## 1.1 Function(for what)

This kind of software named ‘caterpillar’. It runs in JavaFX environment. The main purpose is providing a choice of entertainment for users.

## 1.2 Reason(why to do)

Background: Nowadays, games are becoming more and more popular and necessary in our daily life. Teaching kids some simple knowledge about computer science in advance can help kids to think logically, preparing them for programming languages.

Method: After running, it is very necessary to develop a game for people to play on their smart computer. On the other hand, an interesting game can help people pass the leisure.

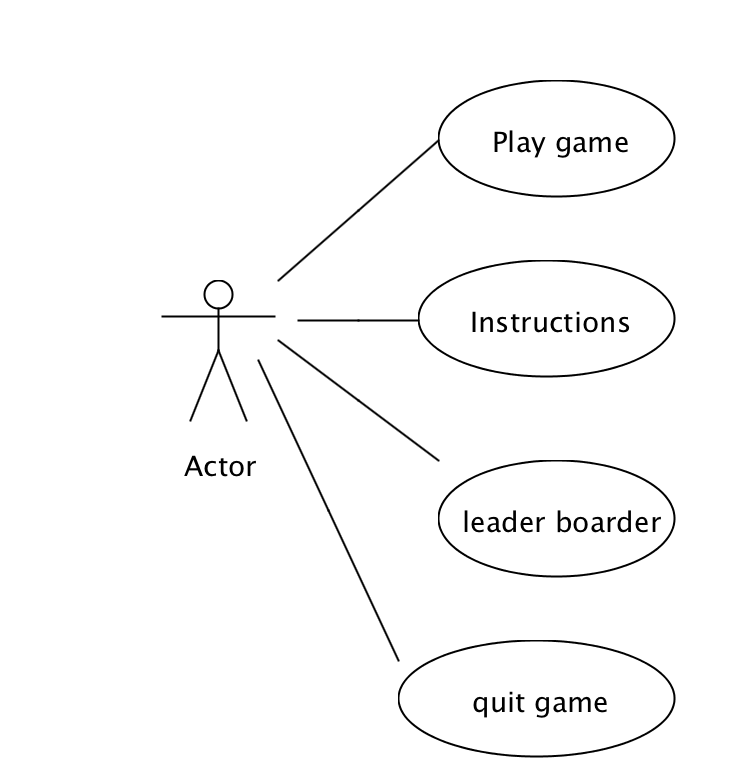
## 1.3 User(Who)

|  |  |  |  |
| --- | --- | --- | --- |
| **Stakeholders** | **Requirements** | **Potential influence** | |
| positive | negative |
| designers | To develop a game for children | Improve professional ability | Boring to make and the graphics have to be really well done to make up some drawbacks. |
| children | To learn programming language | Improve logical thinking ability | Possibly repeated too much, may get bored |

**2. Functional requirements**

## 2.1 Functional division

1. play game function
2. check instructions function
3. Leader border function
4. Quit function

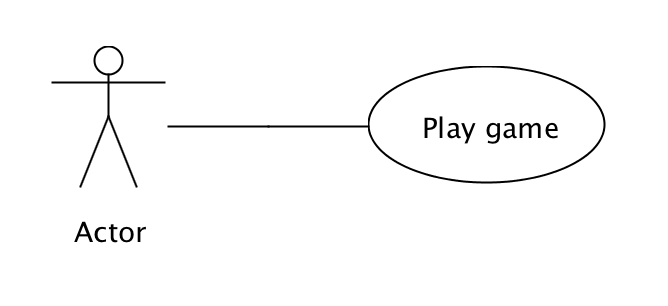


**2.2 Functional description**

2.2.1

Use case: **play game**

**Diagram:**



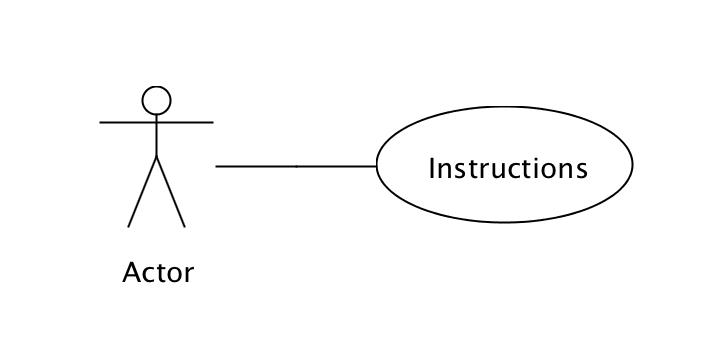
Game function:

Users plat this game on their smart phone to pass the leisure time.

2.2.2

Use case: **Instructions**

**Diagram:**



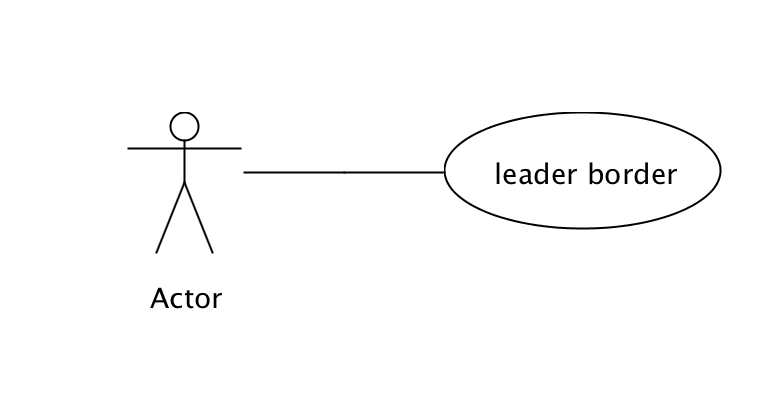
Game function:

Users check information about the history of this game and how to play it.

2.2.3

Use case: **Leader border**

**Diagram:**

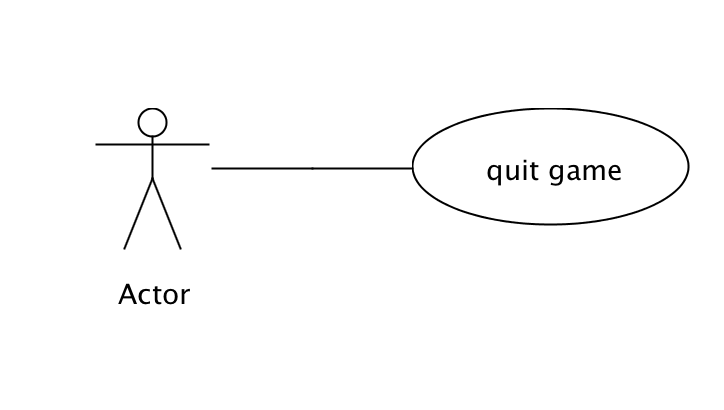
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Game function: I don’t know this function, Looool

2.2.4

Use case: **Quit**

**Diagram:**



Game function:

Leave game

**3. The feasibility analysis**

## 3.1 Playability

It is the most important performance. As a game application, the playability must be the most important element. Only this game is very interesting, users will play this game again and again.

## 3.2 Simplicity

This performance is also important. Many users like the old, they may not good at using mobile phone, but they need to play a easy but interesting game. So install this game must be simple to operating. This kind of game can be produced or used, every people can use it, and can make some positive effect.

## 3.3 Usability

This kind of game can be produced or used, every people can use it, and can make some positive effect

## 3.4 Technical feasibility

More people can use it easily. Users can play this game easily and learn related computer science knowledge It is a beneficial software, not only for children but also for other people to pass the leisure time. And everybody can know how to use it easily. Besides, it can also make the people who want to learn some related knowledge about computer science.

After lay a solid foundation for this kind of software, it will have a bright prospect

**5. Requirements Analysis**

**6. SWOT Analysis**

|  |  |
| --- | --- |
| **STRENGTH:** | **WEAKNESSES:** |
| **1. Solid team have a uniformed target and have full confidence with this project**  **2. Team members have enough time to work on this project**  **3. Professional guidance from professor Ian**  **4. Flexible organization structure.**  **5. The idea can be taken as far as we want.**  **6. Could be extended to co-op** | **1. Lack of experience for project management**  **2. Lack of JAVA development experience**  **3. Lack of financial support**  **4. Lack of hardware support**  **5. Lack of related experienced software engineers** |
| **OPPORTUNITIES:** | **THREATS:** |
| **1. Game online is still a hot topic**  **2. Have a small amount of games on the markets**  **3. More and more parents focus on their children’s education.**  **3. Educational market is still a big cake** | **1. There are many similar Game online**  **2. Our team have little experience on our project**  **3. Game may be simple**  **4. Our potential clients may choose other games for their entertainment.**  **5. Many youth well choose play games on their mobile phone** |