

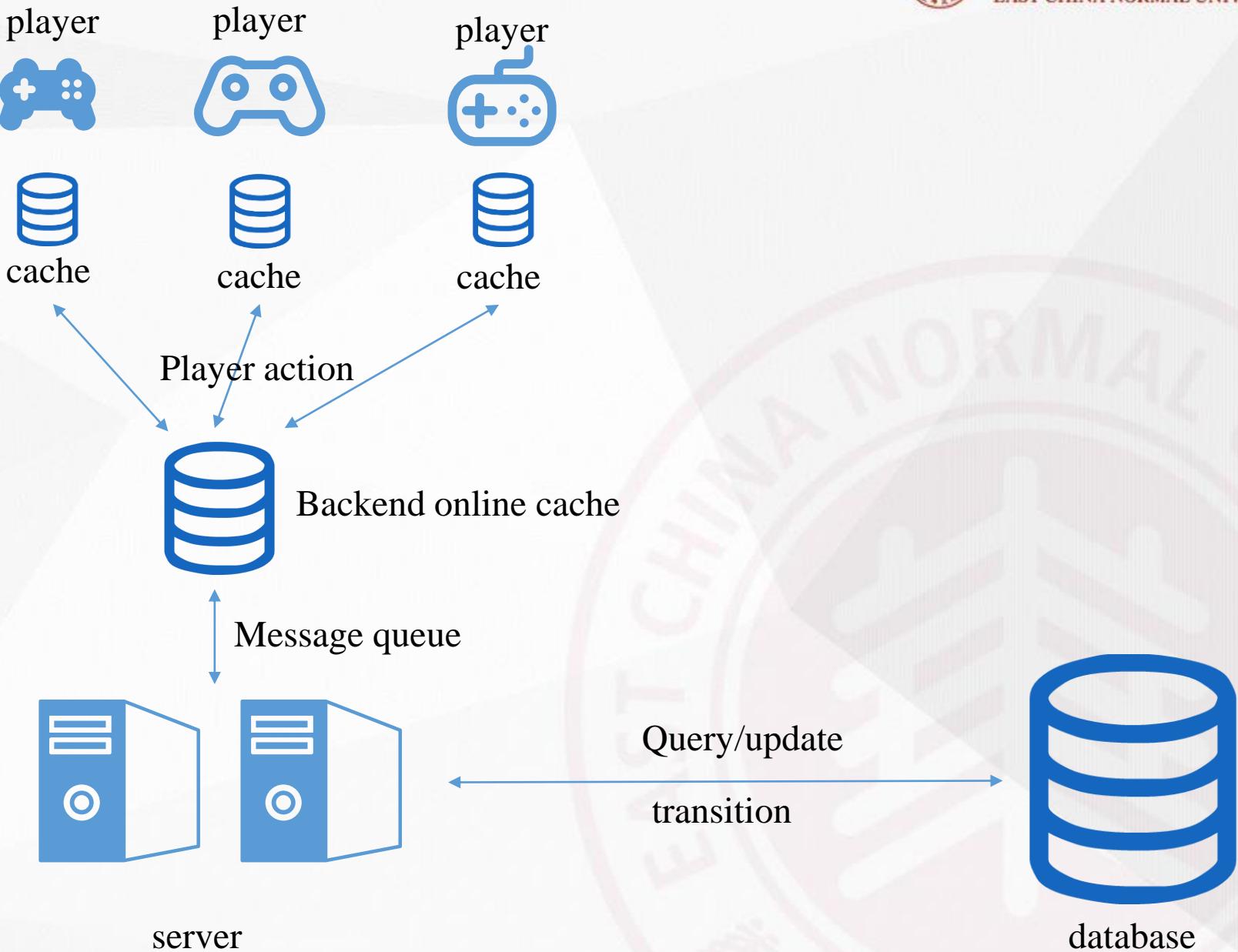


Software Development based on Unity 3D game kit

小组成员：杜云滔、郁思敏



1. Design structure





2. Game structure





3. Database schema

● Player info

- Name/passwd
- Gold/silver number
- Last login/online/last_find_treasure

```
mmorpg=# select * from player;
playerid |      name      |     passwd     | goldnum | silvernum | levelvalue | speedvalue | intelligencevalue | attackvalue | defensevalue | hpvalue | last_login | last_find_treasure | online
-----+----------------+--------------+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
    1 | test          | 123          |    48 |     78 |      1 |     20 |           100 |      20 |        20 |      5 |           |           |      |
    3 | 456           | 123          |    20 |     80 |      1 |     11 |           12 |      11 |        17 |      5 |           |           |      |
    2 | 123           | 123          |    24 |     80 |      1 |     29 |           100 |      18 |        16 |      5 |           |           |      |
    4 | hello          | hello         |    20 |     80 |      1 |     10 |           10 |      10 |        10 |      5 |           |           |      |
(4 行记录)
```



3. Database schema

● Treasure attribute

● Type

● Attribute value

treasureid	name	maintype	speedvalue	intelligencevalue	attackvalue	defensevalue
1	Amulet_1	5	1	1	1	6
2	Amulet_2	5	1	2	1	7
3	Armor_1	2	1	2	3	10
4	Armor_2	2	1	3	1	11
5	Armor_3	2	3	2	1	9
6	Ax_1	4	1	2	8	5
7	Ax_2	4	3	2	7	7
8	Ax_3	4	1	1	9	7
9	Bow	4	3	3	10	2
10	Elixir_1	6	8	6	1	3
11	Elixir_2	6	10	5	2	1
12	Elixir_3	6	7	7	3	3
13	Elixir_4	6	6	9	3	1
14	Elixir_5	6	4	5	4	5
15	Elixir_6	6	6	5	3	6
16	Flail	4	3	2	12	3
17	Helmet_1	1	2	6	1	6
18	Helmet_2	1	3	5	1	7
19	Helmet_3	1	1	1	1	10
20	Helmet_4	1	2	2	2	8
21	Ring_1	3	5	5	3	3
22	Ring_2	3	1	8	5	4
23	Shield	5	1	2	2	7
24	Shurikens	4	10	2	6	1
25	Stone_1	3	6	2	3	6
26	Stone_2	3	7	3	2	5
27	Sword_1	4	1	2	7	6



3. Database schema

● Player & treasure relationship

- username

- Wear

- Number(many to many)

playername	treasurename	wear	ownnum
123	Armor_3	t	1
123	Ax_3	t	1
123	Shurikens	f	1
123	Ax_1	f	1
test	Shurikens	f	1
456	Amulet_1	f	1
456	Amulet_2	t	1
123	Elixir_1	t	1
123	Shield	t	1
test	Armor_1	t	1
test	Shield	t	1
test	Bow	f	1

(12 行记录)



3. Database schema

● Friends

● Two way out

```
mmorpg=# select * from friends;
    playername1      |      playername2
-----+-----
    123            |      test
    test           |      123
(2 行记录)
```

● Friends request

● Delete when receive message

```
mmorpg=# select * from friendrequest;
    fromname      |      toname
-----+-----
    123          |      456
(1 行记录)
```



3. Database schema

● Chat message

● From/ to

● Content

● Chat time

mmorpg=# select * from chatlog;	fromwho	towho	content	chattime
	123	WorldChat	水电费水电费	2018-12-19 23:40:03
	123	test	我们来聊天把	2018-12-26 21:23:32
	test	123	haode	2018-12-26 21:23:47
	test	123	你好啊	2018-12-26 21:24:22
	123	test	哈哈哈，我很好	2018-12-26 21:24:28
	123	test	知道啦	2018-12-26 21:24:43
	test	123	hekkko	2018-12-26 21:24:47
	123	test	hello	2018-12-26 21:24:57
	test	123	...	2018-12-26 21:25:02
	test	123	...	2018-12-26 21:25:05
	test	123	..:	2018-12-26 21:25:07
	123	test	么意思	2018-12-26 21:25:17
	test	123	玩去了	2018-12-26 21:25:27
	test	123	scott	2018-12-26 21:25:51
	123	test	pig	2018-12-26 21:25:58
	test	123	spider	2018-12-26 21:26:03
	test	WorldChat	撒地方	2018-12-26 23:13:53
	test	WorldChat	发的所发生的	2018-12-26 23:13:57
	test	WorldChat	发的鬼地方个	2018-12-26 23:14:28
	test	WorldChat	1	2018-12-26 23:14:29
	test	WorldChat	2	2018-12-26 23:14:31



3. Database schema

● Trade & sell

● Treasure name

● Price

● Owner name(user or mall)

● Isgold

treasurename	price	ownername	isgold
Amulet_1	9	mall1	f
Amulet_2	10	mall1	f
Ax_2	33	mall1	f
Elixir_1	18	mall1	f
Elixir_2	26	mall1	f
Elixir_3	20	mall1	f
Elixir_4	16	mall1	f
Elixir_5	22	mall1	f
Elixir_6	17	mall1	f
Flail	17	mall1	f
Helmet_1	17	mall1	f
Helmet_2	6	mall1	f
Helmet_3	9	mall1	f
Helmet_4	23	mall1	f
Ring_1	10	mall1	f
Ring_2	35	mall1	f
Shield	27	mall1	f
Shurikens	15	mall1	f
Stone_1	9	mall1	f
Stone_2	8	mall1	f
Sword_1	23	mall1	f
Sword_2	27	mall1	f
Armor_2	1	123	t

(23 行记录)



3. Database schema

● Trade logs

- Item/is gold/number/constrain/price

- Sell name

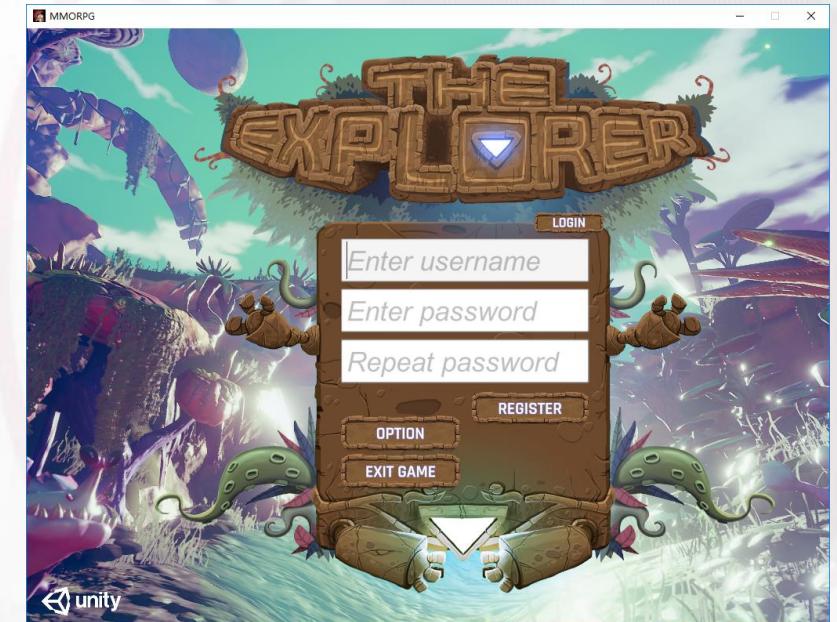
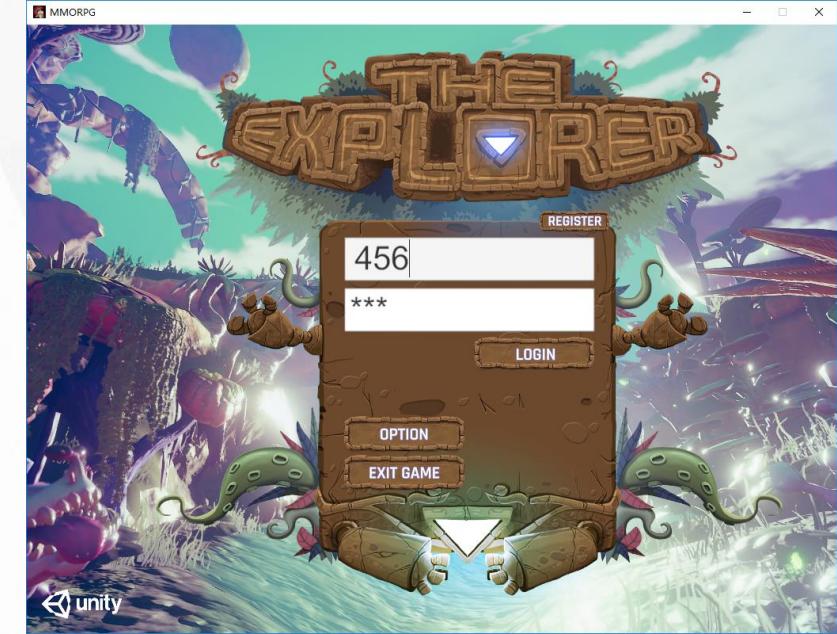
- Trade time

tradeid	itemname	sellername	buyername	isgold	num	price	tradetime
1	Amulet_2	mall	test	f	1	10	2018-12-21 11:25:13.643933
2	Armor_3	test	test	t	1	24	2018-12-22 23:11:25.999245
3	Elixir_2	mall	test	f	1	26	2018-12-22 23:31:56.117661
4	Elixir_1	mall	test	f	2	18	2018-12-22 23:39:38.326812
5	Bow	test	test	t	1	27	2018-12-22 23:40:41.52065
6	Shield	mall	test	f	1	27	2018-12-22 23:47:39.208312
7	Ring_1	mall	test	f	1	10	2018-12-22 23:47:39.224059
8	Bow	test	test	t	1	2	2018-12-22 23:49:29.060872
9	Amulet_2	mall	456	f	1	10	2018-12-23 20:03:03.167529
10	Amulet_1	mall	456	f	1	9	2018-12-23 20:03:03.235192
11	Elixir_1	mall	123	f	1	18	2018-12-23 20:09:24.497914
12	Ax_3	123	123	t	1	10	2018-12-23 20:20:46.909481
13	Shield	mall	123	f	1	27	2018-12-23 20:23:11.592882
14	Armor_1	123	test	t	1	18	2018-12-23 20:29:27.233801
15	Armor_2	123	123	t	1	18	2018-12-27 22:26:27.145653
16	Armor_3	test	123	t	1	36	2018-12-27 22:31:55.390988
17	Armor_2	123	123	t	1	9	2019-01-02 15:37:22.654995

4. functions

● Log/Register

- Password check/protection
- User exists check
- User log in check
- Init new user
- New user login notification
- Send/store player info in frontend
- Store online players in backend





4. functions

- Mini map

- User orientation detection

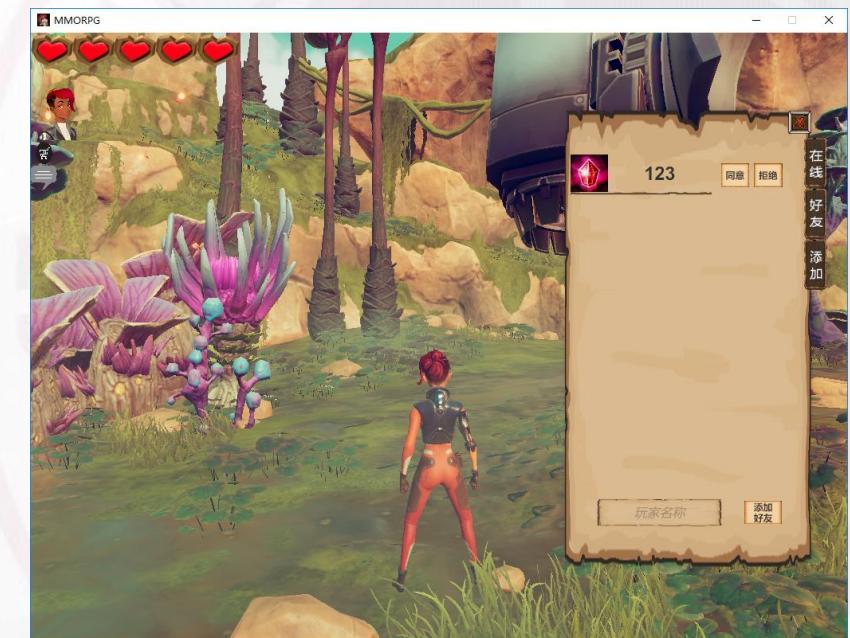
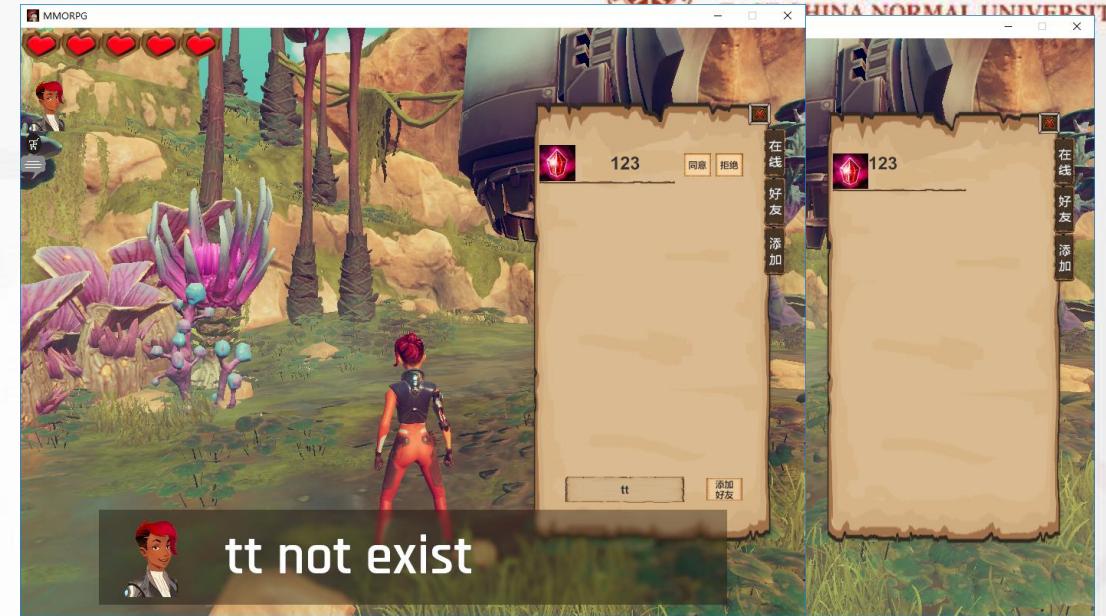




4. functions

● Add friends

- Find friend in game with username
- Send friends requests
 - If not online, store in database
- Accept/decline requests
- Show in friends list(store relationship in db)





4. functions

● Chat with friends

- Chat with online friends
- Receive message notification
- Chat with World(online friends)
- Chat message tips

● Sync and search chat logs

- Sync with background thread
 - Batch insert(100ms)
 - StringBuilder instead of string class
- Search last n chat messages



4. functions

● Trade & Buy

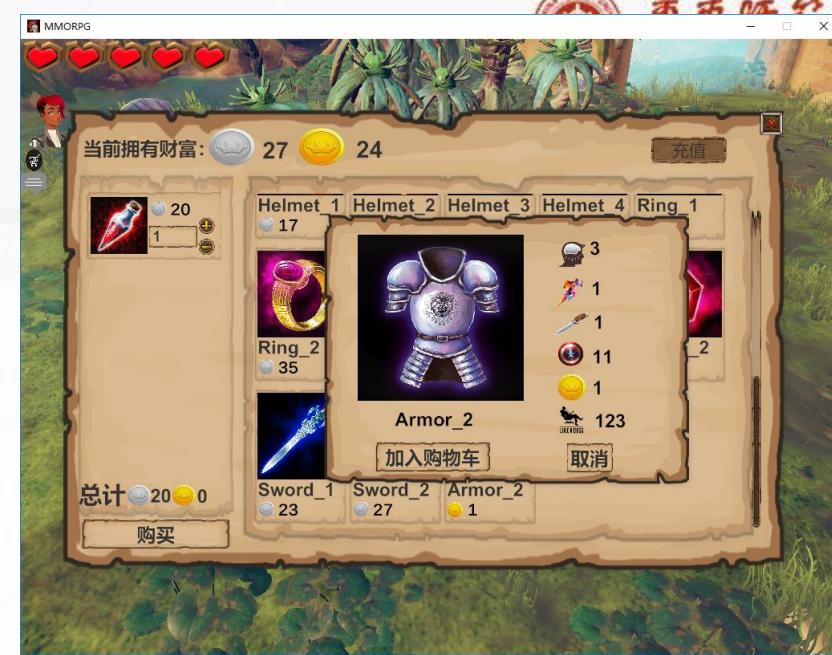
- Treasure attributes
- Add to cart
- Sync with backend 5 min

● Gold coin

- Buy unique treasure
- Users treasure exchange
- transition to ensure process

● Silver coin

- Buy treasure can be found in game
- No need transition





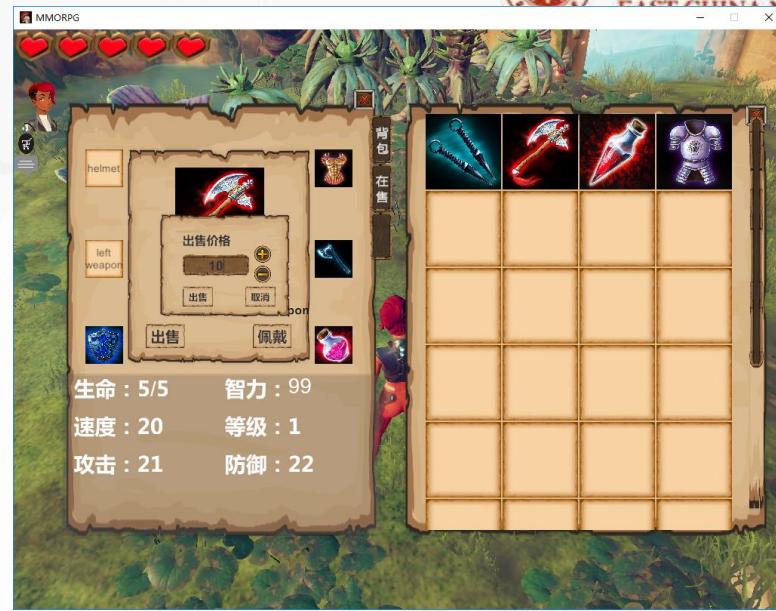
4. functions

● Backpack & sell

● Store personal treasure

● Sell treasure with price

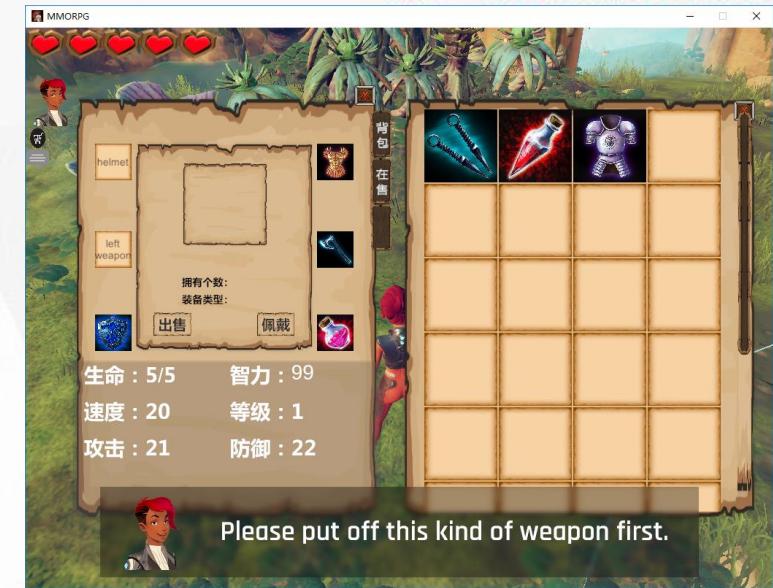
● Show in-sell treasure



4. functions

● Treasure equipment

- Ware / drop
- Change player attribute with treasure
- update to database after closing window





4. functions

● Gold coin recharge with QR



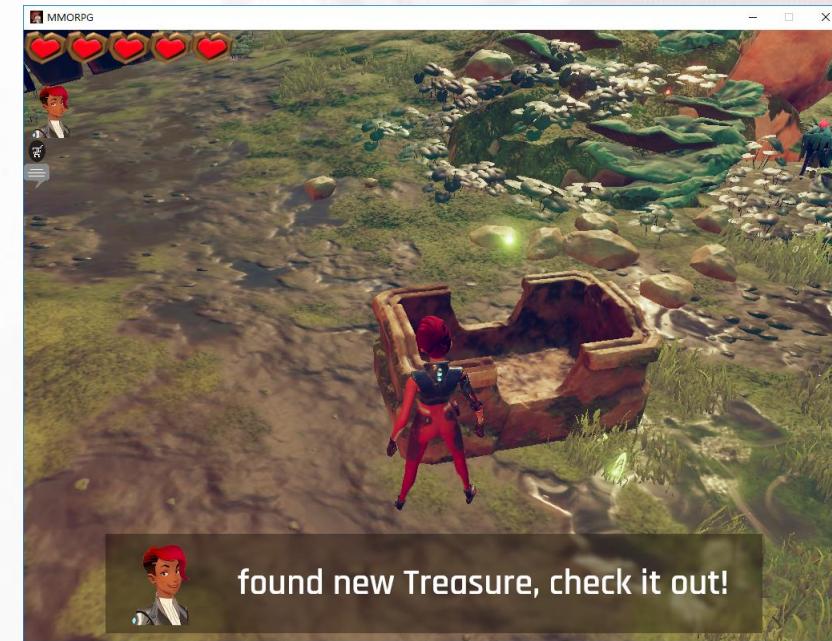


4. functions

- Find treasure daily

- Random treasure gain

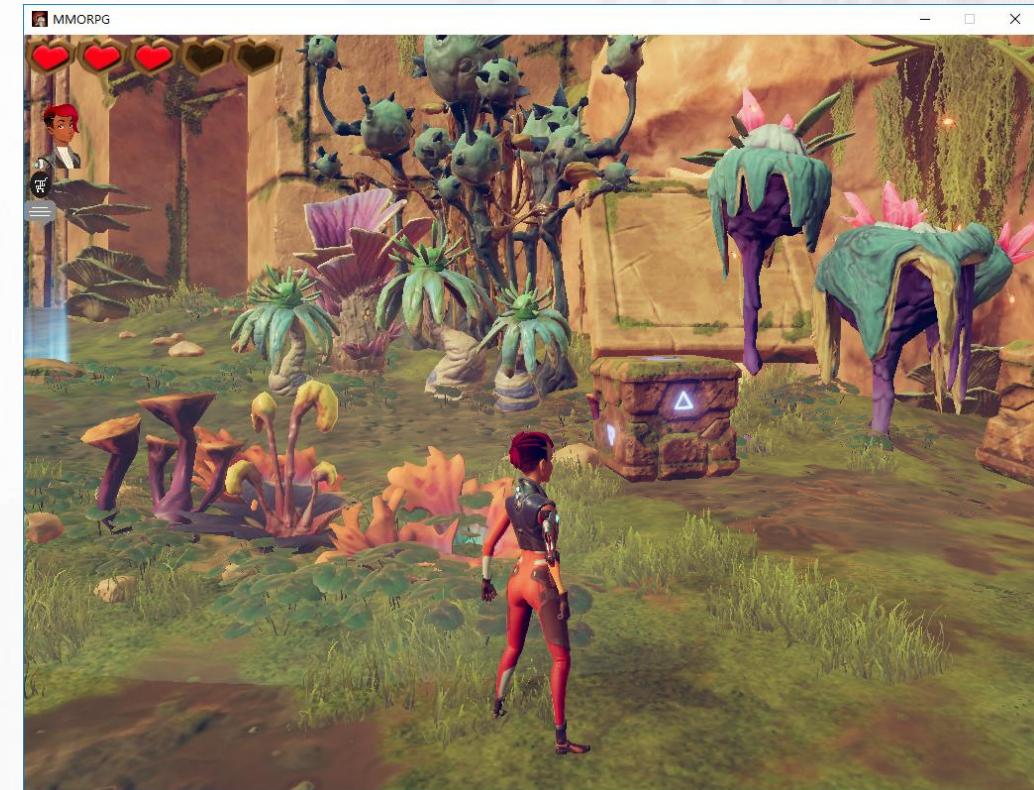
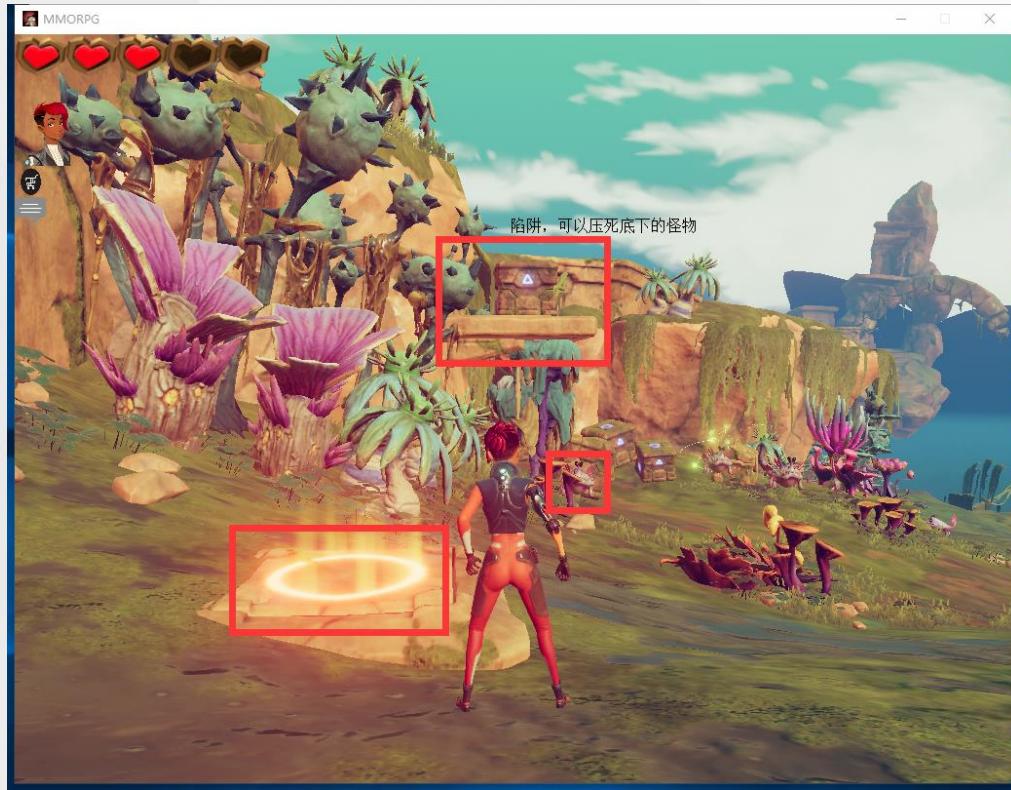
- Store found treasure in backpack





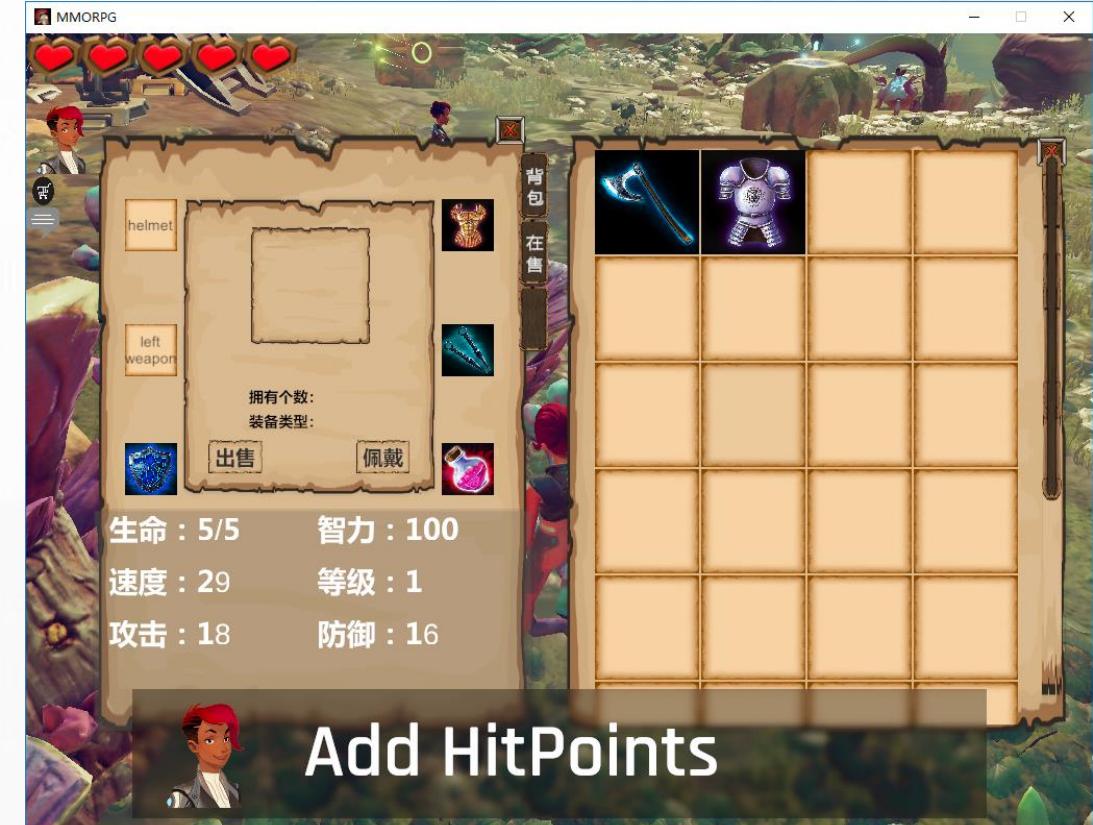
4. functions

● Game trap & trick



4. functions

● Recover health with elixirs



4. functions

- Health box

- Heal player





4. functions

- Teleport in game

- Transport player from one place to another

