

## Guess what! – game

### **Goal:**

Survive after a plane crash during a business trip. You have to pick an item complementary to the ones chosen by your colleagues. These items will help you to survive as a team.

### **Why should players play the game:**

To relax for a short while and to do something unrelated to their work. It is fun to solve and it supports creativity and makes you think about a topic that you did not think about before.

### **1. Storyline**

You are on a business trip to Cairo with 3 colleagues, which have different professions (salesman, photographer and programmer).

Suddenly, the captain informs the passengers that the plane has to land forcefully in the Sahara. There is no time for discussion and everyone has the chance to grab only one item before leaving the plane. You know that surviving in the desert is hard, so you need to choose wisely. Your colleagues will choose only one item and you better choose one that is complementary to theirs, so that you all can survive together. Therefore, the player's task is: To guess what the others might have chosen. The stereotypes of the different professions can be used as a hint for guessing their choice. Based on that, select an item that helps you – in combination with the other items – to survive.

### **Premise:**

You have one minute to solve a puzzle by choosing the combinations of objects that would help you to survive and get rescued as a team.

### **Theme:**

How to survive in the desert, stereotypes

### **Suspension of Disbelief:**

We want to have real elements that resemble reality, because the user has to "survive" a real situation. At the same time we want to include fun elements to support creativity and keep the humour inside the game.

### **Interactivity:**

The users are able to choose between the given objects to come out of the situation. He interacts with the computer using the mouse and clicking on buttons or items.

### **Non-linearity:**

There is one path the player is following. If a wrong choice of the item leads to fail (not survive), the player gets the option to try again or to quit the game.

**Player control:**

They can only navigate back and forward the instructions and choose the objects to solve the situation. There are no other adjustments to be done by the player.

**Cinematic:**

Once the player has made a final choice, a short presentation of the consequences of this choice will be shown (survive or not). Ideally, animations could be used. Due to time related reasons, the prototype contains static sketches.

## **2. Characters**

**Non-playing characters:**

- The programmer. A guy that as every computer scientist cannot live without his laptop or at least some kind of technology around him.
- The art photographer. A pretty fashion girl who likes art, especially photography.
- The salesman. A mature man who cares about materialistic stuff and wants to save money as much as possible.

**Point-of-view:**

We have chosen to show the player in third person during the game. So that there will be a character representing the player. In the final version of the game, it should be possible to individualize the character according to the player by e.g. taking a picture of the players face and add it to the character.

**Visual Character Development:**

Simple funny-drawn characters.

**Verbal Development and sound:**

In the first stage, the game has no sound, but music and read-aloud of the dialogues by the computer can be added.

## **3. Rules:**

1. Start game by clicking on start button

2. Choose only one object, which should be complementary to the one chosen by your team mates.
3. If a wrong choice is made, the player gets the opportunity to choose again (getting some hints, which are defined in rule 4) or to quit and see the right answer.
4. Hints:
  - a) After first fail: It is indicated, which items are already taken by the other characters.
  - b) After the second fail: Additionally to 4.a) the player gets hints for each item when hovering over it.
5. After the right choice or after quitting, the player will be provided with information how they were able to survive and get rescued.
6. The game ends, when the player made the right choice and got the information, or if he quits the game before.

#### **4. User Experience**

##### **Hook:**

The storyline is adjusted to the target user in order to create identification and make them play the game. Additionally, we generate curiosity about the choices made by your colleagues and about why the chosen items are useful at the desert. The fact that you have to choose blindly based on your assumption about your colleagues' choice, is creating a challenge that suits our target group.

##### **Hierarchy of needs:**

We want to address the human necessities of problem solving and creativity.

##### **User experience dimensions:**

The two user experience dimensions that we want to explore are curiosity and surprise. Further, the evaluation showed that it is a challenge to find the right solution. In additional levels, the initial situation would change (e.g. jungle), other stereotypes would be used and the challenge should be increased in order to keep the players curious. Increasing the challenge could be achieved by:

- varying the number of items,
- providing more than one item that fits a stereotype (e.g. for the salesman a coat and a suitcase),
- providing more items that are can be considered as useful for survival (instead of ice cream a bottle of water and instead of the bikini a knife).

A surprising moment in the end of the game is generated, because the right items have to be used in a creative, unusual way to survive.

## 5. *Interface and Technology*

### Technology:

Developed and tested in:

- Laptop running Windows 7.
- Web browser: Google Chrome Version 27.0.1453.110
- Mouse pad or mouse as interaction input

Languages of development:

- HTML 5
- CSS
- JavaScript
- jQuery 2.0.2, jQuery UI 1.10.3

**Interaction:** Clicking

## 6. *Evaluation of the game*

### Evaluation plan:

- a) Play testing (3 experts) → Design iteration
- b) Heuristic evaluation using HEP (2 experts) → Design iteration
- c) Play testing (3 player) → Design iteration

### Evaluation results:

#### a) Play testing (experts)

Several problems with the flow of the game and basic interaction with the game were found and solved in quick iterations. These were mostly related to timing of the instructions slideshow and wording.

A more important issue to solve was the difficulty of the game. Only one combination of items was the winning combination, and distractors in two variables (stereotype and usefulness of the objects) were present. This was frustrating for the players, because the game was about a single puzzle that could not be solved easily. After testing, we decided to reduce the difficulty by including only one item prototypical for each profession and beside those items, only one prominently useful item.

#### b) Heuristic evaluation using HEP (Appendix A)

- *Game play.* Only 30% of the heuristics were satisfactory implemented in the game. Many of them did not really apply because the game has only a short story with one level. Therefore, replaying is not surprising anymore after a successful play-run. Therefore, there are neither tutorials or increase of skill nor a ridiculous easy level to start with.

- *Game story.* 87% of the heuristics were satisfactory fulfilled by the game. The story was consistent with itself and we hope that the player should be able to relate the game characters with himself and his colleagues. The only problem might be that the winning combination might not be “fair”, as there is only one and other possibilities might exist. However, we also seek to surprise the user with the outcome, so there is a trade-off.
- *Mechanics.* Only 14% of the heuristics were satisfactory fulfilled by the game. No immersive elements were (yet) included in the game. Music and animations were not included for the sake of simplicity. As it is a single “level” game, there are no scores or other elements similar to other games in the market.
- *Usability.* Only 33% of the heuristics were satisfactory fulfilled by the game. The design of the interfaces was kept minimalistic and there are no sounds or animations included. Menus were not required and colour was left out except of one (red) colour for highlighting. Therefore, many of the heuristics did not apply. We preferred to develop in small working iterations with increasing functionality rather than developing a complex game from the beginning.
- Based on the results mentioned above we improved the game accordingly; the latest version of the game was not tested by heuristic evaluation yet (planned for the next iteration cycle).

### c) Play testing

We conducted three tests with different types of players. The first two were in their 20s and the third one was around 50 years old. First we asked them to try the game and afterwards we asked them few questions about their experience. All participants were female. The questions are listed in appendix B. The whole test session took about 10-15 minutes.

- *Graphics.* All users found the drawings simple, clear and related to the situation.
- *Animations (slide show).* None of the users noticed the animation at first glance. They figured out after a while. For some of them the speed was too fast and for others slow. As consequence we decided to remove the animation and use button for switching to the next screen instead.
- *Instructions.* The instructions were not were completely clear. It was not clear that the items would be shared by all team members. As consequence we modified the instructions with more clear statements.
- *Representativeness of the stereotypes.* The computer scientist and the photographer were immediately related to their prototypical objects; however the salesman was not immediately associated with his. Despite this fact, we considered that it was not an impediment to solve the puzzle.
- *Difficulty.* The players rated the game difficulty differently. In general, we noticed that the game was considerably easier than the previous version without being a piece of cake.

- *UX dimensions.* Most users stated that they felt curious about the reasons why they could survive with the winner solutions. This happened mostly after the first failure, and it was a trigger to try the game again or to quit at the third try. Furthermore, the explanations provided caused a moderated surprise.
- *Fun.* Players considered the game moderately fun. Fun elements included the sketches and the description of the solution. The player in our target group smiled constantly, but other younger players were not as satisfied. One player mentioned that the task was too easy and that the game would be suitable only for children. As consequence we decided to do a small modification in the items, to discard the one that never attracted attention.
- *Time.* Each game session lasted between 2 to 4 minutes of game play.

These results suggest that the game is moderately fun, and that with more levels or a more complex storyline, graphics or other immersive elements might be appreciated by the target group.

## Appendix A. Heuristic Evaluation

### Heuristics for Evaluating Playability (HEP)

#### Game Play

Heuristic	Fulfilment	Reason
1 Player's fatigue is minimized by varying activities and pacing during game play.	Yes	A video>task>video schema is used. Elements in the game vary
2 Provide consistency between the game elements and the overarching setting and story to suspend disbelief.	Yes	Consistency across elements is based on an exaggerate reality
3 Provide clear goals, present overriding goal early as well as short-term goals throughout play.	Yes	A goal of surviving is given with certain constrains
4 There is an interesting and absorbing tutorial that mimics game play.	No	Only the instructions are available
5 The game is enjoyable to replay.	No	It is an only one-time play game, unless the player loses.
6 Game play should be balanced with multiple ways to win.	No	There is only one outcome.
7 Player is taught skills early that you expect the players to use later, or right before the new skill is needed.	Yes	If the player did not succeed in guessing right, he is helped in successive trials
8 Players discover the story as part of game play.	Yes	The story-telling experience is part of the game
9 Even if the game cannot be modeless, it should be perceived as modeless.	No	There is a very rigid structure in the game
10 The game is fun for the Player first, the designer second and the computer third. That is, if the non-expert player's experience isn't put first, excellent game mechanics and graphics programming triumphs are meaningless.	...	To be tested
11 Player should not experience being penalized repetitively for the same failure.	No	The game repeats itself until the solution is found
12 Player's should perceive a sense of control and impact onto the game world. The game world reacts to the player and remembers their passage through it. Changes the player makes in the game world are persistent and noticeable if they back-track to where they've been before.	No	There is only one choice, and on replay the game is restarted
13 The first player action is painfully obvious and should result in immediate positive feedback.	No	There is only one player action and it is the game itself...
14 The game should give rewards that immerse the player more deeply in the game by increasing their capabilities (power-up), and expanding their ability to customize.	No	The world and levels are finite.
15 Pace the game to apply pressure but not frustrate the player. Vary the difficulty level so that the player has greater challenge as they develop mastery. Easy to learn, hard to master.	No	The first test got the player frustrated
16 Challenges are positive game experiences, rather than a negative experience (results in their wanting to play more, rather than quitting).	No	Quitting is common

#### Game Story

Heuristic	Fulfilment	Reason
1 Player understands the story line as a single consistent vision.	Yes	The story is consistent
2 Player is interested in the story line. The story experience relates to their real life and grabs their interest.	Yes	The story is related to the public
3 The Player spends time thinking about possible story outcomes.	Yes	The player is explicitly asked to think about it
4 The Player feels as though the world is going on whether their character is there or not.	Yes	Other npcs make decisions parallel
5 The Player has a sense of control over their character and is able to use tactics and strategies.	Yes	He has to decide what to do

6 Player experiences fairness of outcomes.	No	The outcome is designed to be unexpected
7 The game transports the player into a level of personal involvement emotionally (e.g., scare, threat, thrill, reward, punishment) and viscerally (e.g., sounds of environment).	Yes	Timer and short time give the sensation of desperation and curiosity that the game situation would imply
8 Player is interested in the characters because (1) they are like me; (2) they are interesting to me, (3) the characters develop as action occurs.	Yes	Because the characters are in a situation common to the player

Mechanics		
1 Game should react in a consistent, challenging, and exciting way to the player's actions (e.g., appropriate music with the action).	No	There is no music, animation,... included. The challenge should be the question itself
2 Make effects of the Artificial Intelligence (AI) clearly visible to the player by ensuring they are consistent with the player's reasonable expectations of the AI actor	No	It might not be clear to the player, if the non-player characters' choice varies or if the choice is fix
3 A player should always be able to identify their score/status and goal in the game.	no	0 or 1 score
4 Mechanics/controller actions have consistently mapped and learnable responses.	Half	The player only interacts by clicking. Not completely consistent yet.
5 Shorten the learning curve by following the trends set by the gaming industry to meet user's expectations.	Not relevant	
6 Controls should be intuitive, and mapped in a natural way; they should be customizable and default to industry standard settings.	half	Clicking is consistent and intuitive, but the affordance of the buttons. Animation of the intro was unexpected
7 Player should be given controls that are basic enough to learn quickly yet expandable for advanced options.	Yes	Interactions are very basic
Usability		
1 Provide immediate feedback for user actions.	Yes	There is direct feedback provided after actions.
2 The Player can easily turn the game off and on, and be able to save games in different states.	Not relevant	It is a very short game that is meant to play once
3 The Player experiences the user interface as consistent (in control, color, typography, and dialog design) but the game play is varied.	Not relevant	This is a "mid-fy" prototype and in further iterations the interface and the graphics are going to be improved
4 The Player should experience the menu as a part of the game.	Not relevant	There is no menu
5 Upon initially turning the game on the Player has enough information to get started to play.	Yes	The player is provided with a background story
6 Players should be given context sensitive help while playing so that they do not get stuck or have to rely on a manual.	No	The player needs more information to understand his task
7 Sounds from the game provide meaningful feedback or stir a particular emotion.	Not relevant	In this step of prototyping there is still no music included
8 Players do not need to use a manual to play game.	Not relevant	The user shouldn't need a manual for a short game like this. Other parts need to be improved to prevent that
9 The interface should be as non-intrusive to the Player as possible.	Yes	
10 Make the menu layers well-organized and minimalist to the extent the menu options are intuitive.	Not relevant	There is no menu
11 Get the player involved quickly and easily with tutorials and/or progressive or adjustable difficulty levels	No	There are no difficulty levels included yet
12 Art should be recognizable to player, and speak to its function.	Yes	The drawn characters and objects are clearly recognizable.

## **Appendix B. Test measures and questionnaire**

- 1) Timing of the game session
- 2) What do you think about the game
- 3) Where the instructions clear?
- 4) What questions did you have during the playtime?
- 5) Why did you quit / continue?
- 6) How difficult was the game? (7-point likert, 7 most difficult)
- 7) How fun was the game? (7-point likert, 7 most fun)
- 8) How surprising was the game? (7-point likert, 7 most surprising)
- 9) What did you expect your game-colleagues to choose as item?
- 10) Do you have any other comments or suggestions?