



IPR2023-00995 - U.S. Patent No. 10,846, 941
IPR2023-00996 - U.S. Patent No. 10, 991,165

Sony Interactive Entertainment LLC

v.

Quantum Imaging LLC

September 13, 2024

Level of Ordinary Skill in the Art: POSITA

- Experts Agree:
 - A bachelor degree in computer engineering, computer science, or a similar discipline, and two years of professional experience in the fields of networking and network-based systems or applications, such as client-server and web-based systems, in the specific context of console and gaming or an equivalent level of skill, knowledge, and experience; and have at least a general knowledge of 3D rendering.
- Experts Disagree:
 - **Petitioner's Expert** believes that POSITA also includes “at least a general knowledge of online and in-game advertising methods prevalent in the field... and virtual reality.”
 - **Patent Owner's Expert** believes the advertising and virtual reality component of POSITA's knowledge is inapplicable to the '941 and '165 patents.

Alleged Common Knowledge of POSITA



Microsoft Flight Simulator 2000¹

¹ <https://www.mobygames.com/game/3341/microsoft-flight-simulator-2000/screenshots/windows/351054/>

79. “Microsoft Flight Simulator 2.0” featured a Cessna 182,⁴ while Microsoft Flight Simulator 3.0 added the Gates Learjet 25, Cessna Skylane, and

³ <https://www.mobygames.com/game/14094/flight-simulator-ii/promo/group-92253/image-798091/>

⁴ <https://gamefaqs.gamespot.com/pc/942572-microsoft-flight-simulator-20>

⁵ https://en.wikipedia.org/wiki/Microsoft_Flight_Simulator_3.0

⁶ <https://www.mobygames.com/game/3341/microsoft-flight-simulator-2000/promo/group-7900/image-95533/>

⁷ <https://www.mobygames.com/game/14094/flight-simulator-ii/screenshots/>

‘995 IPR, Ex. 1004, ¶¶ 72-84.

‘995 POR p. 61-63, Sur reply 1, 4, 8
‘996 POR p. 53-56, Sur reply 10-11

Demonstrative Exhibit - Not Evidence

Mobygames.com & Wikipedia.com Can be Manipulated by Third Parties; Not Reliable Sources of Information

Wikipedia: *Ex. 2011, 93:20-94:19.*

20 Q. Okay. Earlier, I believe that you testified
21 that you don't use Wikipedia. Is that correct?
22 A. I might use it to see what people are saying,
23 but I don't rely on it. I will look at their citations
24 in the back and find the actual citation that they are
25 referring to.

94

1 Q. Okay. Why don't you rely on it?
2 A. You know, generally, it can be changed by peer
3 review, by anybody, as far as I know.
4 Q. Mm-hmm.
5 A. I mean, I've looked at my own Wikipedia page and
6 been tempted sometimes to some things. But I figured,
7 if that's what people think, that's fine. So yeah, I
8 mean, it – it's generally not considered as good as
9 finding the reference behind which they – they cite to.
10 Q. Okay. I'll give you credit for not changing
11 your own Wikipedia reference.
12 A. Give me credit for having one.
13 Q. Yeah, that's -- that's significant.
14 You used the term "peer reviewers" with regard
15 to Wikipedia. Are the peer reviewers of Wikipedia
16 different than the peer reviewers of MobyGames?
17 A. I don't know how Wikipedia approves their – the
18 people who are allowed to make changes, but I have heard
19 that it's very open.

Demonstrative Exhibit - Not Evidence

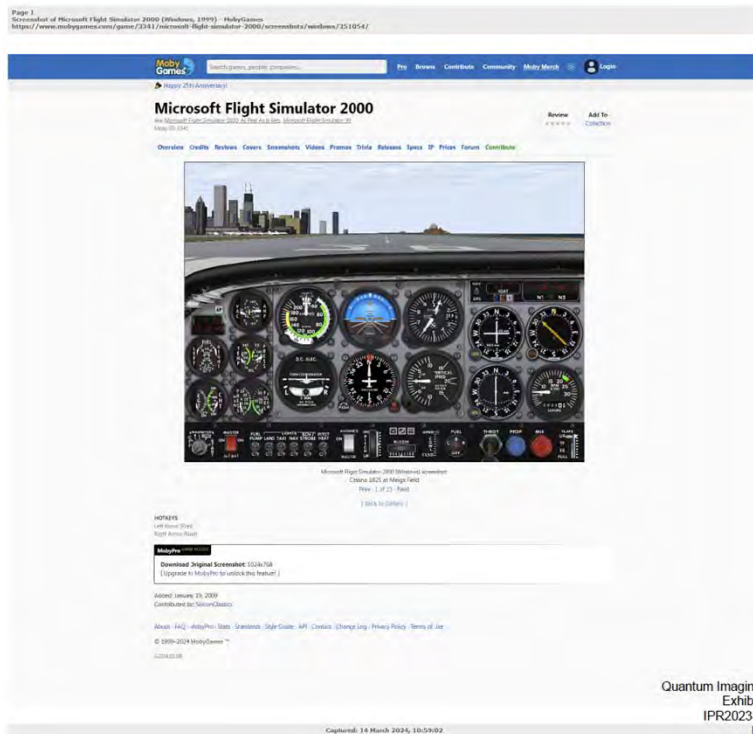
Mobygames: *Ex. 2011, 92:16-19.*

16 example, and then they review that and kind of fight
17 over it and decide what date they're going to put on.
18 So it is modified over time. I've never found
19 anything on it that was erroneous, personally, so I tend

'995 POR p. 62

'996 POR p. 54

Mobygames.com & Wikipedia.com Can be Manipulated by Third Parties; Not Reliable Sources of Information



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'995 IPR, Ex. 2014.

Demonstrative Exhibit - Not Evidence

'995 POR p. 62

'996 POR p. 54

Claim Construction Orders

- In related litigation in the N.D. of California (Ex. 1009) and W.D. of Texas (Ex. 2010), the district court's have issued claim construction orders for the following terms:
 - “graphics user interface (GUI) module” – software that provides a graphical display and processes user inputs to allow a user to interact with the graphical display.
 - “quantum imaging environment (QIE) module” – a software layer which receives and interprets content such that the content is manipulated so as to be accessible on different types of devices for use within the virtual thematic environment.
 - “virtual thematic environment” – a theme-based virtual computer interface.

Claim Constructions Proposed by Patent Owner

- “types” – a particular kind, class, or group. In context of “different types of devices,” refers to at least two devices, with the first device being of a first kind, group, or class (e.g., a PC) and the second device being of a second kind, group, or class (e.g., a mobile terminal).
‘995 IPR, Ex. 2005, ¶¶ 61-62; POR Response, Paper 24.
- “a software layer” – used to guide the partitioning of a system’s functionality into modules, where the modules are assigned to one layer interacting only with those that are assigned to adjacent layers.
‘995 IPR, Ex. 2005, ¶ 63 ; POR Response, Paper 24.
- “client” and “server” – refer to a client-server computer architecture.
‘995 IPR, Ex. 2005, ¶ 66 ; POR Response, Paper 24.

Background of Quantum Imaging Environment (QIE) Technology

QIE Module – “The Holy Grail”

Claim 1, ‘941 Patent, Col. 43-44, ll. 63-11

a quantum imaging environment (QIE) module, the QIE module being a software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment, the QIE module obtaining first real-time information and second real-time information, the QIE module supplying the first real-time information into the primary application, and supplying the second real-time information into the secondary application, the primary application configured to provide access to the first real-time information to the user within the virtual thematic environment via the first user interface, the secondary application configured to provide the second real-time information to the user within the virtual thematic environment via the second user interface; and

Claim 23, ‘941 Patent, Col. 47, ll. 22-28

a quantum imaging environment (QIE) module, the QIE module being a software layer configured to receive and interpret the first content and the second content such that the first content and the second content is manipulated so as to be accessible on different types of devices for use within the virtual thematic environment;

Claims 1 & 18, ‘165 Patent,
Col. 43 & 45, ll. 42-43 & 28-29

providing a quantum imaging environment (QIE) module in one of the client or the server system;

“Holy Grail”

25 THE DEPONENT: If she had managed to develop a
116
1 universal translator that could change the game -- could
2 present the game -- manipulate the data and present the
3 game on any device, that would be game changing in the
4 industry. It would be -- I called it the Holy Grail
5 because I know that people are spending hundreds of
6 millions of dollars trying to achieve that. But I would
7 certainly expect Ms. Barbaro to explain how it is she
8 did it, because everybody else is having trouble doing
9 it.

Ex. 2011, 115:25-116:9

QIE Described in Specification

The QIE 202/211 is both part of the client and the server components in the embodiment of FIG. 2. The QIE 202/211 includes an interpreter that will allow data to be transmitted to any device, and is the basis for the design structure and layout for applications. The QIE 202/211 allows developers to develop objects and applications from the interpreter. For gaming or other thematic environments, the representation of the layout and design may be in the representation of “zones”, and the layout and design may be set up as zones and content, for medical, retail, educational purposes, etc. The QIE 202/211 pertains to the most common denominator—the application architecture, and the content. QIE 202/211 is an interpreter that will take all of the rich content, interpret the information into objects to be manipulated and accessed via any device and place these objects or information in the appropriate format that is designed or will be designed by the developer.

‘941 Patent, Ex. 1001, Col. 15:52-67.

On the server side, the QIE 211 interacts with the Business Logic 208, Digital Content Library 209, Thematic/Publishing Logic 206, Data Storage 210, Communications 207, and via, the Communications/Network/Security 214, to the service modules 216-221. The data may be manipulated in object form or some other form that would be accessed, manipulated and interpreted on any digital device.

Two technologies that may be used in conjunction thereof or separately, to manipulate the data and access the data, are mirror imaging technology and holographic imaging technology. In addition, other technology language-based algorithms can be used in recalculating the content, shapes, graphics, images, music, and video (every type of media), in order that the data can be exposed, manipulated, and accessed on any device.

‘941 Patent, Ex. 1001, Col. 16:1-15.

Petitioner's Expert—Porting was Conventional Method for Making Content Available on Different Types of Devices

82. There were many differences across devices, including screen size and resolution, rendering and processing power, and differences in controllers. Per the latter, a PC would have a keyboard and a mouse; a gaming console would have a joystick; and a mobile device might have a touch screen. But arguably, the biggest differences were found in the screen resolution (including color depth, for example), and rendering and processing power. To publish a game on different platforms, the game program had to be configured to manipulate game content to work on different devices. As was well known in the art, the conventional method of doing so involved creating a different version of the game for each device or at least different size and resolution images.

83. For example, consider the following examples of the SubLOGIC Flight Simulator on 6 different devices. A POSITA would have understood that each version of this game accounted for hardware and display differences between each gaming device:

84. As far back as the 1980s, conventional rendering technology was configured to interpret and manipulate game content so as to be accessible on different types of devices. '995 IPR, Ex. 1004, ¶¶ 82-84.



'995 POR p. 3, 62

Demonstrative Exhibit - Not Evidence

Conventional Methods—Porting is Not QIE

21 Q. Okay. So is a different type of technology,
22 then, what you described as the conventional method in
23 paragraph 82?

24 A. It's not a question of technology. I could use
25 the term for the conventional method of creating

1 different versions as what we used to call making a
2 port, a p-o-r-t. It just stands for porting the code,
3 converting the code over to a different console. So
4 that's the convention method, is the port. This is
5 rendering technology. It's unrelated. Just because
6 they both use the term "conventional," it's unrelated.

7 Q. Okay. That's what I was trying to figure out.
8 In paragraph 84, though, it's different types --
9 excuse me. So as to be accessible on different types of
10 devices.

11 What does it mean to be accessible?

12 A. In the case of a game, it means to play the
13 game, to view the game, to control the game.

14 Q. Okay. So the conventional rendering technology
15 in paragraph 84, would you say is a different way of
16 making the game accessible on a different type of device
17 that is from porting, as you used that term in
18 paragraph 82?

19 A. Well, there's certainly overlap. What you're
20 trying to do when you port is you are making different
21 versions for the display code and such. So the
22 conventional rendering technology I'm talking about in
23 paragraph 84 is primarily to make the display work on
24 different devices.

25 Q. Okay. And for paragraph 84, that conventional

1 rendering technology, would it require a different
2 version of the game for each display?
3 A. Yeah, it's hard to explain that to a
4 nontechnical person. But every time rendering
5 technology is written, it uses the same procedures, the
6 same concepts, the same techniques, but it's never the
7 same program.

14 The concept in the -- in the end of paragraph
15 84:
16 "The concept of -- of interpreting and
17 manipulating content such that the content is accessible
18 on different types of devices was well known."

19 Do you see that --

20 A. Yes.

21 Q. -- sentence?

22 Is that referring to the QIE that we discussed
23 in paragraph 66?

24 A. It's just a generic statement of what a person
25 of ordinary skill in the art would have known.

1 Interpreting and manipulating content is something that
2 you did when making a port.

Ex. 2011, 131:21-133:7, 133:14-134:2

Claim 1, '941 Patent, Col. 43-44, ll. 63-11

a quantum imaging environment (QIE) module, the QIE
module being a software layer that receives, interprets,
and manipulates the second content so as to be acces-
sible on different types of devices for use within the
virtual thematic environment, the QIE module obtain-
ing first real-time information and second real-time
information, the QIE module supplying the first real-
time information into the primary application, and
supplying the second real-time information into the
secondary application, the primary application config-
ured to provide access to the first real-time information
to the user within the virtual thematic environment via
the first user interface, the secondary application con-
figured to provide the second real-time information to
the user within the virtual thematic environment via the
second user interface; and

Demonstrative Exhibit - Not Evidence

'995 POR p. 20, 29

'996 POR p. 22, 28

Broad Brush: Claim Terms in Dispute in IPRs

- ‘941 Patent

- QIE Module
- Second User Interface Associated with the Secondary Application
- Client System and A Server System
- Coordinated by the Thematic/Publishing Logic Module.

‘995 IPR, POR, Paper 24, p. ii-iii.

- ‘165 Patent

- QIE Module
- Sending a Request for First Real-Time Information Via the QIE Module to the World Wide Web
- Sending a Request for Second Real-Time Information Via the QIE Module
- Client and a Server

‘996 IPR, POR, Paper 24, p. ii-iii

'941 Patent

1. One or more non-transitory computer readable medium storing an interactive software application platform comprising:

at least one thematic/publishing logic module containing virtual thematic environment rules to coordinate actions to be taken to constitute and provide a virtual thematic environment on a visual component, the virtual thematic environment being a theme-based virtual world environment;

a primary application providing the virtual thematic environment; and a secondary application within the primary application, the secondary application being different from the primary application, the secondary application being launched from the primary application, and having first content utilized within a same application environment as second content provided by the primary application;

a graphics user interface (GUI) module including software that renders graphical display elements onto the visual component and permits a user to interact with a graphical display element within the virtual thematic environment, the GUI module providing a first user interface that is associated with the primary application and enabling the user to access the primary application through the first user interface, and a second user interface associated with the secondary application and enabling the user to access the secondary application through the second user interface;

a quantum imaging environment (QIE) module, the QIE module being a software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment, the QIE module obtaining first real-time information and second real-time information, the QIE module supplying the first real-time information into the primary application, and supplying the second real-time information into the secondary application, the primary application configured to provide access to the first real-time information to the user within the virtual thematic environment via the first user interface, the secondary application configured to provide the second real-time information to the user within the virtual thematic environment via the second user interface; and

at least one digital content library module storing information, the information containing 2 dimensional and 3 dimensional content, and providing content management of information within the virtual thematic environment coordinated by the thematic/publishing logic module, the digital content library module being a content management application.

23. A computer system, comprising:

a client system and a server system communicating to provide an interactive software application platform, the interactive software application platform comprising:

at least one thematic/publishing logic module containing virtual thematic environment rules to coordinate actions to be taken to constitute a virtual thematic environment, the virtual thematic environment being a theme-based virtual world environment;

a graphics user interface (GUI) module, the GUI module including software that renders graphical display elements onto a visual component and permits the user to interact with the graphical display elements within a virtual thematic environment;

a primary application providing the virtual thematic environment;

a secondary application within the primary application, the secondary application being different from the primary application, the secondary application being launched from the primary application, and having first content utilized within a same application environment of the virtual thematic environment as second content provided by the primary application, the primary application receiving and using first real-time information to provide the second content, the secondary application receiving and using second real-time information to provide the first content, the first real-time information being different from the second real-time information;

a quantum imaging environment (QIE) module, the QIE module being a software layer configured to receive and interpret the first content and the second content such that the first content and the second content is manipulated so as to be accessible on different types of devices for use within the virtual thematic environment;

at least one digital content library module storing information and providing content management of information within the virtual thematic environment, the digital content library module being a content management application; and

wherein the GUI module includes software that renders graphical display elements onto the visual component and permits the user to interact with the graphical display elements within the virtual thematic environment, the GUI module providing a first user interface that is associated with the primary application and enabling the user to access the primary application through the first user interface, and a second user interface associated with the secondary application and enabling the user to access the secondary application through the second user interface.

'165 Patent

1. A method of integrating real-time information into a virtual thematic environment using a computer system including a client and a server, comprising:

providing a graphics user interface (GUI) module for use in the client system;

providing a quantum imaging environment (QIE) module in one of the client or the server system;

providing a thematic/publishing logic module in one of the client or the server system;

providing a primary application in the client system; providing a first user interface that is associated with the primary application;

sending a request for first real-time information via the QIE module to the world wide web;

obtaining the first real-time information via the world wide web;

downloading the first real-time information from the world wide web into the primary application;

providing access to the first real-time information within the virtual thematic environment via the first user interface;

providing at least one secondary application within the primary application at the client system;

sending a request for second real-time information via the QIE module;

obtaining the second real-time information via the world wide web;

downloading the second real-time information into the secondary application;

enabling a user to access the at least one secondary application through the first user interface; and

enabling the user to control the at least one secondary application through a second user interface.

18. A computer system for integrating real-time information into a virtual thematic environment including a client system and a server system, comprising:

at least one non-transitory memory device containing at least one program comprising the steps of:

providing a graphics user interface (GUI) module for use in the client system;

providing a quantum imaging environment (QIE) module in one of the client or the server system;

providing a thematic/publishing logic module in one of the client or the server system;

providing a primary application in the client system; providing a first user interface that is associated with the primary application;

sending a request for first real-time information via the QIE module to the world wide web;

obtaining the first real-time information via the world wide web;

downloading the first real-time information from the world wide web into the primary application; providing access to the first real-time information within the virtual thematic environment via the first user interface;

providing at least one secondary application within the primary application at the client system;

sending a request for second real-time information via the QIE module;

obtaining the second real-time information via the world wide web;

downloading the second real-time information into the secondary application;

enabling a user to access the at least one secondary application through the first user interface; and

enabling the user to control the at least one secondary application through a second user interface; and

one or more microprocessor running the at least one program.

Pisanich WO 02/062436

Ex. 1007 in Both '941 & '165 Patent Institutions

IPR2023-00995 & IPR2023-00996

Pisanich Game Data Server 108 is Not QIE Module Being a Software Layer

Claim 1, '941 Patent, Col. 43-44, ll. 63-11

Pisanich teaches this limitation. As shown by Figures 1 and 3 of Pisanich reproduced above, Pisanich discloses that game data server 108 receives, interprets, and manipulates the second content, i.e., real world information, in real time so as to be accessible on different types of devices for use within the game. Ex-1007, 5:13-15 (“a game data server 108 continually gathers “real time” data from traffic 100 and a weather 104 data provider systems. On request, the game data server 108 permits data available to a game 112, 116 and players 120, 124.”).

'995 IPR, Paper 2, Pet. p. 23.

a quantum imaging environment (QIE) module, the QIE module being a software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment, the QIE module obtaining first real-time information and second real-time information, the QIE module supplying the first real-time information into the primary application, and supplying the second real-time information into the secondary application, the primary application configured to provide access to the first real-time information to the user within the virtual thematic environment via the first user interface, the secondary application configured to provide the second real-time information to the user within the virtual thematic environment via the second user interface; and

'995 PET. P. 23; POR p. 1

Demonstrative Exhibit - Not Evidence

17

Game Data Server 108 Teaches Object Oriented Design

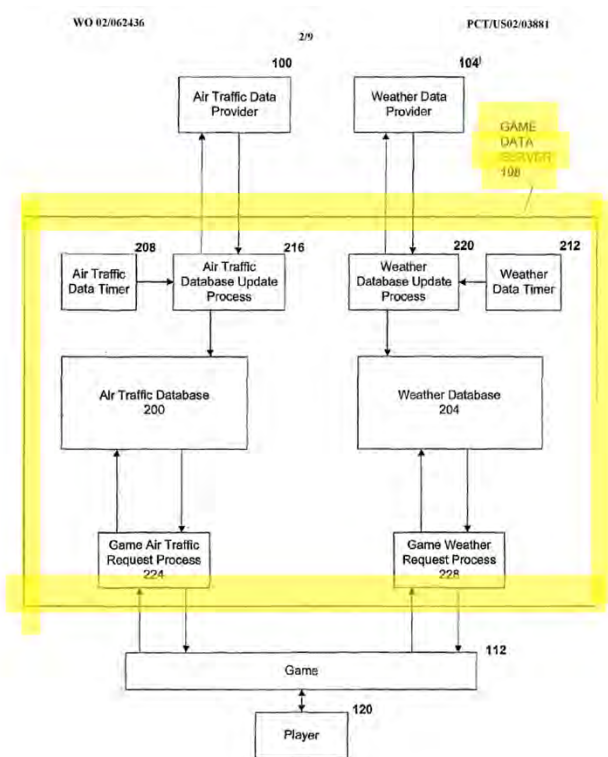


Figure 2

imaging environment (QIE) module” or the “QIE module being a software layer”.

As discussed above, the software layer model is used to guide partitioning of a system’s functionality into modules, where the modules assigned to one layer interact only with those that are assigned to adjacent layers. See ¶63.

79. It is not inherent and a POSITA would not assume that Pisanich uses a software layer. In his declaration, Mr. Crane admitted that Pisanich teaches an object oriented design. Ex-1004 at ¶161. However, object oriented design does not teach or suggest “a software layer.” These are two disparate software architectures and a POSITA would not assume a layered software architecture when an object oriented architecture is specifically disclosed. See, for example, Ex-2006, pp. 199, 203; Ex-2008, pp. 372, 373.

cannot be the “QIE module” or the “QIE module being a software layer.” Rather, Pisanich’s game data server 108 is an entire subsystem constructed of separate modules. For example, Pisanich’s game data server 108 encompasses, among other modules, two databases: the air traffic database 200 and the weather database 204 (Ex-1007, Pisanich Figure 2, reproduced below).

Game Data Server 108 Does Not Teach QIE Module Being a **Single Software Layer**: that Makes Second Content in **Same VTE** Accessible on **Different Types** of Devices

a quantum imaging environment (QIE) module, the QIE module being a software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment, the QIE module obtaining first real-time information and second real-time information, the QIE module supplying the first real-time information into the primary application, and supplying the second real-time information into the secondary application, the primary application configured to provide access to the first real-time information to the user within the virtual thematic environment via the first user interface, the secondary application configured to provide the second real-time information to the user within the virtual thematic environment via the second user interface; and

Claim 1, '941 Patent, Col. 43-44, ll. 63-11

“... for use within **the** virtual thematic environment ...”

- “**the** virtual thematic environment” - VTE that is provided by the “at least one thematic/publishing logic module...”

1. One or more non-transitory computer readable medium storing an interactive software application platform comprising:

at least one thematic/publishing logic module containing virtual thematic environment rules to coordinate actions to be taken to constitute and provide a virtual thematic environment on a visual component, the virtual thematic environment being a theme-based virtual world environment;

Claim 1, '941 Patent, Col. 43, ll. 35-43.

Different Versions of the Game were required for POSITA to Play a Flight Simulator Game on Different Types of Devices.

93. Further, a POSITA would have understood that Pisanich discloses different games with each game having its own virtual thematic environment (i.e. software created specifically for each type of device), not a single software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices.

'995 IPR, Ex. 2005, ¶ 93

1 Q. You testified that the software that runs a
2 flight simulator on Apple II in 1984 and the software
3 that runs a flight simulator for the TRS-80 in 1987
4 would be, and I quote, different computer software
5 games.
6 Do you recall that?
7 A. Yes.

'995 IPR Patent, Ex. 2012, 419:1-7

Different Devices playing the same game would not share **the same VTE** nor be provided with game content **via a single software layer**—i.e., the QIE.

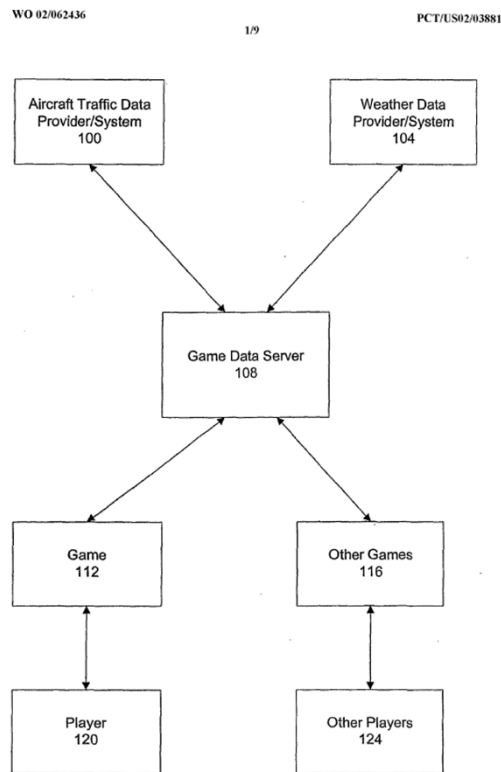


Figure 1

12 Q. In your opinion, would a POSITA looking at
13 Figure 1 of Pisanich understand that the other games 116
14 could be other versions of a flight simulator game?

15 A. Could be.

'995 IPR, Ex. 2012, 419:1-7.

Pisanich Does Not Disclose a QIE Module that Makes Content Accessible on **Different Types of Devices** Within the Same Virtual Thematic Environment.

130. Moreover, Pisanich taught a “Game Data Server 108” module that taught the features of a QIE module in the claimed **server system**, configured to interpret content such that the content was manipulated to be served into different games, **presumably on different devices:**

‘996 IPR, Ex. 1004, ¶ 130

10 Q. Okay. But to date, looking at paragraph 130,
11 **you presumed it was on different devices.** You did not
12 **provide a cite showing that it was on different devices,**
13 correct?
14 A. Yeah. Looking at this declaration several
15 **months later, I don't recall if I captured multiple**
16 **devices disclosed in Pisanich.**

Ex. 2011, 171:10-16.

92. A **POSITA would not presume that** the different games of Pisanich were necessarily on different **types** of devices. Simply **having different games does not mean a POSITA would infer different types of devices.** Different games in Pisanich could be played on the same type of device. **Pisanich is silent on this issue** and a POSITA would know that the devices could be the same type of devices.

‘995 IPR Patent, Ex. 2005, ¶ 92.

Demonstrative Exhibit - Not Evidence

*‘995 POR p. 13, 19, 30
‘996 POR p. 22, 29*

22

Game Data Server 108 Does Not Interpret and Manipulate the Second Content to Make it Accessible on Different Types of Devices Within the Same Virtual Thematic Environment.

97. Petitioner's declarant admits (Ex-1004, ¶82; and Ex-2011, 129:9-17, 130:12-19, 131:24-133:6) that the individual game 112 and the "entirely different game 116" (Ex-1007, 7:9) if played on different types of devices would require that software be manually written for each different type of device in order to play different games. This is referred to in the art as a "port". Ex-2011 at 131:21-133:7. Pisanich's Game Data Server 108 does not interpret and manipulate the second content so as to be accessible on different types of devices. Rather, the game data server 108 simply gathers "real time" data and makes the data available for the games 112 and 116. Ex-1007, 5:13-15. Any interpretation and manipulation of the data in Pisanich is done within each game 112, 116 for a single type of device. Ex-2011 at 132:19-133:7. Therefore, the Game Data Server 108 of Pisanich does not teach or suggest the elements of the QIE module as claimed, as the Game Data Server 108 does not interpret, and manipulate the second content.

'995 IPR, Ex. 2005, ¶ 97.

'995 POR p. 16, 20

129

1 Q. Okay. And is that a little bit further on in
2 paragraph 82, that you state:

3 "To publish a game on different platforms, the
4 game program had to be configured to manipulate game
5 content to work on different devices"?

6 Is that summarizing your prior answer?

7 A. Yes. I mean, that's not as complete as it could
8 be because what -- those modifications are made at the
9 game-design level, the game-programming level. So it's
10 really what you're doing is you're writing a different
11 version of the game for each one.

12 Q. And that was going to be my next question, was,
13 is that, if I have software that runs flight simulator
14 on an Apple II in 1984, the software for the Track -- or
15 the TRS-80, excuse me, in 1987, those would be different
16 computer software games. Is that correct?

17 A. Yes.

Ex. 2011, 129:9-17.

Game Data Server 108 Does Not Make Second Content Accessible on Different Types of Devices Within the Same Virtual Thematic Environment.

83. Petitioner erroneously states that “[a] POSITA would have understood that players 120, 124, etc. may access such second content on different types of devices for use with the game.” Pet., p. 23. However, a POSITA would understand from the ‘941 specification that the “different types of devices” in all challenged claims would include, for example, “a PC, a mobile terminal, such as a mobile computing device, a mobile phone, or a mobile data organizer (PDA), operated by the user accessing the program remotely from the client (see FIG. 1), or any other digital device that has a screen and storage.” Ex-1001, 13:7-12.

‘995 IPR, Ex. 2005, ¶ 83.

As stated above, the client may be a PC, a mobile terminal, such as a mobile computing device, a mobile phone, or a mobile data organizer (PDA), operated by the user accessing the program remotely from the client (see FIG. 1), or any other digital device that has a screen and storage.

‘941 Patent, Ex. 1001, 13:7-12.

Game Data Server 108 Does Not Receive, Interpret, and Manipulate the Second Content to Make it Accessible on Different Types of Devices Within the Same Virtual Thematic Environment.

84. However, Pisanich does not disclose the QIE module ... receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use with the virtual thematic environment. In fact, Pisanich expressly indicates that Player 120 and Other Players 124 play different games (Ex-1007, 7:9-11, and Figure 1). This includes, at the least, different virtual thematic environments that are independent from one another (whether or not they have similar themes) rather than “the second content so as to be accessible on different types of devices for use within the (i.e., one) virtual thematic environment”. For

example, Pisanich teaches “Moreover, a second player 124 may play an entirely different game 116 (for instance, a car racing game, or a football game) than the game 112 being played by the first player 120.” But, a car racing game has a car racing theme, and a football game has a football game theme. This does not teach the QIE module being a software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment. Even assuming that Pisanich taught a different device for each game, this would not teach the second content so as to be accessible on different types of devices (two or more different types of devices) for use within the (i.e., same) virtual thematic environment.

‘995 IPR, Ex. 2005, ¶ 84.

The QIE Module Allows Same Content to be Accessible to Two Different Types of Devices—Without Having to “Port” the Game Software.

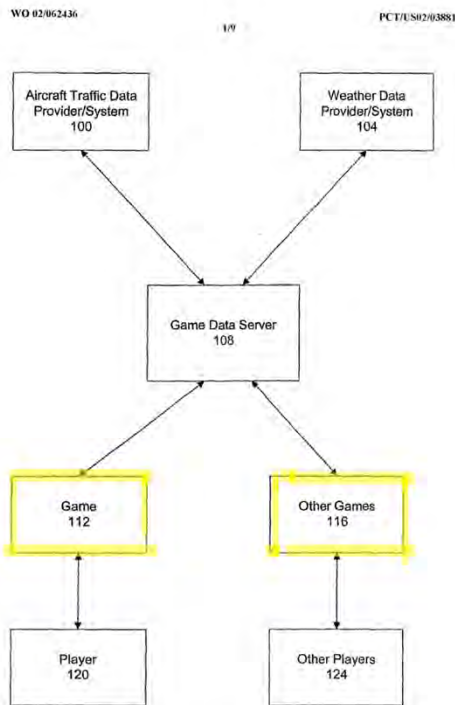


Figure 1

‘995 IPR, Ex. 1007, Fig. 1.

94. A POSITA reading Pisanich would understand that game 112 has a different theme than game 116, such as from Pisanich’s description, including “Moreover, a second player 124 may play an entirely different game 116 (for instance, a car racing game, or a football game) than the game 112 being played by the first player 120.” Ex-1007, 7:9-11. However, even if the “entirely different” games of Pisanich have the same theme, as supposed as possible by Mr. Crane (Ex-2011a, 419:12-15), any interpretation and manipulation of the data in Pisanich is done within each game 112, 116 for a single type of device. Ex-2011, 132:19-133:7. The individual game 112 and the “entirely different game 116” (Ex-1007, 7:9) if played on different types of devices would require that the game software be manually rewritten to be run on each different type of device. Therefore, the Game Data Server 108 of Pisanich does not teach or suggest the elements of the QIE module as claimed, as the Game Data Server 108 does not interpret, and manipulate the second content. Further, the second content is not the same as the second real-time information, as the terms are separate and independent in the claims.

‘995 IPR, Ex. 2005, ¶ 94.

12 Q. In your opinion, would a POSITA looking at
13 Figure 1 of Pisanich understand that the other games
14 could be other versions of a flight simulator game?
15 A. Could be.

Ex. 2011, 419:12-15.

Pisanich Discloses Different Games With Different Themes: Not Different Games Having Same Themes

21 Q. Okay. So looking at -- down below the Figure 1
22 of Pisanich, on page 61:
23 "Moreover, a second player may play an entirely
24 different game 116, for instance, a car racing game or a
25 football game than the game 112 being played by the

172

1 first player. However, the different game 116 may
2 request the same type of data, weather, for example."

3 Okay. Do you agree that a car racing game has a
4 car racing theme?

5 A. Generally, I would say that a car racing game
6 has a car racing theme.

7 Q. Okay. And do you agree that a football game
8 generally has a football theme?

9 A. I would say that a football game has a football
10 theme.

11 Q. Okay. Is a car racing theme the same as a
12 football theme?

13 A. Not necessarily. Probably not.

14 Q. Probably not. That's an interesting...

15 A. You could be playing football and having cars
16 driving around you. It's certainly possible. But as a
17 general rule, I would say those are different themes.

Ex. 2011, 171:21-172:17

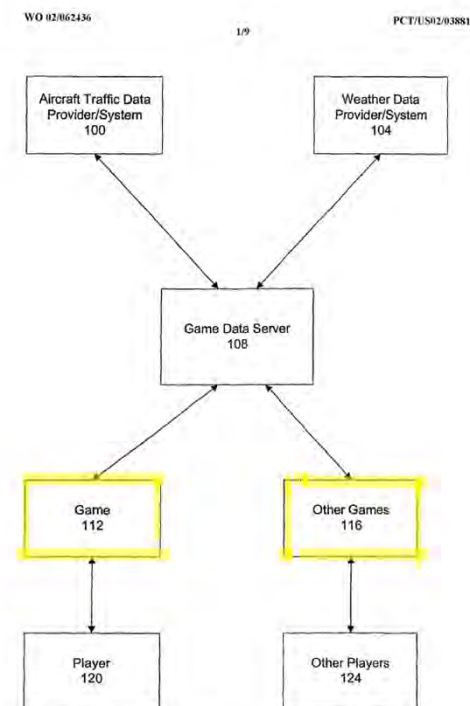


Figure 1

'995 IPR, Ex. 1007, Fig. 1.

'995 POR p. 24

Demonstrative Exhibit - Not Evidence

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Other Games 116 Are Not in the Same Virtual Thematic Environment as Game 112.

Petitioner's expert on re-direct examination:

- 12 Q. In your opinion, would a POSITA looking at
13 Figure 1 of Pisanich understand that the other games 116
14 could be other versions of a flight simulator game?
15 A. Could be.

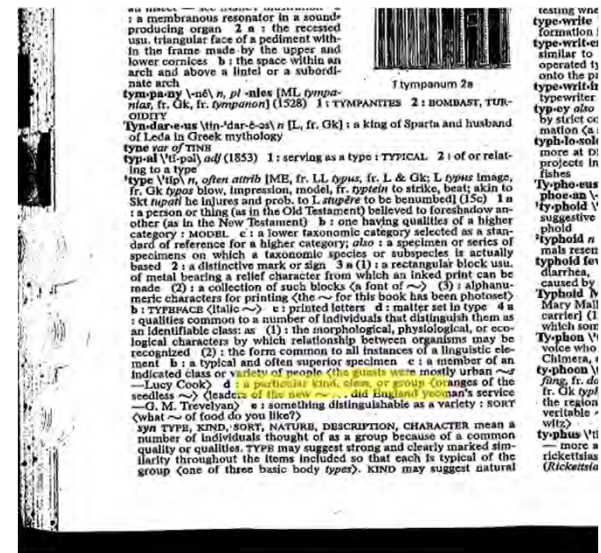
Ex. 2011, 419:12-15.

85. Petitioner attempts to say that the different game 116 could be “some other version of a flight simulator game” if the game 112 played by the first player is a flight simulator game. Ex-2011a, 419:12-15. However, this does not make up for Pisanich’s deficiencies. Rather, Pisanich specifically states that the game 116 played by the second player 124 is “an entirely different game 116.” Ex-1007, 7:9-11, emphasis added. Further, a POSITA would understand that Pisanich’s game data server 108 simply “gathers ‘real-time’ data from traffic 100 and weather 104 data provider systems [and] permits data available to a game 112, 116.” Ex-1007, 5:13-15. Pisanich’s game data server 108 does not interpret and manipulate second content so as to be accessible on different types of devices for use within the virtual thematic environment, as described above.

‘995 IPR, Ex. 2005, ¶ 85.

a software layer receiving, interpreting, and manipulating second content to make it accessible on **different types of devices**

Definition of Types: plural, at least two types, of a particular kind, class, or group.



¹ ‘995 IPR, Ex. 2007, p. 1274.

29

Knowledge of POSITA at time of Priority Date

152. As noted above, it was well known in the art as of the filing of the '941 Patent to interpret and manipulate video game content for use on different types of devices. In addition, Pisanich explicitly taught that the real-time, real-

'995 IPR, Ex. 1004, ¶ 152.

example), and rendering and processing power. To publish a game on different platforms, the game program had to be configured to manipulate game content to work on different devices. As was well known in the art, the conventional method of doing so involved creating a different version of the game for each device or at least different size and resolution images.

'995 IPR, Ex. 1004, ¶ 82.

129
1 Q. Okay. And is that a little bit further on in
2 paragraph 82, that you state:
3 "To publish a game on different platforms, the
4 game program had to be configured to manipulate game
5 content to work on different devices?"
6 Is that summarizing your prior answer?
7 A. Yes. I mean, that's not as complete as it could
8 be because what -- those modifications are made at the
9 game-design level, the game-programming level. So it's
10 really what you're doing is you're writing a different
11 version of the game for each one.
12 Q. And that was going to be my next question, was,
13 is that, if I have software that runs flight simulator
14 on an Apple II in 1984, the software for the Track -- or
15 the TRS-80, excuse me, in 1987, those would be different
16 computer software games. Is that correct?
17 A. Yes.

Ex. 2011, 129:1-17.

'995 POR p. 25-26

Demonstrative Exhibit - Not Evidence

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Conventional Knowledge of POSITA Is **Not a QIE Module.**

game for each device or at least different size and resolution images". In Ex-1004, ¶83, Crane points to a website showing different screens that show six different versions of the same game, each version operating on a different type of computer. However, a POSITA would understand that each version of the game was required to be written for the unique hardware and software of each computer in order to be run. See also Ex-2011 at 129:1-17. This does not teach any type of interpreter (software layer) that receives, interprets and manipulates the content so as to be accessible on different types of devices. Therefore, a POSITA would understand that Pisanich in view of the common knowledge identified by Mr. Crane does not teach a software layer that receives, interprets, and manipulates the second content to be accessible on different types of devices.

'995 IPR, Ex. 2005, ¶ 88.

83. For example, consider the following examples of the SubLOGIC Flight Simulator on 6 different devices. A POSITA would have understood that each version of this game accounted for hardware and display differences between each gaming device:

'995 IPR, Ex. 1004, ¶ 83.

'995 POR p. 26-27



Demonstrative Exhibit - Not Evidence

129
1 Q. Okay. And is that a little bit further on in
2 paragraph 82, that you state:
3 "To publish a game on different platforms, the
4 game program had to be configured to manipulate game
5 content to work on different devices?"
6 Is that summarizing your prior answer?
7 A. Yes. I mean, that's not as complete as it could
8 be because what -- those modifications are made at the
9 game-design level, the game-programming level. So it's
10 really what you're doing is you're writing a different
11 version of the game for each one.
12 Q. And that was going to be my next question, was,
13 is that, if I have software that runs flight simulator
14 on an Apple II in 1984, the software for the Track -- or
15 the TRS-80, excuse me, in 1987, those would be different
16 computer software games. Is that correct?
17 A. Yes.

Ex. 2011, 129:1-17.

12 you want to roll your eyes at, Mr. Crane. But was the
13 Flight Simulator II software that was used to play on
14 the 1984 Apple II capable of running on a Commodore 64?
15 A. No.
16 Q. And then was the Flight Simulator II software on
17 the 1984 Commodore 64 capable of being played on the
18 TRS-80 in 1987?
19 A. No.

Ex. 2011, 130:12-19.

POSITA Conventional Rendering Knowledge Is Not a QIE Module

84. As far back as the 1980s, conventional rendering technology was configured to interpret and manipulate game content so as to be accessible on different types of devices.

'995 IPR, Ex. 1004, ¶ 84.

'995 POR p. 27-29

21 Q. Okay. So is a different type of technology,
22 then, what you described as the conventional method in
23 paragraph 82?
24 A. It's not a question of technology. I could use
25 the term for the conventional method of creating
1 different versions as what we used to call making a
2 port, a p-o-r-t. It just stands for porting the code,
3 converting the code over to a different console. So
4 that's the convention method, is the port. This is
5 rendering technology. It's unrelated. Just because
6 they both use the term "conventional," it's unrelated.
7 Q. Okay. That's what I was trying to figure out.
8 In paragraph 84, though, it's different types --
9 excuse me. So as to be accessible on different types of
10 devices.
11 What does it mean to be accessible?
12 A. In the case of a game, it means to play the
13 game, to view the game, to control the game.
14 Q. Okay. So the conventional rendering technology
15 in paragraph 84, would you say is a different way of
16 making the game accessible on a different type of device
17 that is from porting, as you used that term in
18 paragraph 82?
19 A. Well, there's certainly overlap. What you're
20 trying to do when you port is you are making different
21 versions for the display code and such. So the
22 conventional rendering technology I'm talking about in
23 paragraph 84 is primarily to make the display work on
24 different devices.
25 Q. Okay. And for paragraph 84, that conventional

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1 rendering technology, would it require a different
2 version of the game for each display?
3 A. Yeah, it's hard to explain that to a
4 nontechnical person. But every time rendering
5 technology is written, it uses the same procedures, the
6 same concepts, the same techniques, but it's never the
7 same program.

Ex. 2011, 131:24-133:7.

14 The concept in the -- in the end of paragraph
15 84:
16 "The concept of -- of interpreting and
17 manipulating content such that the content is accessible
18 on different types of devices was well known."
19 Do you see that --
20 A. Yes.
21 Q. -- sentence?
22 Is that referring to the QIE that we discussed
23 in paragraph 66?
24 A. It's just a generic statement of what a person
25 of ordinary skill in the art would have known.

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1 Interpreting and manipulating content is something that
2 you did when making a port.

Ex. 2011, 133:14-134:2.

Content Accessible to Different Games Does Not Disclose It Being Accessible on “Different Types of Devices”

virtual thematic environment. While the Crane Declaration does not particularly identify the “game data server 108” of Pisanich as disclosing a “QIE module,” it does point to the “game data server 108” as something that presumably discloses “real-time, real-world data collected by Game Data Server 108 could be served into different games, presumably on different devices.” Ex-1004 at ¶152. Mr. Crane’s presumption appears to be based on his reliance on the following language of the Pisanich specification, which provides, in part (Ex-1007, 7:9–13, emphasis added):

Moreover, a second player 124 may play an entirely different game 116 (for instance, a car racing game, or a football game) than the game 112 being played by the first player 120. However, the different game 116 may request the same type of data (weather, for example) as the first game 112. The architecture of the present invention can be extended to meet the data requirements of other games.

‘995 IPR, Ex. 2005, ¶ 89.

90. However, even if Pisanich discloses that second content may be accessible on different games, it does not disclose that second content is accessible “on different types of devices” for use within the virtual thematic environment,” as required by claim 1. Accordingly, I disagree with Mr. Crane’s statement that, “Pisanich taught that Game Data Server 108 could be connected to multiple devices playing different games, and said server interpreted and manipulated content to said multiple devices as claimed.” Ex-1004, ¶153. Mr. Crane does not address the limitation “different types of devices” as required in claim 1.

‘995 IPR, Ex. 2005, ¶ 90.

‘995 POR p. 3, 16, 22

Demonstrative Exhibit - Not Evidence

33

Game Data Server 108 is not a QIE Module that receives, interprets, and manipulates the second content.

Pisanich teaches this limitation. As shown by Figures 1 and 3 of Pisanich reproduced above, Pisanich discloses that game data server 108 receives, interprets, and manipulates the second content, i.e., real world information, in real time so as to be accessible on different types of devices for use within the game. Ex-1007, 5:13-15 (“a game data server 108 continually gathers “real time” data from traffic 100 and a weather 104 data provider systems. On request, the game data server 108 permits data available to a game 112, 116 and players 120, 124.”). A POSITA would have understood that the players 120, 124 etc. may access such second content on different types of devices for use with the game. Ex-1004, ¶¶152-53, 159. Specifically, “[A]s a player 120 controls a gaming unit within a game 112, for example, an aircraft, a car, or the like, the game 112 requests data from the game data server 108 as required to provide a realistic environment for the game. The data requested by the game 112 includes data such as weather reports or air traffic in the direction that the player 120 is guiding the vehicle in the game 112.” Ex-1007, 6:18-22.

‘995 IPR, Paper 2, Pet. pp. 23-24.

97. Petitioner’s declarant admits (Ex-1004, ¶82; and Ex-2011, 129:9-17, 130:12-19, 131:24-133:6) that the individual game 112 and the “entirely different game 116” (Ex-1007, 7:9) if played on different types of devices would require that software be manually written for each different type of device in order to play different games. This is referred to in the art as a “port” Ex-2011 at 131:21-133:7. Pisanich’s Game Data Server 108 does not interpret and manipulate the second content so as to be accessible on different types of devices. Rather, the game data server 108 simply gathers “real time” data and makes the data available for the games 112 and 116. Ex-1007, 5:13-15. Any interpretation and manipulation of the data in Pisanich is done within each game 112, 116 for a single type of device. Ex-2011 at 132:19-133:7. Therefore, the Game Data Server 108 of Pisanich does not teach or suggest the elements of the QIE module as claimed, as the Game Data Server 108 does not interpret, and manipulate the second content.

‘995 IPR, Ex. 2005, ¶ 97.

Game Data Server 108 is not a **QIE Module** that receives, interprets, and manipulates **the second content**.

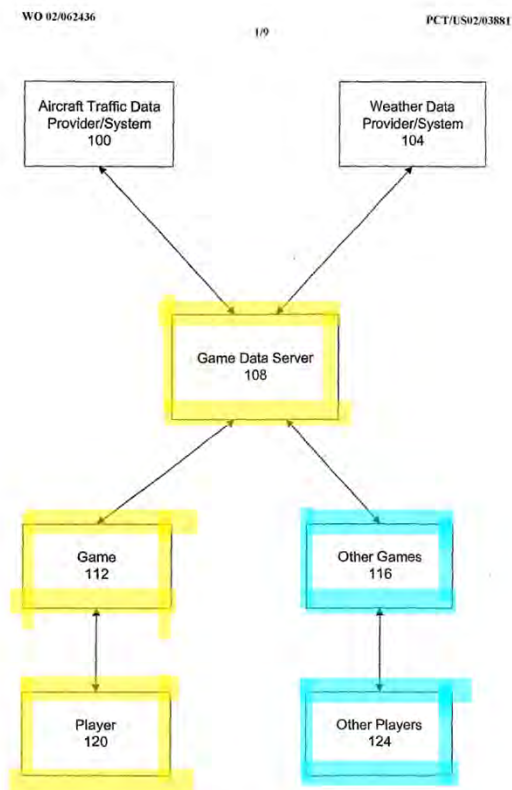


Figure 1

97. Petitioner's declarant admits (Ex-1004, ¶82; and Ex-2011, 129:9-17, 130:12-19, 131:24-133:6) that the individual game 112 and the "entirely different game 116" (Ex-1007, 7:9) if played on different types of devices would require that software be manually written for each different type of device in order to play different games. This is referred to in the art as a "port" Ex-2011 at 131:21-133:7.

'995 IPR, Ex. 2005, ¶ 97.

Pisanich does not disclose a **QIE Module** that receives, interprets, and manipulates **the second content provided by the primary application.**

Pisanich teaches this limitation. As shown by Figures 1 and 3 of Pisanich reproduced above, Pisanich discloses that game data server 108 receives, interprets, and manipulates the second content, i.e., real world information, in real time so as to be accessible on different types of devices for use within the game. Ex-1007, 5:13-15 ("a game data server 108 continually gathers "real time" data from traffic 100 and a weather 104 data provider systems. On request, the game data server 108 permits data available to a game 112, 116 and players 120, 124.").

'995 IPR, Paper 2, Pet. p. 23.

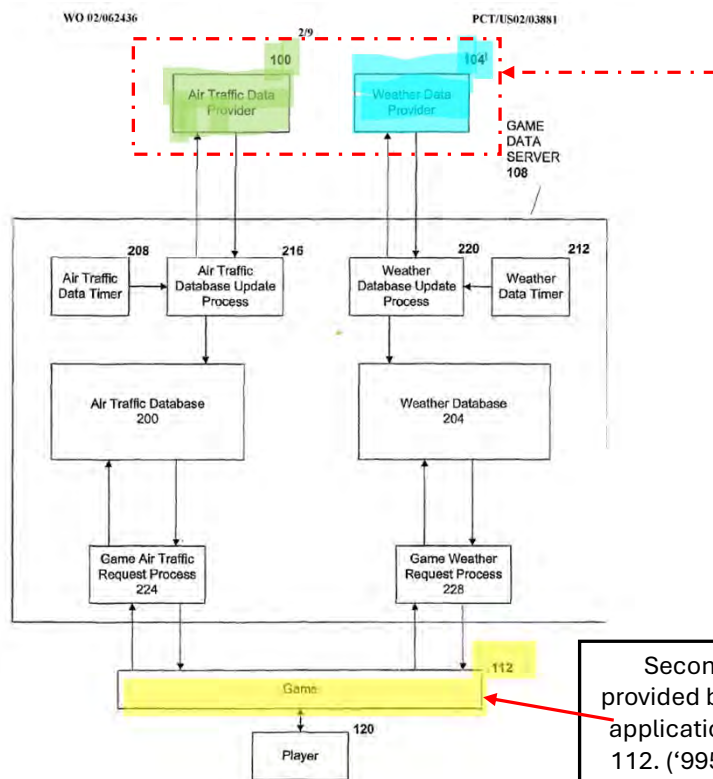
data provider systems." I disagree. The second content of claim 1 is provided by the primary application. Petitioner asserts that the primary application is the game 112. See Pet., p. 20. The second content in the claims is not the real-time data from traffic 100 or weather information provided by the Weather Data Provider/System 104, as Petitioner asserts. Also, the air traffic data provider 100 and the weather data provider/system 104 is not a part of the primary application – it is expressly being shown as outside it. See Ex-1007, FIG. 2, 5:13-17, and 5:20-21:

Referring to Figure 1, a game data server 108 continually gathers "real time" data from traffic 100 and a weather 104 data provider systems. On request, the game data server 108 permits data available to a game 112, 116 and players 120, 124. The data providers 100, 104 are located remotely and are typically accessed via the internet or through some other communications means (such as a satellite, or a leased line)...The game data server 108 of the present invention accesses the data and transfers the data to a database storage area.

'995 IPR, Ex. 2005, ¶ 95.

'995 POR p. 32

Pisanich does not disclose a **QIE Module** that receives, interprets, and manipulates **the second content provided by the primary application.**



data provider systems.” I disagree. The second content of claim 1 is provided by the primary application. Petitioner asserts that the primary application is the game 112. See Pet., p. 20. The second content in the claims is not the real-time data from traffic 100 or weather information provided by the Weather Data Provider/System 104, as Petitioner asserts. Also, the air traffic data provider 100 and the weather data provider/system 104 is not a part of the primary application – it is expressly being shown as outside it. See Ex-1007, FIG. 2, 5:13-17, and 5:20-21:

‘995 IPR, Ex. 2005, ¶ 95.

a primary application providing the virtual thematic environment; and a secondary application within the primary application, the secondary application being different from the primary application, the secondary application being launched from the primary application, and having first content utilized within a same application environment as second content provided by the primary application;

‘941 Patent, Claim 1, Col. 43, ll. 44-51.

Second content provided by the primary application, i.e., game 112. (‘995 IPR, Pet., p. 20)

‘995 POR p. 32

‘941 Patent: Pisanich Alone or In Combination with Knowledge of POSITA Does Not Teach the **Second User Interface** Associated with the **Secondary Application** and enabling the user to access the secondary application through the second user interface

Claims require “the GUI module providing... a second user interface associated with the secondary application and enabling the user to access the secondary application through the second user interface.”

74. First, limitation 1[c] requires that the “second user interface” be provided by the “GUI module.” Petitioner asserts that the GUI module includes the Rendering Engine 316, the Audio Engine 320, the Force Feedback Engine 325, and the Player Control/Game State Manager Engine 328. See Pet., p. 19. Pisanich does not teach or suggest that the “GUI module” provides the “second user interface.” Petitioner asserts that “[t]he traffic manager 300 also provides a second user interface associated with the secondary application through audio engine 336 and enabling the user to access the secondary application through the second user interface.” Pet., p. 22. But, the traffic manager 300 is separate from the GUI module asserted by Petitioner. So, even assuming this is true, Petitioner has admitted that Pisanich’s “GUI module” does not provide the “second user interface”.

‘996 IPR, Ex. 2005, ¶ 74.

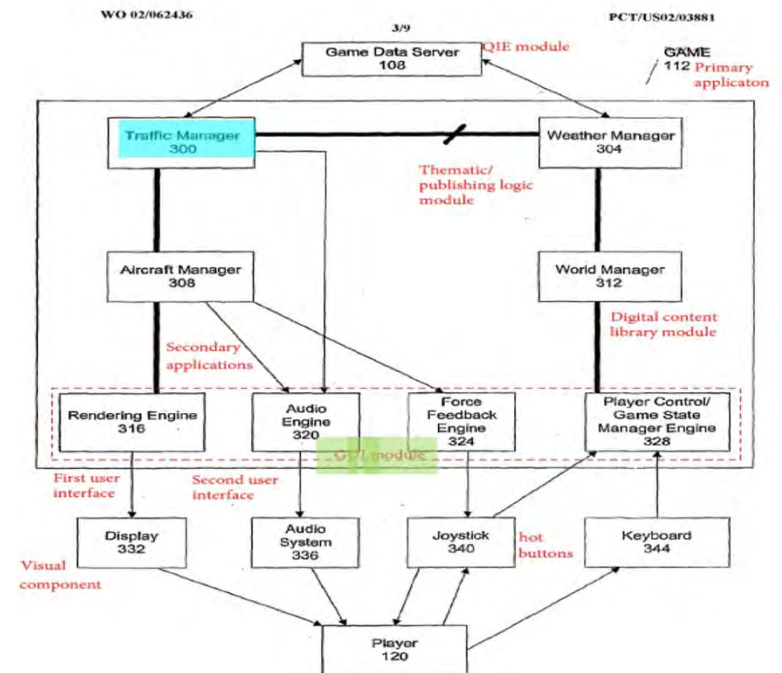


Figure 3 (Annotated)

‘995 IPR, Ex. 1007, Fig. 3 annotated by Petitioner’s Expert.

‘995 POR p. 33
‘996 POR p. 18, 19

Pisanich's GUI module does not provide "a second user interface associated with the secondary application"

GUI module." Ex-2011, 163:9-17. Petitioner asserts that "[t]he traffic manager 300 also provides a second user interface associated with the secondary application through audio engine 336 [sic] and enabling the user to access the secondary application through the second user interface." Pet., p. 22, emphasis added.

'995 IPR, Ex. 2005, ¶ 75.

the Player Control/Game State Manager Engine 328). Petitioner provides no evidence that the audio system 336 is provided by the GUI module. Rather, Petitioner specifically states that the Traffic Manager 300, that is shown outside of the annotated alleged GUI module, provides the audio engine 336. Therefore, Petitioner admits that Pisanich's "GUI module" does not provide the "second user interface". *Id.* See, for illustrative purposes, the copy below of the annotated Figure

'995 IPR, Ex. 2005, ¶ 75.

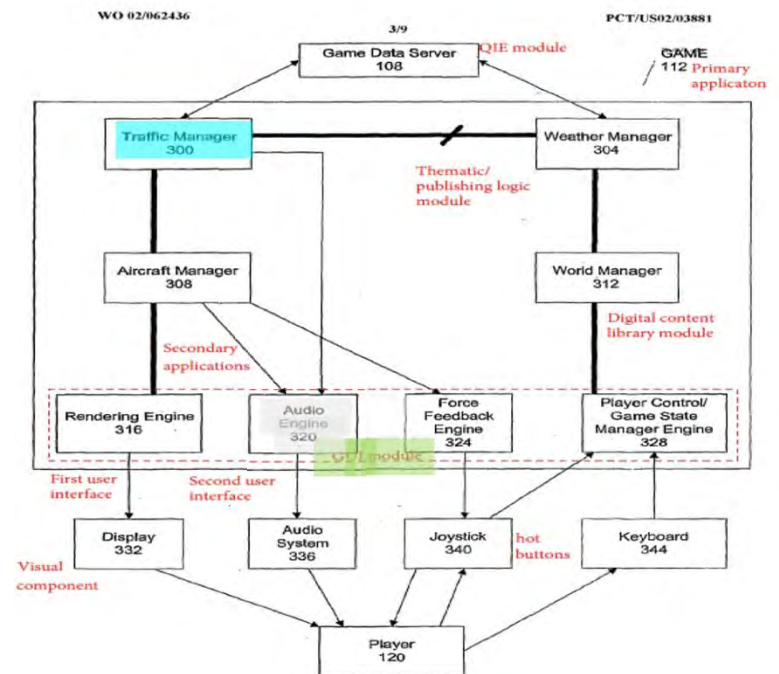


Figure 3 (Annotated)

'995 IPR, Ex. 1007, Fig. 3 annotated by Petitioner's Expert.

'995 POR p. 33

Pisanich Does Not Disclose a **Second User Interface** Associated With the Secondary Application & Enabling the User to Access the **Secondary Application** Through the **Second User Interface**

application through the second user interface." A user interface is a "portion of a program with which a user interacts." Ex-2008, p. 544. Based on my experience, a person having ordinary skill in the art would understand the term "interact" to be two-way, that is accepting inputs from the user as well as outputting to the user. For example, "inter" in interact/interaction/interactive is a prefix that comes from Latin and means "between", i.e., it implies two entities engaging in the action, acting between one another. Merriam-Webster's Collegiate Dictionary, Ex-2007, pp. 607-608. However, Pisanich does not disclose accepting inputs from a user through the audio engine 336 that Petitioner identifies as a second user interface. The audio engine 336 merely outputs audio. Therefore, the audio engine 336 cannot be a second user interface. See, for example, Ex-1007, 34:11-15, and FIG. 3, showing that the

'995 IPR, Ex. 2005, ¶ 75.

from the player control/game state engine 328 into the player aircraft process 912. The ATC process 908 also preferably interacts with the player through spoken communications commands sent to the audio engine 320 (that the player ultimately hears). The player responds and interacts with the controller through interfaces (control, menu and keyboard commands) provided by the player control/game state engine 328.

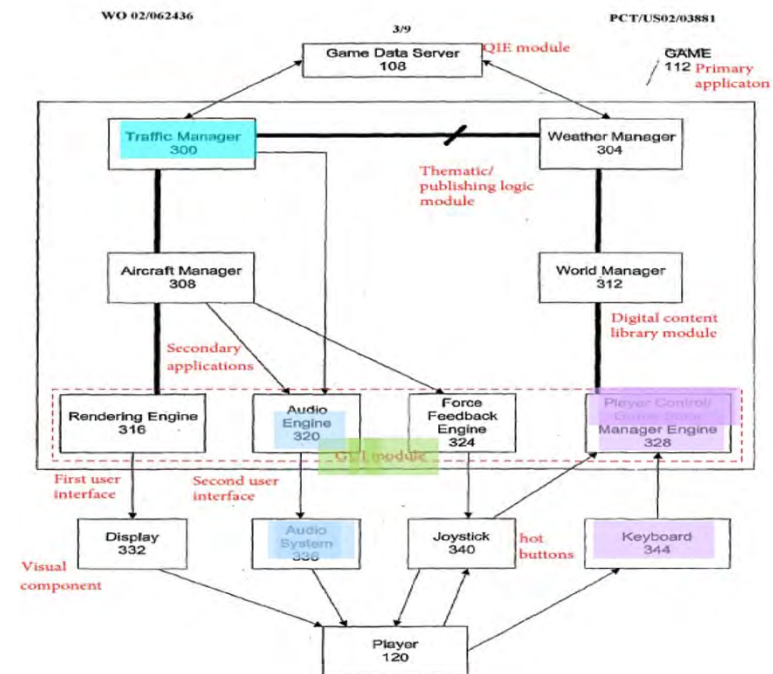


Figure 3 (Annotated)

'995 IPR, Ex. 1007, Fig. 3 annotated by Petitioner's Expert.

‘941 & 165 Patents: Pisanich Alone or In
Combination with Knowledge of POSITA Does Not
Teach a **Client System and a Server System**
as Required by Claims 23-26 of the ‘941 Patent
and Claims 1 and 18 of the ‘165 Patent.

Petitioner **Failed to Set Forth in its Petition** Where Pisanich Discloses a Client System and a Server System

- (b) 23[a]: a client system and a server system communicating to provide an interactive software application platform, the interactive software application platform comprising:

Pisanich teaches this limitation. As shown by Figure 3 of Pisanich reproduced above, the game data server 108 and the client computing device running the game 112 provides an interactive software application platform to player 120, who can interact with force feedback engine 324 and the player control/game state manager engine 328 via joystick 340 and keyboard 344, respectively. Ex-1007, 17:21-18:3 (“The joystick 340 allows the user to also provide input to the game via the player control/game state process 328. These inputs can include control information (yaw, pitch, and roll), throttle position, and function selection (for example, lowering gear or flap control). The user also receives appropriate force feedback information from the game via the force feedback engine 324. The keyboard 344 is a standard computer keyboard. The player uses coded keypresses and macros to control the configuration of the game and the aircraft.”); Ex-1004, ¶199.

‘995 IPR, Paper 2, Pet. pp. 32-33.

- (ii) 23[a]: a client system and a server system communicating to provide an interactive software application platform, the interactive software application platform comprising:

199. Pisanich disclosed the claimed **interactive software application platform** (See claim 1[pre] ¶120). Pisanich disclosed “Game Data Server 108” (See ¶88) configured to serve data to a game on a client “player’s computer.” A POSITA would have recognized the system taught by Pisanich to be a client-server configuration including the claimed **client system** and **server system**.

‘995 IPR, Ex. 1004, ¶ 199.

‘995 POR p. 39

Pisanich **Does Not Disclose** a Client System & Server System—Pisanich is Three-Tiered Architecture.

110. A POSITA would understand that Pisanich does not inherently teach that the “client computing device” and “game data server 108” disclose a client system and a server system, respectively as alleged by Petitioner. See Pet. at 32. Pisanich never uses the term “client” or “client computing device.” A person of ordinary skill in the art would not assume that any object communicating with a server is necessarily a client system. For example, other objects can communicate with a server, such as another server. A POSITA, for example, would likely believe that game 112 was another server communicating with the game server 108 to provide the simulation. A POSITA given Pisanich would believe that a three-tiered architecture having two servers communicating would in fact be more beneficial than a client system and a server system because it is more able to facilitate communications.

‘995 IPR, Ex. 2005, ¶ 110.

199. Pisanich disclosed the claimed **interactive software application platform** (See claim 1[pre] ¶120). Pisanich disclosed “Game Data Server 108” (See ¶88) configured to serve data to a game on a client “player’s computer.” A POSITA would have recognized the system taught by Pisanich to be a client-server configuration including the claimed **client system** and **server system**.

‘995 IPR, Ex. 1004, ¶ 199.

Pisanich Does Not Teach Sending a “Request for First Real-Time Information via the QIE Module to the World Wide Web” as Required by Limitation 1[f] in the ‘165 Patent.

Limitation 1[f] in the '165 Patent: “Request for First Real-Time Information via the QIE Module to the World Wide Web”

101. In support of its position regarding limitation 1[f], Petitioner (Paper 2, page 22) points to Pisanich Ex-1007, 5:13-15, which states:

a game data server 108 continually gathers 'real time' data from traffic 100 and a weather 104 data provider systems. On request, the game data server 108 permits data available to a game 112, 116 and players 120, 124.

102. However, a POSITA would not understand from Pisanich that a request for first real-time information is sent via a QIE module because, as discussed above, the game data server 108 cannot be a QIE module because the game data server 108 is an entire subsystem constructed of separate modules, not a software layer as the QIE module is defined. For example, Pisanich's game data server 108 encompasses, among other modules, two databases (Ex-1007, Pisanich Figure 2, reproduced below).

103. The QIE module of the '165 patent is a software layer (see, e.g., '165 Patent, Ex-1001, FIG. 1, 11:55-67) and not the collection of separate objects described in Pisanich's game data server 108. Further, as explained above, the game data server 108 does not interpret content such that the content is manipulated so as to be accessible on different types of devices.

104. Petitioner also appears to believe that the rendering engine 316 is also the QIE module (Pet. 24). However, the rendering engine 316, if it is requesting information at all, requests information from the "weather manager 304", not the world wide web. Ex. 1007, 11:11-18. Also, the rendering engine 316 does not receive and interpret content such that the content is manipulated so as to be accessible on different types of devices for use within the virtual thematic environment.

'996 IPR, Ex. 2005, ¶¶ 101-104

'995 POR p. 32-33

Demonstrative Exhibit - Not Evidence

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Pisanich's Game Data Server 108 Encompassed Two Databases—Object Oriented Architecture, Not Software Layer.

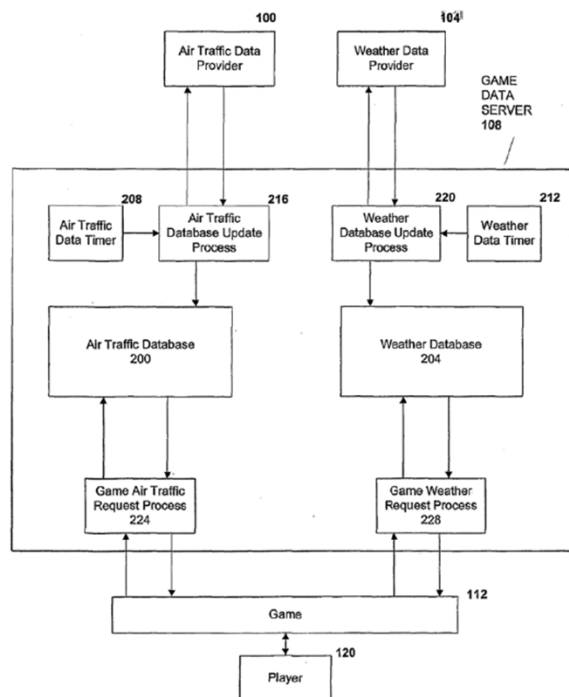


Figure 2

'165 Patent, Ex. 1007, Figure 2.

110. A POSITA would understand that Pisanich does not inherently teach that the "client computing device" and "game data server 108" disclose a client system and a server system, respectively as alleged by Petitioner. See Pet. at 32.

Pisanich never uses the term "client" or "client computing device." A person of ordinary skill in the art would not assume that any object communicating with a server is necessarily a client system. For example, other objects can communicate with a server, such as another server. A POSITA, for example, would likely believe that game 112 was another server communicating with the game server 108 to provide the simulation. A POSITA given Pisanich would believe that a three-tiered architecture having two servers communicating would in fact be more beneficial than a client system and a server system because it is more able to facilitate communications.

'995 IPR, Ex. 2005, ¶ 110.

‘941 Patent: Pisanich Alone or In Combination with Knowledge of POSITA Does Not Teach that Content Management Within the Virtual Thematic Environment is **Coordinated by the Thematic/Publishing Logic Module** as Required by Claims 1, 3, 5, and 7-12.

Content Management Within the Virtual Thematic Environment is Coordinated by the Thematic/Publishing Logic Module

- (f) 1[e]: at least one digital content library module storing information, the information containing 2 dimensional and 3 dimensional content, and providing content management of information within the virtual thematic environment coordinated by the thematic/publishing logic module, the digital content library module being a content management application.

Pisanich teaches this limitation. As shown in Figure 3 reproduced above, Pisanich discloses a content management application, e.g. world manager 312, which, like the at least one digital content library module that stores information containing 2 dimensional and 3 dimensional content, “maintains information about the physical state of the world as is known in the art. This includes information about the terrain, ground cover, hydrology, buildings, roads, and navigation features.” Ex-1007, 16:3-5. A POSITA would have understood that such

information on the “physical state of the world” such as terrain has to be 2 dimensional and 3 dimensional content because terrain is by nature 3 dimensional. Ex-1004, e.g., ¶¶160. Pisanich further discloses that such 2 dimensional and 3 dimensional content is included within the game to be displayed to the player via a rendering engine. Ex-1007, 16:8-11 (“The world manager 312 also provides information to the rendering engine 316. The rendering engine 316 displays to the user the internal (cockpit) and external (terrain, weather, other aircraft) state of the game via the display 332 using conventional technology.”); Ex-1004, ¶¶160-64.

‘995 IPR, Paper 2, Pet., p. 26.

Pisanich Disclosed Game Using Object Oriented Design— Objects Act in Independent Manner Without Coordination by Thematic/Publishing Logic Module.

161. Moreover, Pisanich taught the use of an object oriented design such that each object managed its own storage:
“Referring to Figure 3, a game system 107 (sic) is shown implemented using an object oriented design. The specialized objects preferably store their own data, request data from other objects when needed, and provide data to other objects when requested.” [Id., 10:1-3]

‘995 IPR, Ex. 1004, ¶ 161.

80. A POSITA would understand that in object-oriented design, the objects operate independently and manage their own storage and functions. Pisanich in view of the knowledge of the POSITA does not teach any coordination between the objects. Rather, Pisanich’s specialized objects would store their own data in an independent manner, and without any coordination by the thematic publishing logic module. See, for example, Ex-2008, pp. 372-373.

‘995 IPR, Ex. 1004, ¶ 161.

Phantasy Star Online Manual

Ex. 1008 in Both '941 & '165 Patent Institutions

IPR2023-00995 & IPR2023-00996

PSO Manual
Alone or In Combination with Knowledge
of POSITA, Does Not Disclose a **QIE Module as**
Required Element of All Challenged Claims

PSO Game-play Manual **Does Not Disclose** to POSITA, Architecture Used for Phantasy Star Online Game

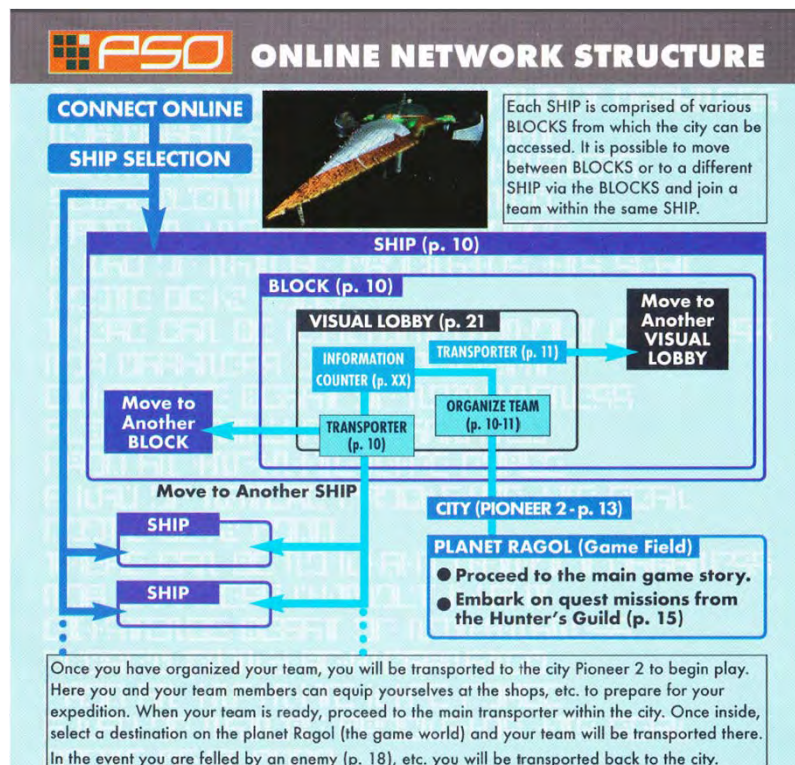
115. A POSITA would not be able to ascertain from the Manual what type of architecture is used, e.g., whether there is a multi-tiered architecture or other architecture between the server, the consoles used by the players in the online version of the game. Furthermore, the user would not be able to ascertain what components are readily identifiable in the architecture, whether layers are used anywhere and for any reason, what the organization and flow of data and control is, etc.

'995 IPR, Ex. 2005, ¶ 115.

118. The Manual describes how to play a game. A POSITA would not understand from a game play guide whether or not the underlying software includes a QIE module that is a software layer. As discussed above, a software layer is used to guide partitioning of a system's functionality into modules, where the modules assigned to one layer interact only with those that are assigned to adjacent layers. The separation into layers allows changes to be made to modules at one layer without affecting the modules of the other layers. It also provides application independence from the evolving hardware. *See, for example*, Ex-2006, pp.199, 203. A POSITA would recognize that many other architectural layouts are possible, and others would be more beneficial at that time for this type of game.

'995 IPR, Ex. 2005, ¶ 118.

PSO Manual's "Online Network Structure" Does Not Disclose any Architecture, Much Less a QIE Module that is a Software Layer.



114. As an instruction manual for end-user video game players, the Manual offers little, if any, technical information regarding the specification of the game itself or its execution by the console. The Manual does not delineate which functions are provided by software or hardware—it is silent as to this information.

119. It is not inherent and a POSITA would not assume that the Manual teaches a software layer. Rather, the Phantasy Star Online game referred to by the Manual could be organized in one of many other ways, such as with objects, agents, microservices, etc., such as described in Ex-2008, pp. 22, 372, 373.

121. There is nothing within this diagram that teaches a software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the thematic environment. Rather, the diagram simply explains to a user how to move the user's character between city blocks or ships within the game. Therefore, Petitioner's contention that this diagram teaches the QIE module is without any factual basis.

'995 IPR, Ex. 2005, ¶¶ 114, 119, 121.

'995 IPR, Ex. 1008, p. 9.

'995 POR p. 44-46

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PSO Manual Disclosed Only a Single Type of Device—i.e., a Sega Dreamcast console. Not a QIE Module, Different Types of Devices

information counter, transporter, and organize team functions). As Mr. Crane explained, the game console such as Dreamcast can be of different hardware and/or software types. Ex-1004, ¶238. PSO Manual discloses that “game play does not pause while the main menu is displayed. All menu operations take place in REAL

‘995 IPR, Paper 2, Pet., p. 47.

123. Petitioner’s supposition that “the game console such as Dreamcast can be of different hardware and/or software types” (Pet., p. 47) is without basis. The Manual teaches one type of device, i.e., that “this software is designed only for use with the Dreamcast console.” Ex-1008, p. 2 (unlabeled).

‘995 IPR, Ex. 2005, ¶ 123.

Thank you for purchasing Phantasy Star Online. Please note that this software is designed only for use with the Dreamcast console. Be sure to read this instruction manual thoroughly before you begin playing.
Note: “Phantasy Star Online” will hereafter be referred to as “PSO.”



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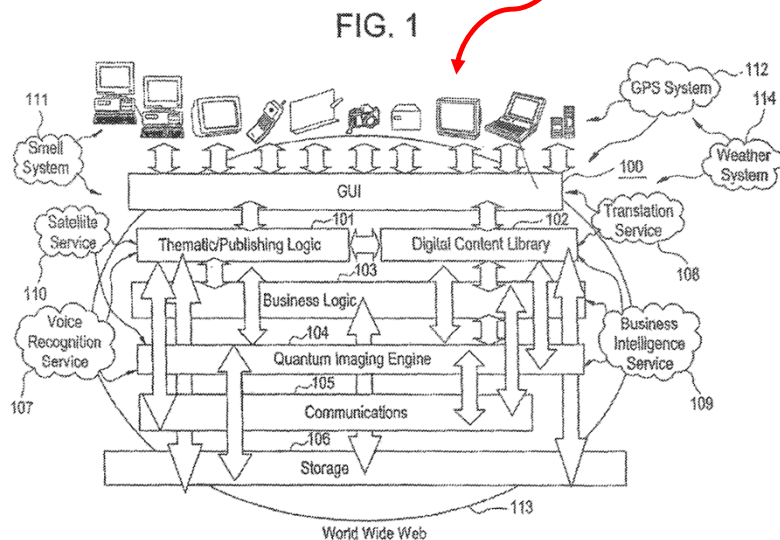
PSO requires a memory card [Visual Memory Unit (VMU) sold separately]. 15 blocks are required to save the main game file and 30 blocks are required to save the guild card file. Additional blocks are required to save any downloaded files. This game saves automatically when you quit. While saving or loading data, never turn the Dreamcast power OFF, attempt to remove the memory card or disconnect the controller. For details about saving, see p. 4.

‘995 IPR, Ex. 1008, p. 2 unlabeled. 1.

‘995 POR p. 47

QIE Module... Different Types of Devices; PSO Manual Teaches **Only a Single Device**

As stated above, the client may be a PC, a mobile terminal, such as a mobile computing device, a mobile phone, or a mobile data organizer (PDA), operated by the user accessing the program remotely from the client (see FIG. 1), or any other digital device that has a screen and storage.



'995 IPR, Ex. 1001, 13:7-12, FIG. 1.

Thank you for purchasing Phantasy Star Online. Please note that this software is designed only for use with the Dreamcast console. Be sure to read this instruction manual thoroughly before you begin playing.
Note: "Phantasy Star Online" will hereafter be referred to as "PSO."

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PSO requires a memory card [Visual Memory Unit (VMU) sold separately]. 15 blocks are required to save the main game file and 30 blocks are required to save the guild card file. Additional blocks are required to save any downloaded files. This game saves automatically when you quit. While saving or loading data, never turn the Dreamcast power OFF, attempt to remove the memory card or disconnect the controller. For details about saving, see p. 4.

'995 IPR, Ex. 1008, p. 2, unlabeled.

PSO Manual “Word Select” Feature Does Not Disclose a QIE Module as Word Select is Operating at the Destination, i.e., a Single Device, Not Different Types of Devices

238. PSO Manual taught this limitation, disclosing the claimed software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment in the form of a multi-lingual chat feature. The “Word Select” feature (See ¶106) allowed a player to construct sentences to be sent via chat (second real-time information) to any destination around the world. The “Word Select” system at the destination receive, interpret, and manipulate the content for any device,¹⁴ translated into the language of the recipient.

¹⁴ It was well known in the art at the time that game systems/consoles such as Dreamcast sold into different countries were different hardware and/or software systems, including the use of different voltage sources, different language operating systems, and compatible with different television standards.

‘995 IPR, Ex. 1004, ¶ 238.

‘995 POR p. 48

126. Further, the Manual does not teach or suggest to a POSITA “a software layer that receives, interprets, and manipulates second content so as to be accessible on different types of devices”... Mr. Crane states that the Word Select system receives, interprets, and manipulates “at the destination” (Ex-1004, ¶238), but a POSITA would understand that the “destination” is a game console, not the claimed software layer. At the game console, the software on the game console could be interpreting for that game console, but the software on the game console is not interpreting for any other game console type. Therefore, the software on the game console cannot be “a software layer” that receives, interprets, and manipulates second content so as to make it be accessible on different types of devices.

‘995 IPR, Ex. 2005, ¶ 126.

PSO Manual Does Not Disclose a Software Layer Make Content on a Dreamcast Console Available to Other Types of Devices

82. There were many differences across devices, including screen size and resolution, rendering and processing power, and differences in controllers. Per the latter, a PC would have a keyboard and a mouse; a gaming console would have a joystick; and a mobile device might have a touch screen. But arguably, the biggest differences were found in the screen resolution (including color depth, for example), and rendering and processing power. To publish a game on different platforms, the game program had to be configured to manipulate game content to work on different devices. As was well known in the art, the conventional method of doing so involved creating a different version of the game for each device or at least different size and resolution images.

'995 POR p. 49-50

'995 IPR, Ex. 1004, ¶ 82.

11 Q. Okay. If Phantasy Star Online wanted to be
12 played on another console at the time, what would they,
13 Sega, had to have done?
14 A. Sega would have had to rewrite the game for that
15 console, adjusting for the programming language in that
16 console, adjusting for the screen resolution of that
17 console, the controllers, the audio system, the Sprite
18 system, the rendering capability. All of the technical
19 aspects of the Dreamcast would have to be rewritten, or
20 what we would call back then ported, to a version that
21 would work on that hypothetical next game you want to
22 play it on, next console you want to play it on.

'995 IPR, Ex. 2011, 147:11-22.

“Word Select” Does Not Disclose QIE Module Making Second Content Accessible on Different Types of Devices

51. A POSITA would understand that second real-time information is not the same as second content, as used in the claims. An example of the second content is graphics of a virtual room in which the radio is located, while an example of second real-time information is the actual real-time audio playing through the radio.

‘995 IPR Patent, Ex. 2005, ¶ 51.

238. PSO Manual taught this limitation, disclosing the claimed software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment in the form of a multi-lingual chat feature. The “Word Select” feature (See ¶106) allowed a player to construct sentences to be sent via chat (second real-time information) to any destination around the world. The “Word Select” system at the destination receive, interpret, and manipulate the content for any device,¹⁴ translated into the language of the recipient.

‘995 IPR, Ex. 1004, ¶ 238.

“Word Select” Does Not Disclose QIE Module Making Second Content Accessible on Different Types of Devices

130. However, a POSITA would understand from the specification (as discussed above in paragraphs 38-42) that, if the PSO's Word Select is considered the secondary application, and if text in the chat box is considered second real-time information, then interpreting text in the chat box into other languages is NOT equivalent to a QIE module manipulating the second content so as to be accessible on different types of devices. A POSITA would understand from the specification and the claims that the second content is not the same as second real-time information. An example from the specification of the second content is graphics of a virtual room in which the radio is located, while an example of second real-time information is real-time audio of that radio station to play for the user, as described above. Ex-1001, 9:55-58. The Manual's Word Select may be interpreting real-time information, but Word Select is not interpreting graphics of a virtual room, for example.

'995 IPR, Ex. 2005, ¶ 130.

No Disclosure of Second Content Being Interpreted and Manipulated by Word Select to Make it Accessible on a Different Type of Device.

WORD SELECT Use the Word Select menu to communicate by constructing simple sentences from a number of pre-selected phrases with the controller. This system is 5 language (English, French, German, Spanish and Japanese) compatible so all messages created and sent will be automatically translated into the language setting designate by each player. (E.g., if you display a Word Select message in English, the selected message will appear in Japanese for a player whose language setting is Japanese.)

USING THE WORD SELECT MENU

- 1 With the software keyboard displayed, press **X** to toggle to the Word Select menu.
- 2 Use **▲▼** to select a "form" and press **△** to enter.
- 3 Press **L/R** to toggle between pages, **▲▼** to select a phrase and press **△** to enter. (Depending on the form, selection may continue.)
- 4 Select a target and the constructed message will be displayed.

Use **→** to move between selection menus. Select "Send" during message construction to display the message (or partial message) without designating a target. Select "Return" or press **○** to return to the previous menu. Select "EXIT" or press **Y** to close the Word Select menu at any point without displaying a message.

Message Under Construction

Form/Phrase Selection Menu **Send/Return/EXIT**



'995 IPR, Ex. 1008, p. 12.

'995 POR p. 51

Demonstrative Exhibit - Not Evidence

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Word Select Not Receiving, Interpreting, and Manipulating Content to Make it Accessible on Different Types of Devices

3 Q. Okay. So the content of the word select was
4 predetermined, correct?
5 MR. WOO: Objection. Form.
6 THE DEPONENT: It was selected by a game player
7 during play. How is that -- how is that predetermined?
8 BY MR. SOROCO:
9 Q. Did the player select from a drop-down menu, or
10 did they type in a phrase?
11 A. They were selecting from a fixed set of possible
12 chats.
13 Q. And your statement was, the word select system
14 at the destination received, interpreted, and
15 manipulated the content, and my comment -- my question
16 was, where does the PSO manual describe where those
17 three things occurred?
18 A. In the first place, it's the understanding of a
19 person of ordinary skill in the art, if the manual says
20 that I can chat with a person in Japan and they receive
21 it in Japanese, that would be the disclosure you're
22 looking for. I would have to find it. I don't know if
23 I cite to it specifically. Yeah, up in the background
24 section. I have to look through it though.
25 So yes, I believe that a person of ordinary

1 skill in the art would understand the teachings of the
2 PSO manual that his text is manipulated and interpreted
3 and displayed in the language of the recipient, and that
4 would necessarily happen at the recipient computer.
5 Q. Okay. Again, it was the word select system at
6 the destination received it, interpreted it, and
7 manipulated it?
8 A. Correct.
9 Q. My question is simply, could it have been at the
10 originating player rather than at the destination?
11 A. That would not be the case. The originating
12 computer doesn't necessarily know the language of the
13 recipient.

Ex. 2011, 188:3-189:13.

PSO Manual Does Not Teach a **Client System and a Server System** Communicating to Provide an Interactive Software Application Platform as Required by Challenged Claims 23-26 of the '941 Patent.

PSO Manual is **Silent As to Architecture**: Does Not Disclose Client System and a Server System

98. Phantasy Star Online was a game for the Sega® Dreamcast™ game console. PSO Manual identified that PSO operated in a client-server configuration, requiring users to log into the “PSO server” with a serial number and access key:

“The first time you connect to the PSO network to play online you must input the unique serial number and access key from the label that was included inside your PSO package. [...] This information will then be sent to the PSO server...” [Ex-1008, p. 8]

278. PSO Manual taught this limitation, disclosing that PSO operated in a client-server configuration, requiring users to log into the “PSO server” with a serial number and access key (See ¶98), thus disclosing a client system and a server system communicating to provide an interactive software application platform as claimed.

‘995 IPR, Ex. 1004, ¶ 98, 278.

139. Regarding limitation 23[a], a person of ordinary skill in the art would understand that the Manual does not teach or suggest “a client system and a server system communicating to provide an interactive software application platform.” The Manual describes how to play a game and does not suggest “a client system” and a “server system” communicating to provide an interactive software application platform. Mr. Crane states that the Manual discloses that PSO operated in a client-server configuration, requiring users to log into the “PSO server” with a serial number and access key. Ex-1004, ¶98, 278, referring to Manual p. 8. However, a POSITA would recognize that many other architectural layouts are possible, and others would be more beneficial at that time for this type of game than client/server. For example, the user may register with the server but then communicate directly with the other players, gaming-console to gaming-console. The Manual is silent as to the choice of computer architecture.

‘995 IPR, Ex. 2005, ¶ 139.

Wide Range of Known Architectures Available to POSITA at Priority Date of '941 & '165 Patents—PSO Manual Silent as to Architecture

136. There are a range of possible architectural choices for such a game that were known in the relevant time frame. The game could have been implemented, among other possibilities, using an N-tiered solution (similar to Pisanich above), an event-driven architecture, a model-view-controller (MVC) based architecture, or even a straight object-oriented architecture. The limitations “coordinated by the thematic/publishing logic module” are not inherent, because the architectural choices provide alternatives in which the content management of information within the virtual thematic environment is not coordinated by the thematic/publishing logic module. And, there is nothing in the Manual or the common knowledge of the POSITA that suggests the content management of information within the virtual thematic environment is coordinated by the thematic/publishing logic module.

'995 IPR, Ex. 2005, ¶ 136.

Petition **Fails to Address Additional Limitations** Found in the Challenged Independent Claims **of the '941 & '165 Patents**

'995 POR p. 64
'996 POR p. 56

Demonstrative Exhibit - Not Evidence

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Independent Claim 23[b] of the '941 Patent: Analysis Referred Back to Claim 1[a], but 23[b] contains different claim terms.

- (c) 23[b]: at least one thematic/publishing logic module containing virtual thematic environment rules to coordinate actions to be taken to constitute a virtual thematic environment, the virtual thematic environment being a theme-based virtual world environment;

Pisanich teaches this limitation. *See* § VII.A.2.(b); Ex-1004, ¶200.

'995 IPR, Paper 2, Pet. p. 33.

- (b) 1[a]: at least one thematic/publishing logic module containing virtual thematic environment rules to coordinate actions to be taken to constitute and provide a virtual thematic environment on a visual component, the virtual thematic environment being a theme-based virtual world environment;

Pisanich teaches this limitation. Claims 1-5 and 12-21 of Pisanich cover a “method for simulating a real world environment in a virtual world represented in a game” Ex-1007, pp. 49-50, 52-53. A POSITA would have understood that an

'995 IPR, Paper 2, Pet. p.17.

- (iii) 23[b]: at least one thematic/publishing logic module containing virtual thematic environment rules to coordinate actions to be taken to constitute a virtual thematic environment, the virtual thematic environment being a theme-based virtual world environment;

200. *See* claim 1[a].

'995 POR p. 64, 1st Bullet Point

Demonstrative Exhibit - Not Evidence

'995 IPR, Ex. 1004, ¶ 200.

Independent Claim 23[e] of the '941 Patent: Analysis Referred Back to Claim 1[b], but 23[e] contains different claim terms.

- (f) 23[e]: a secondary application within the primary application, the secondary application being different from the primary application, the secondary application being launched from the primary application, and having first content utilized within a same application environment of the virtual thematic environment as second content provided by the primary application, the primary application receiving and using first real-time information to provide the second content, the secondary application receiving and using second real-time information to provide the first content, the first real-time information being different from the second real-time information;

Pisanich teaches this limitation. See § VII.A.2.(c) and (e); Ex-1004, ¶¶203-

06.

'995 IPR, Paper 2, Pet. p. 34.

- (c) 1[b]: a primary application providing the virtual thematic environment; and a secondary application within the primary application, the secondary application being different from the primary application, the secondary application being launched from the primary application, and having first content utilized within a same application environment as second content provided by the primary application;

Pisanich teaches this limitation. As discussed above, Pisanich discloses a

'995 IPR, Paper 2, Pet. p. 20.

'995 POR p. 64, 2nd Bullet Point

Demonstrative Exhibit - Not Evidence

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Petition Wholly **Fails to Address** Limitations in Independent Claim 1 of the '165 Patent as Indicated by the Highlighting.

- (k) 1[j] providing at least one secondary application within the primary application **at the client system;**
- (l) 1[k] sending a request for second real-time information **via the QIE module;**
- (m) 1[l] **obtaining the second real-time information via the world wide web;**
- (n) 1[m] **downloading the second real-time information into the secondary application;**
- (p) 1[o] **enabling the user to control the at least one secondary application through a second user interface.**

IPR2023-00995 (Patent 10,846,941)
IPR2023-00996 (Patent 10,991,165)

Patent Owner's Demonstratives

CERTIFICATE OF SERVICE

I hereby certify that on September 10, 2024, I caused a true and correct copy of the foregoing Patent Owner's Demonstratives to be served via electronic mail to Sony-Quantum-IPR@mofo.com upon the following attorneys of record for the Petitioner:

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