

---

1	.....	6
2	.....	8
2.1	.....	8
2.2	.....	8
2.3	.....	9
2.4	.....	9
2.5	.....	10
3	.....	12
3.1	.....	12
3.2	.....	13
3.3	.....	14
4	.....	15
4.1	.....	15
4.2	.....	16

5	.....	18
5.1	.....	18
5.2	.....	19
5.3	.....	20
5.4	.....	21
5.5	.....	21
6	.....	22
6.1	.....	22
6.2	.....	23
6.3	.....	23
7	.....	25
7.1	.....	25
7.2	.....	25
7.3	.....	26
7.4	.....	26

8	.....	28
8.1	.....	28
8.2	.....	28
8.3	.....	28
9	.....	30
9.1	.....	30
9.2	.....	31
9.3	.....	31
10	.....	33
10.1	.....	33
10.2	.....	34
10.3	.....	34
10.4	.....	36
10.5	.....	37
10.6	.....	37

11	.....	39
11.1	.....	39
11.2	.....	39
11.3	.....	40
12	.....	41
12.1	.....	41
12.2	.....	43
12.3	.....	46
12.4	.....	48
12.4.1C/S	.....	49
12.4.2B/S	.....	50
12.4.3 VR	.....	51
12.5	.....	52
12.5.1	.....	53
12.5.2	.....	54

12.5.3	.....	54
12.6	.....	55
12.6.1	.....	55
12.6.2	.....	60
12.6.3	.....	64
12.6.4	.....	68
12.7	.....	71
12.7.1	.....	71
12.7.2	.....	72

2017

1000

2017-2020

60

2019

2019 8

2021

1500

700

41

168

[www.ilab-x.com](http://www.ilab-x.com)

1

2

3

4

5







- 
- 
- 
- 
- 
- 
- 
- 
-

•

•

•

o

1

2

3

4

5

6

7

1



2

3 UVW

UV

UV

4

1

2

1

3

4

5

1

2



3

●

●

●

●

/

AR

●

VR

VR

VR

●

•

•

•

•

•

A

D

W

360

•

•

•

•

•

•

•

•

•

•

( )

•

•







•

•

/

•

•

•



word txt

PDF


1

2

3

1

2 /

1

2

3



1

1

48

2

24

24

3

C/S B/S  
30

100

VR

30

10

4

48

1

2

3

3

1

2

3

4

3

10

1

2

3

1

2

3

4





5

1

2

3

4

1

43



VR

AR

MR

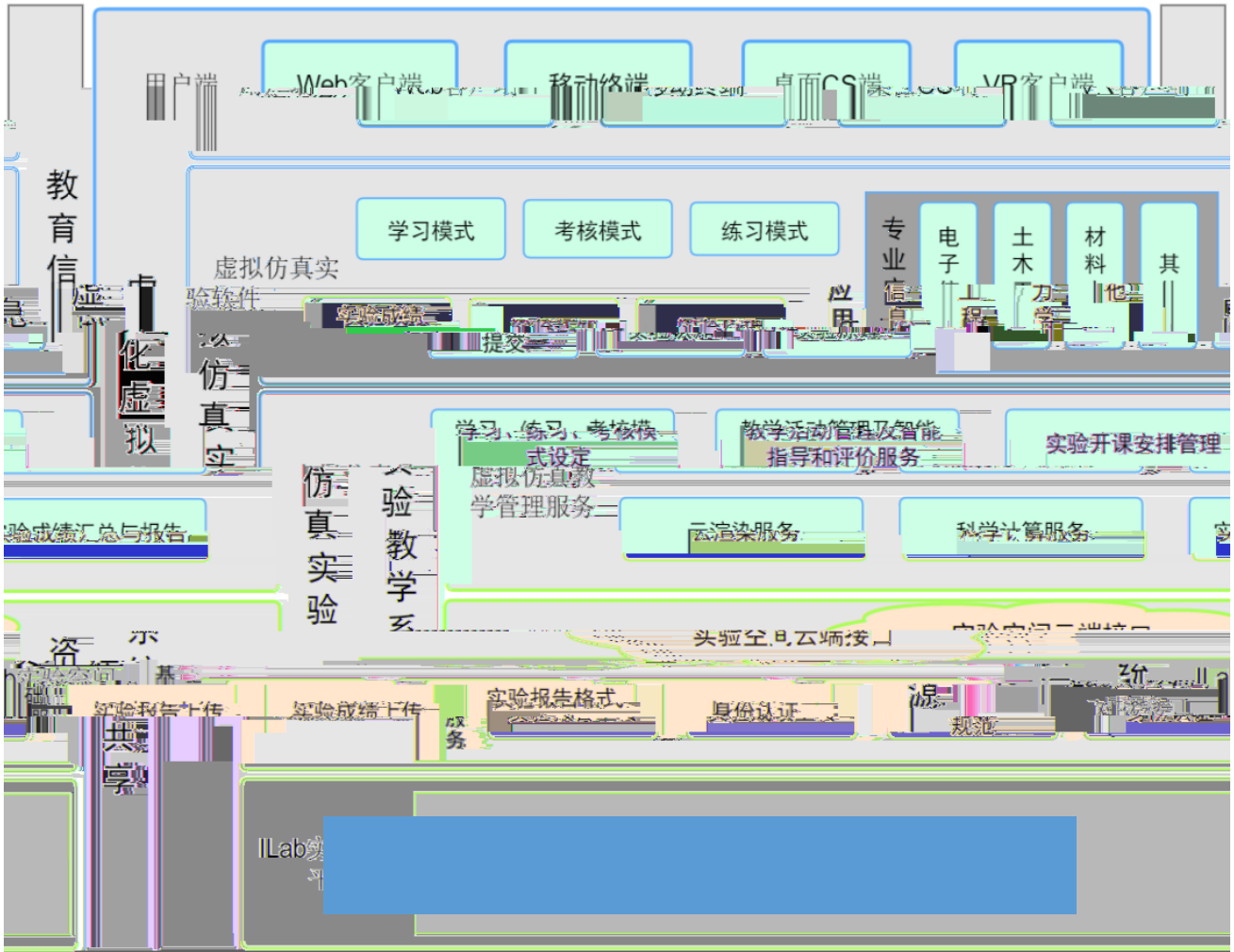
LED

3D

5G

[www.ilab-x.com](http://www.ilab-x.com)

2



2

1

2

UI

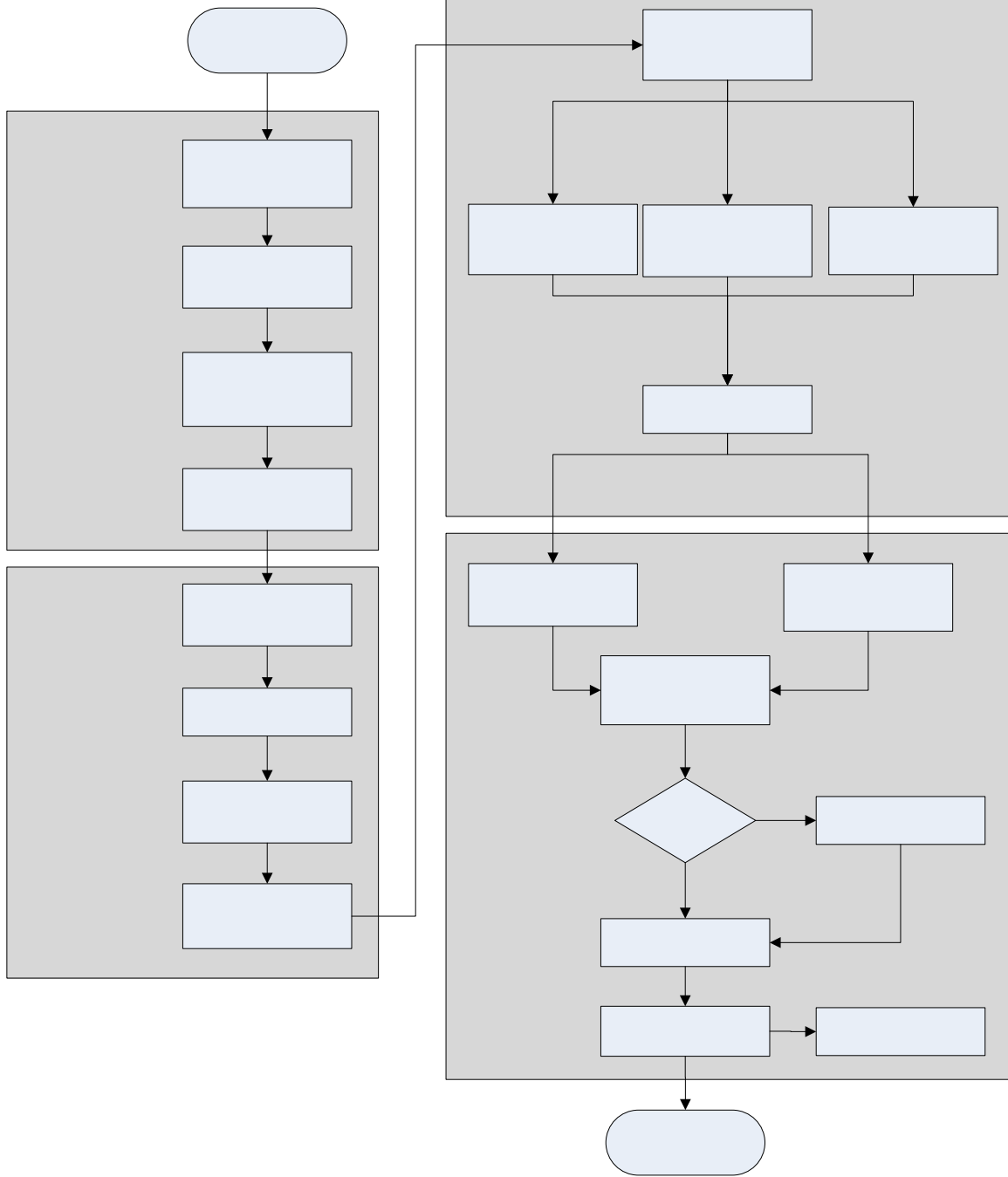
3

4

5

3





3

- C/S - B/S VR  
PC

-

-

VR VR VR 5G

- Client-Server(C/S)

iLab  
C/S



B/S

B/S



500MB

5



300



B/S Browser/Server

/

C/S

iLab

B/S

B/S

WebGL/Web3D HTML5



500MB

5



1

C/S

B/S

C/S

B/S

B/S

2

PCVR

VR

PCVR



60

10M

20

30M

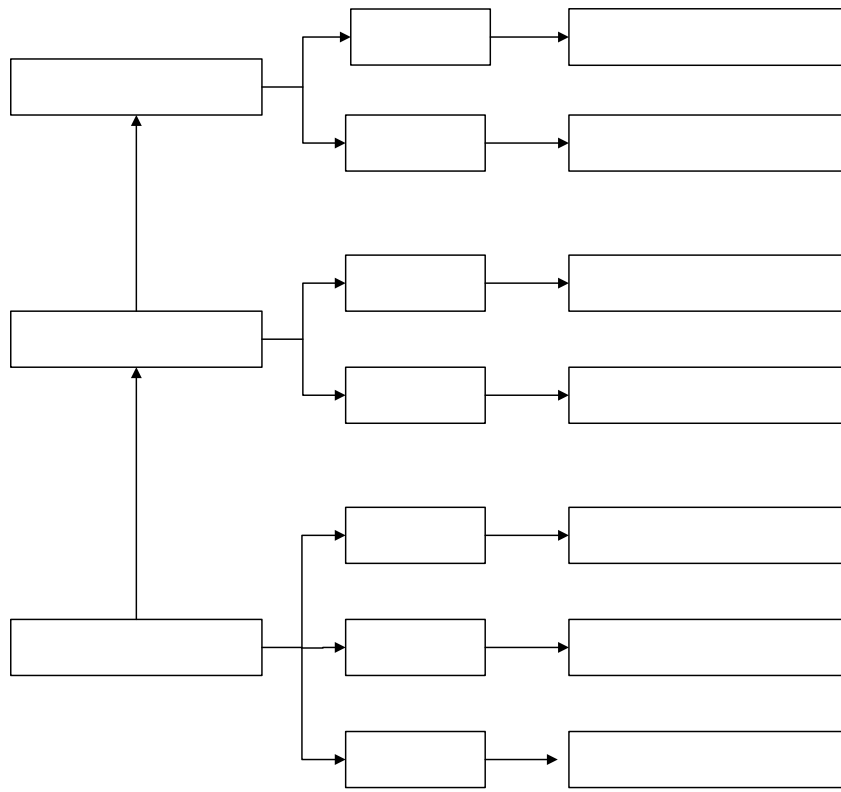


PC

VR



4



4

3D

2D

1 3D

- 3DS MAX MAYA C4D Softimage 3D

3D

- Rhino NURBS

- ZBrush 3D

2 2D

- Adobe Illustrator 2D

- Flash 2D 2D

3

- Paint

1

- Photoshop

2

- AfterEffect

1

- 3D Unity3D UE4 ThreeJS BabylonJS 3D

2

- C++ JAVA
- C# JavaScript

1

- 5
- 60





iLab-x.com 500 2019

6.87Mbps

120

75.4%

20

31.0%

2



90



20



iLab-x.com

500

2019

6.87Mbps

60

75.2%

10

25.5%

3



10



1



iLab-x.com

500

2019

10

87.8%

1

67.1%

4



1



0.5



iLab-x.com

500

2019

1

86.1%

5



6



30



100



7



8



10

24

24

1

- Intel Core i5-7400
- Intel Core i7-9700k

CPU

2

- NVIDIA GeForce GTX 960 / AMD Radeon R9 290

- NVIDIA GeForce GTX 1060 / AMD Radeon RX 480

- GPU

3

- 8GB

- 16GB

- 

4

- 10GB

- 40GB

-

GB

5

- 1024\*768
- 1920\*1080
-

7



8



20Mb/s



50Mb/s



Mb

9



1Gb/s

100Mb/s



1Gb/s

200Mb/s





10



HTML5



IE Chrome Firefox

IE

Chrome Firefox

HTML5

Unity3D WebGL

Chrome

1



500MB



100MB



120

20Mbps

300MB

2



16 /



30 /



3



4



•

5

•

•

•

6

•

•

•

1

•

•

•

2

•

●

●

3

●

●

●

4

●

●

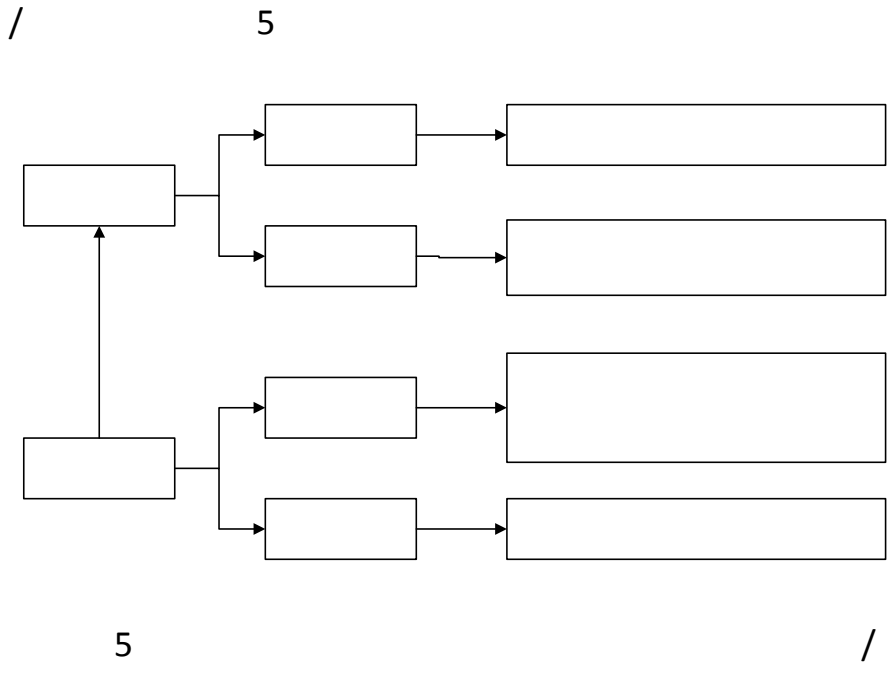
●

5



6





1



2





Kinect realSense LeapMotion



1



LED



2



VR

AR

MR

Zspace

