## Test plan of game “Bomberman”

### Use Case diagram for game “Bomberman”

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### Application architecture diagram for game “Bomberman”

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### Main game functions:

1. Change game settings
   1. Change volume settings
   2. Change graphical settings
2. Play game
   1. Setup game
      1. Choose player count
      2. Choose AI difficulty
      3. Choose Map
3. Exit game

### Introduction

This document describes software test plan for single player/local multiplayer game called “Bomberman”. The full software testing strategy consists of the following testing types and is performed in the following order:

1. **Components testing** (unit testing). The all software components are tested.
2. **Integration testing**. The software testing in order to ensure that components are interacting correctly.
3. **Acceptance / Qualification Testing**
4. **Software acceptance testing** in order to ensure that its functionality matches end user expectations. Acceptance / qualification testing determines whether a system satisfies its acceptance criteria, usually by checking desired system behaviors against the customer’s requirements. The acceptance testing consists of the last set of tests that are executed before officially launching software system.
5. **Installation Testing**

Often, after completion of system and acceptance testing, the software is verified upon installation in the target environment

1. **Alpha and Beta Testing**

Before software is released, it is sometimes given to a small, selected group of potential users for trial use (alpha testing) and/or to a larger set of representative users.

1. **Performance Testing**

Verifies that the software meets the specified performance requirements and assesses performance characteristics—for instance, capacity and response time.

1. **Configuration Testing**

In cases where software is built to serve different users, configuration testing verifies the software under different specified configurations.

1. **Usability and Human Computer Interaction Testing**

The main task of usability and human computer interaction testing is to evaluate how easy it is for end users to learn and to use the software.

### Tests scope

Acceptance testing consists of:

1. “Bomberman” game, version V1.

The purpose of this testing is to determine how well the implemented software matches functional requirements, also to identify the discovered problems and to allow to fix them. The testing also would allow collecting test data and test results for further software regression testing during its maintenance phase.

Users working habits could vary on user basic; this has to be disregarded during software testing.

### Test strategies

The basis of the acceptance testing is to demonstrate that software and its infrastructure are stable and performs reliably. The all other testing activities have to be completed before starting acceptance testing phase. The acceptance testing is oriented towards software testing from user perspective, in order to check how software is used in day to day scenarios and how it matches specified quality requirements. During the acceptance testing the representative from the customer Company will be present.

The additional testing activities will include: unit testing, integration testing, security, performance testing.

### Prerequisites

Those tasks have to be completed before starting testing activities:

1. There exists complete software specification expressed in case and usage scenarios models,
2. Working software implementation,
3. Established procedure on fixing discovered issues during testing,
4. The set of defined use cases for acceptance testing for testing all software functionality,
5. The established testing environment,
6. Allocated testing resources,
7. Defined acceptance testing standards.

### Test priorities

The following testing activities are listed in decreasing priority level (the first has the highest priority):

1. Functions – do all defined software functions perform as expected?
2. Usability – is the software user friendly?
3. Performance – does the software matches agreed performance criteria?

### Test techniques

The following testing techniques will be used:

1. Tests scripts – the scripted uses cases (with predefined input and expected output data).
2. Test scripts without data – the testers will choose the input data during testing.
3. Unauthorized use tests – the scripted activities that try to gain access to the unauthorized data in the software.
4. Usability checklist – activities to evaluate systems the ease of use.
5. Performance statistics – performance characteristics collection and comparison with defined parameters.

### Tests management

There are defined the following roles and responsibilities:

1. Quality assurance lead – the person responsible for testing process planning and its execution.
2. Tester – performs testing activities defined in the test plan.
3. Product manager – ensures that tests are executed successfully from the user perspective.
4. Test support – ensures that technical equipment are in place and operational during testing.

### Results

After testing the following deliverables should be available:

1. Test plan – this document with all changes made during testing process.
2. Change requests – document describing software changes caused by changed requirements or discovered defects during testing.
3. Weekly testing progress reports.
4. Final sing-off document signed by customer confirming that system meats all functional and quality requirements.

### Testing environment

The following software and hardware configuration has to be available during software testing:

One workstation with the following configuration:

1. AMD/INTEL 2.5+ Ghz, 2+ cores, 2+ GB RAM, 128+ GB HDD
2. Microsoft Windows 7 Professional or newer