virtual reality experience created by Aldin Dynamics that lets players feel what it’s like to have magical powers. Players combine arcane ingredients into a boiling cauldron with the help of an ancient spirit trapped in a human skull, unleashing creative and destructive wizardry upon a fully interactive virtual world. The experience also allows players to travel to new places, finding themselves in mysterious circumstances full of detail and unforgettable atmosphere.

Waltz of the Wizard was designed to serve as a good introduction to what makes room-scale VR unique, offering a diverse experience and game mechanics that utilize VR to its fullest. The experience offers a believable reality to interact with — taking full advantage of the fact that players can physically behave in VR as as they do in the real world. Waltz of the Wizard is classified as compatible with standing play area setups, although it will be noted that it is designed for room-scale.

Minimum requirements:
- Intel i5-4590 / AMD FX 8350
- 4 GB RAM
- NVIDIA GeForce GTX 970 / AMD Radeon R9 290
- 2GB Disk Space

Recommended requirements:
- Intel i7-4790
- 8 GB RAM
- NVIDIA GeForce GTX 970
- 5GB Disk Space
- Room-Scale VR Play Area

Userbase
Released for free on Steam on the 31st of May 2016, Waltz of the Wizard has seen over 300,000 sessions since release. The number of players has surpassed 100,000 as of the date of this publication.

Reception
Waltz of the Wizard was nominated in the 2016 Proto Awards for Best Interaction Design and, at the beginning of 2017, has become the highest rated VR app on Steam. The experience has received over 600 user reviews with a 99% positive approval rating.

Ghostline
The data presented in this publication was collected anonymously and processed using Ghostline, an advanced analytics and visualization tool for VR created by Aldin Dynamics. Ghostline was vital in the production of Waltz of the Wizard, ensuring intuitive interactions and targeting development efforts to make the virtual world react plausibly to player presence and behavior.
INTERESTING FINDINGS

Over 50% of all players are 140-160 cm in height.

37% of players were from the United States.

87% played in room-scale and 13% in standing play areas.

Room-scale players walk around 32% more than standing players.

Room-scale players look around 18% more than standing players.

Room-scale players have on average 19% longer sessions and 72% longer lifetime gameplay compared to standing players.

On average the largest play areas are in China and the smallest in Japan.

Downloads increased by 284% from November to December 2016.
PLAY AREAS

STANDING PLAYERS
13%

ROOM-SCALE PLAYERS
87%

SESSION AVERAGE
16 min

SESSION AVERAGE
19 min

LIFETIME AVERAGE
29 min

LIFETIME AVERAGE
50 min

COUNTRY PLAY AREAS IN SQUARE METERS

USA
- 53% Play Area m²
- 5,8 (avg)
- 11% 1m²
- 11% 1-6m²
- 11% 6-9m²

China
- 40% Play Area m²
- 5,9 (avg)
- 13% 1m²
- 13% 1-6m²
- 11% 6-9m²

UK
- 63% Play Area m²
- 4,8 (avg)
- 14% 1m²
- 14% 1-6m²
- 6% 6-9m²

Canada
- 54% Play Area m²
- 5,6 (avg)
- 11% 1m²
- 11% 1-6m²
- 9% 6-9m²

Germany
- 58% Play Area m²
- 5,1 (avg)
- 12% 1m²
- 12% 1-6m²
- 8% 6-9m²

France
- 61% Play Area m²
- 4,8 (avg)
- 13% 1m²
- 13% 1-6m²
- 4% 6-9m²

Sweden
- 59% Play Area m²
- 5,4 (avg)
- 10% 1m²
- 10% 1-6m²
- 7% 6-9m²

Japan
- 58% Play Area m²
- 4,4 (avg)
- 11% 1m²
- 11% 1-6m²
- 10% 6-9m²

Global
- 54% Play Area m²
- 5,5 (avg)
- 23% 1m²
- 23% 1-6m²
- 13% 6-9m²
- 13% 9m²+
**HARDWARE**

**OPERATING SYSTEMS**
- Windows 8.1: 4%
- Windows 7: 13%
- Windows 10: 83%

**CPU MANUFACTURERS**
- Intel: 94%
- AMD: 6%

**INTEL CPU TYPES**
- i7: 67.7%
- i5: 31.9%
- i3: 0.4%

**VR HEADSETS**
- Vive CV1: 94.78%
- Oculus Rift CV1: 2.89%
- Vive Pre: 1.81%
- Vridge: 0.22%
- Oculus Rift DK2: 0.15%
- OSVR: 0.04%
- Oculus Rift DK1: 0.03%
- Others: 0.08%

**GPU TYPES**
- 1) NVIDIA GeForce GTX 970 (20.68%)
- 2) NVIDIA GeForce GTX 1070 (20.08%)
- 3) NVIDIA GeForce GTX 1080 (16.84%)
- 4) NVIDIA GeForce GTX 980 Ti (10.55%)
- 5) NVIDIA GeForce GTX 980 (7.05%)
- 6) NVIDIA GeForce GTX 1060 6GB (5.41%)
- 7) AMD Radeon (TM) R9 390 Series (2.13%)
- 8) NVIDIA GeForce GTX 960 (2.06%)
- 9) AMD Radeon R9 200 Series (1.92%)
- 10) Radeon (TM) RX 480 Graphics (1.89%)
- 11) NVIDIA GeForce GTX 1060 3GB (1.13%)
- 12) NVIDIA GeForce GTX TITAN X (0.82%)
- 13) NVIDIA GeForce GTX 980M (0.78%)
- 14) NVIDIA GeForce GTX 1060 (0.76%)
- 15) NVIDIA GeForce GTX 770 (0.69%)
- 16) Others (7.3%)
PHYSICAL BEHAVIOR

The following bar charts represent behavior activity levels for specific scenes in Waltz of the Wizard. Each scene is benchmarked against the average activity levels for the entire game (white centerline).

**ENTRANCE**
The initial loading scene before people enter the main wizard’s tower scene.

- **30 seconds**

**ELEVATED**
Elevated places users on a narrow bridge over a deep chasm. The user has a number of small rocks he can throw down into the abyss.

- **1 minute**

**THE TRIAL**
The Trial places users in another dimension where their physical movements are observed and commented on by ominous humanoid characters.

- **4 minutes**

**WIZARD’S TOWER**
Main scene is where users spend most of their time, offering a sandbox environment with a broad range of interactive elements.

- **10 minutes**

**HALLWAY**
Hallway places users in a short cinematic scene designed to induce a fight or flight response. The user is offered a number of weapons to interact with while suspense is built through a combination of audiovisual events that hint at incoming danger.

- **1 minute**

**THE CELL**
The Cell is a medieval prison chamber with a short narrative that users can listen to through a door. The scene contains a secret ring that users can discover hidden in a hole in one of the walls.

- **2 minutes**
PHYSICAL DISTANCE TRAVELLED
66,000 km+

TOTAL TIME SPENT IN-GAME
13 years & 9 months

CROSSBOW BOLTS FIRED
19 million+

FIREBALLS CAST
14 million+

SPELLS MIXED
500,000+

SHOT THE WIZARD’S ASSISTANT
29,000+

FOUND SECRET RING
3%

FOUND SECRET TELEPORTATION SCENE
5%

ENABLED CO-OP MODE
14%

THREW SKULLY OUT THE WINDOW
5%

DROWNED SKULLY IN THE CAULDRON
17%

ADJUSTED QUALITY SETTINGS
13%

LAID DOWN ON THE FLOOR
1%

CROUCHED BY TABLE
34%
The grand vision for immersive experiences are believable worlds that make users feel as if transported to another reality. These are the types of experiences that Aldin has been striving towards since 2013, and the company has seen first hand just how many challenges there are in achieving even the simplest implementations of that vision. Interactive virtual realities are more complex than conventional software; they need to work with a diverse range of hardware, and take real-world factors into account such as user stature, physical agility and play area sizes.

Designing for VR and physical immersion is largely uncharted territory, presenting an entirely new range of development challenges and design factors. As a developer you have the power to invoke deeply emotional sensations as well as to cause unintentional physical discomfort. The smallest of details can make or break an experience. For this reason it is absolutely vital to pay careful attention to the user experience and ensure that your content is having the exact impact that you envision.

Ghostline revolutionizes the VR production process, measuring and visualizing new factors in VR user engagement to help ensure that the broadest range of users are having the best experience possible. For any type of VR content being created, Ghostline targets development efforts and offers invaluable insights into the complex relationship between user behavior, content design and VR system setups.

For Ghostline inquiries contact info@aldindynamics.com