

Software Requirements Specifications

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Functional requirements

1 System

1.1 The user starts the application

ID	1.1
Use case/Scenario	The user starts the application
Trigger	The user launches the application
Precondition	The user is able to start the application (Req 7.1)

Basic path
The application starts.

Exception path
-

Post condition
The application is running.

Authors Christoffer, Andreas & Gustav

1.2 The user exits the application

ID	1.2
Use case/Scenario	The user exits the application
Trigger	The user exits the application
Precondition	The user is able to exit the application (Req 7.2)

Basic path
The application stops.

Exception path
-

Post condition
The application is not running.

Authors Christoffer, Andreas & Gustav

2 Initiation

2.1 Add a ball

ID	2.1
Use case/Scenario	Add a ball
Trigger	The player starts a new game
Precondition	-

Basic path
The ball is rendered on the screen.

Exception path
-

Post condition
The ball is visible to the player.

Authors Christoffer, Andreas & Gustav

2.2 Add virtual arrows

ID	2.2
Use case/Scenario	Add virtual arrows
Trigger	The player starts a new game
Precondition	Debugging mode for development stage is activated

Basic path
Four arrows, one for each direction the ball is meant to move in, are rendered in the bottom-right corner.

Exception path
-

Post condition
The arrows are visible to the player.

Authors Christoffer, Andreas & Gustav

2.3 Add a playing board

ID	2.3
Use case/Scenario	Add a playing board
Trigger	The player starts a new game
Preconditions	-

Basic path

A playing board is rendered and shown.

Exception path

The board might render in front of other rendered objects.

Post condition

The playing board is visible to the player.

Author	Christoffer, Andreas & Gustav
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2.4 Add one wall

ID	2.4
Use case/Scenario	Add one wall
Trigger	The player starts a new game
Preconditions	Debugging mode for development stage is activated The board is rendered (Req 2.3)

Basic path

A wall is rendered and shown.

Exception path

The wall is rendered behind the playing board.

Post condition

A wall is visible to the player.

Author	Christoffer, Andreas & Gustav
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2.5 Add walls shaped like a maze

ID	2.5
Use case/Scenario	Add walls shaped like a maze
Trigger	The player starts a new game
Preconditions	The board is rendered (Req 2.3)

Basic path

Walls are rendered around the playing field and inside the playing field shaped as a maze.

Exception path

The walls are rendered behind the playing board.

Post condition

Walls are visible to the player and a track shaped as a maze has been created.

Author	Christoffer, Andreas & Gustav
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2.6 Add sink holes

ID	2.6
Use case/Scenario	Add sink holes
Trigger	The player starts a new game
Preconditions	The board is rendered (Req 2.3)

Basic path

Sink holes are added to the playing field.

Exception path

The holes are created at the same place as a wall, behind the playing field or on another hole.

Post condition

The sink holes is visible to the player.

Author	Christoffer, Andreas & Gustav
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2.7 Add a final hole

ID	2.7
Use case/Scenario	Add a final hole
Trigger	The player starts a new game
Preconditions	The board is rendered (Req 2.3)

Basic path

A hole is added to the playing field.

Exception path

The hole is created at the same place as a wall, behind the playing field or on another hole.

Post condition

The final hole is visible to the player.

Author	Christoffer, Andreas & Gustav
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3 Steering

3.1 Steer the ball using keys

ID	3.1
Use case/Scenario	Steer the ball using keys
Trigger	The player wants to move the ball
Precondition	The ball is added (Req 2.1)

Basic path

The ball moves upwards when volume up is pressed, downwards when volume down is pressed.

Exception path

-

Post condition

The ball is moved in the chosen direction.

Authors Christoffer, Andreas & Gustav

3.2 Steer the ball using virtual keys

ID	3.2
Use case/Scenario	Steer the ball using virtual keys
Trigger	The player wants to move the ball
Precondition	The ball is added (Req 2.1) The virtual arrows are added (Req 2.2)

Basic path

The player press the appropriate key.

Exception path

-

Post condition

The ball is moved in the direction implied by the arrow used.

Authors Christoffer, Andreas & Gustav

3.3 Steer the ball using the accelerometer

ID	3.3
Use case/Scenario	Steer the ball using the accelerometer
Trigger	The player wants to move the ball
Precondition	The ball is added (Req 2.1)

Basic path

The player tilt the phone in a chosen direction.

Exception path

-

Post condition

The ball is moved in the chosed direction.

Authors

Christoffer, Andreas & Gustav

4 Interaction

4.1 Have ball interact with tilt of device

ID	4.1
Use case/Scenario	Have ball interact with tilt of device
Trigger	The player tilts the device
Precondition	The ball is added (Req 2.1) The ball can be steered with the accelerometer (Req 3.3)

Basic path

The device is tilted in either direction.

Exception path

-

Post condition

The ball moves in the direction and speed decided by the tilt of the device.

Authors Christoffer, Andreas & Gustav

4.2 Have ball interact with wall

ID	4.2
Use case/Scenario	Have ball interact with wall
Trigger	The ball is moved towards the wall
Precondition	The ball is added (Req 2.1) A wall is added (Req 2.4 or 2.5)

Basic path

The ball hits the wall.

Exception path

-

Post condition

The ball is stopped by the wall.

Authors Christoffer, Andreas & Gustav

4.3 Have ball interact with a sink hole

ID	4.3
Use case/Scenario	Have ball interact with a hole
Trigger	The ball is moved on top of the hole
Precondition	The ball is added (Req 2.1) A hole is added (Req 2.6)

Basic path

The ball ends up on top of the hole.

Exception path

-

Post condition

The ball is eaten up by an invisible monster!

Authors

Christoffer, Andreas & Gustav

4.4 Have ball interact with the final hole

ID	4.4
Use case/Scenario	Have ball interact with the final hole
Trigger	The ball is moved on top of the hole
Precondition	The ball is added (Req 2.1) The finish hole is added (Req 2.7)

Basic path

The ball ends up on top of the hole.

Exception path

-

Post condition

The current game ends.

Authors

Christoffer, Andreas & Gustav

4.5 The device screen shall never go into sleep mode while playing

ID	4.5
Use case/Scenario	The device screen shall never go into sleep mode while playing
Trigger	A new game is started
Precondition	-
Basic path	-
Exception path	-
Post condition	The game is run without interrupts from sleep mode
Authors	Christoffer, Andreas & Gustav

4.6 The application will only make use of landscape view while in playing mode

ID	4.6
Use case/Scenario	The application will only make use of landscape view while in playing mode
Trigger	A game is started
Precondition	-
Basic path	The screen initiates landscape mode
Exception path	-
Post condition	The current game is run in landscape mode
Authors	Christoffer, Andreas & Gustav

5 Menus

5.1 Main menu

5.1.1 The main menu is shown on application startup

ID	5.1.1
Use case/Scenario	The main menu will be shown on application startup
Trigger	The application is started
Precondition	The user starts the application (Req 1.1)

Basic path
The main menu is initiated

Exception path
-

Post condition
The main menu is visible

Authors Christoffer, Andreas & Gustav

5.1.2 The main menu shall be able to initiate a new game

ID	5.1.2
Use case/Scenario	The main menu shall be able to initiate a new game
Trigger	The "New Game" button in the main menu is pressed
Precondition	The main menu is shown on application startup (Req 5.1.1)

Basic path
A new game is initiated

Exception path
A new game is not initiated

Post condition
A new game is active

Authors Christoffer, Andreas & Gustav

5.2 In-game menu

5.2.1 The in-game menu is accessible within an active game

ID	5.2.1
Use case/Scenario	The in-game menu is accessible within an active game
Trigger	The device menu button is pressed while in an active game
Precondition	A game is active
Basic path	
The in-game menu is shown	
Exception path	
-	
Post condition	
The in-game menu is visible	
Authors	Christoffer, Andreas & Gustav

5.2.2 Sound can be turned on via the in-game menu

ID	5.2.2
Use case/Scenario	Sound can be turned on via the in-game menu
Trigger	The user ticks the sound tickbox
Precondition	The in-game menu is accessible within an active game (Req 5.2.1) The sound is turned off
Basic path	
The sound is turned on	
Exception path	
-	
Post condition	
The sound is on	
Authors	Christoffer, Andreas & Gustav

5.2.3 Sound can be turned off via the in-game menu

ID	5.2.3
Use case/Scenario	Sound can be turned off via the in-game menu
Trigger	The user unticks the sound tickbox
Precondition	The in-game menu is accessible within an active game (Req 5.2.1) The sound is turned on
Basic path	
The sound is turned off	
Exception path	
-	
Post condition	
The sound is off	
Authors	Christoffer, Andreas & Gustav

5.2.4 The current game can be terminated via the in-game menu

ID	5.2.4
Use case/Scenario	The current game can be exited via the in-game menu
Trigger	The user presses the "Exit Current Game" button
Precondition	The in-game menu is accessible within an active game (Req 5.2.1)
Basic path	
The current game is turned off	
Exception path	
-	
Post condition	
There is no current game	
Authors	Christoffer, Andreas & Gustav

5.2.5 The current game is resumed via the in-game menu

ID	5.2.5
Use case/Scenario	The current game is resumed via the in-game menu
Trigger	The user presses the "Resume Game" button
Precondition	The in-game menu is accessible within an active game (Req 5.2.1)

Basic path

A specified delay is counted down visibly on the screen

Exception path

-

Post condition

The current game is resumed

Authors

Christoffer, Andreas & Gustav

5.2.6 The current game can be resumed via the in-game menu

ID	5.2.6
Use case/Scenario	The current game can be resumed via the in-game menu
Trigger	The user presses the "Resume Game" button
Precondition	The in-game menu is accessible (Req 5.2.1)

Basic path

A specified delay is counted down visibly on the screen

Exception path

-

Post condition

The current game is resumed

Authors

Christoffer, Andreas & Gustav

5.3 Finnished game menu

5.3.1 A "Finished Game Menu" will be shown

ID	5.3.1
Use case/Scenario	A "Finished Game Menu" will be shown on completion of a map
Trigger	The current game is finished
Precondition	There is an active game

Basic path

A "Finished Game Menu" is shown

Exception path

-

Post condition

A "Finished Game Menu" is visible

Authors

Christoffer, Andreas & Gustav

5.3.2 The "Finished Game Menu" shall show completion-of-map time

ID	5.3.2
Use case/Scenario	The "Finished Game Menu" shall show completion-of-map time
Trigger	The current game is finished
Precondition	A "Finished Game Menu" is shown on completion of a map (Req 5.3.1)

Basic path

A "Finished Game Menu" is shown with the completion-of-map time

Exception path

-

Post condition

The completion-of-map time is visible

Authors

Christoffer, Andreas & Gustav

5.3.3 The main menu is accessible from the "Finished Game Menu"

ID	5.3.3
Use case/Scenario	The main menu is accessible from the "Finished Game Menu"
Trigger	The "Main Menu" button is pressed
Precondition	A "Finished Game Menu" is shown on completion of a map (Req 5.3.1)

Basic path

The main menu is accessed

Exception path

-

Post condition

The main menu is visible

Authors

Christoffer, Andreas & Gustav

5.3.4 The previous game can be retried from the "Finished Game Menu"

ID	5.3.4
Use case/Scenario	The previous game can be retried from the "Finished Game Menu"
Trigger	The "Retry" button in the "Finished Game Menu" is pressed
Precondition	A "Finished Game Menu" is shown on completion of a map (Req 5.3.1)

Basic path

The previous game is re-initiated

Exception path

-

Post condition

The previous game is the current game

Authors

Christoffer, Andreas & Gustav

5.3.5 The next map is accessible from the "Finished Game Menu"

ID	5.3.5
Use case/Scenario	The next map is accessible from the "Finished Game Menu"
Trigger	The "Next Map" button in the "Finished Game Menu" is pressed
Precondition	A "Finished Game Menu" is shown on completion of a map (Req 5.3.1)

Basic path

A new game with the next map is initiated

Exception path

There is no "next map"

Post condition

The current game with the next map is active

Authors	Christoffer, Andreas & Gustav
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Non-functional requirements

6 Device

6.1 The device shall support Android 2.1

ID	6.1
Use case/Scenario	The device shall support Android 2.1
Trigger	-
Precondition	The device is running Android 2.1 or later
Basic path	-
Exception path	-
Post condition	-
Authors	Christoffer, Andreas & Gustav

6.2 The device shall have an accelerometer

ID	6.2
Use case/Scenario	The device shall have an accelerometer
Trigger	-
Precondition	-
Basic path	-
Exception path	-
Post condition	-
Authors	Christoffer, Andreas & Gustav

6.3 The device shall have a touchscreen

ID	6.3
Use case/Scenario	The device shall have a touchscreen
Trigger	-
Precondition	-
Basic path	-
Exception path	-
Post condition	-
Authors	Christoffer, Andreas & Gustav

7 Application

7.1 The user shall be able to start the application

ID	7.1
Use case/Scenario	The user shall be able to start the application
Trigger	-
Precondition	-
Basic path	-
Exception path	-
Post condition	
The user is able to start the application.	
Authors	Christoffer, Andreas & Gustav

7.2 The user shall be able to exit the application

ID	7.2
Use case/Scenario	The user shall be able to exit the application
Trigger	-
Precondition	-
Basic path	-
Exception path	-
Post condition	
The user is able to exit the application.	
Authors	Christoffer, Andreas & Gustav

7.3 The application shall have access to the devices accelerometer

ID	7.3
Use case/Scenario	The application shall have access to the devices accelerometer
Trigger	-
Precondition	The device shall have an accelerometer (Req 6.2)

Basic path

The application requires access to the accelerometer

Exception path

Access to the accelerometer is not granted

Post condition

The application can make use of the accelerometer

Authors Christoffer, Andreas & Gustav

7.4 The application shall only make use of the English language

ID	7.4
Use case/Scenario	The application shall only make use of the English language
Trigger	-
Precondition	-

Basic path

-

Exception path

The wrong language is used

Post condition

The English language is used consistently throughout the interface of the application

Authors Christoffer, Andreas & Gustav