



Die Hausaufgaben müssen von jedem Studierenden einzeln bearbeitet und abgegeben werden. Die Abgabe muss bis Donnerstag 03.11.2016 um 23:59 Uhr erfolgen. Für die Hausaufgabe sind die aktuellen Informationen vom Blog zu berücksichtigen:

<http://seblog.cs.uni-kassel.de/category/current-term/pmws1617/>

Alle Abgaben müssen über unser Gitlab unter

<https://moodle.uni-kassel.de/moodle/course/view.php?id=5756> erfolgen. Abgaben per Mail werden nicht mehr akzeptiert.

Diese Hausaufgabe gibt **23 Punkte**.

Aufgabe 1 - Abstrakt vs. Konkret (13P)



Abbildung 1: Wimmelbild

1. Erstellen Sie eine Tabelle mit den Spalten „Abstrakt“ und „Konkret“. Finden Sie mindestens 5 Beispielpaare aus Abbildung 1 und tragen Sie diese in die Tabelle ein.
2. Auf Basis der ersten Teilaufgabe, erstellen Sie Definitionen für „Abstrakt“, „Konkret“ und „Beispiel“.

Vorbereitung

Innerhalb der Veranstaltung Programmiermethodik werden die Hausaufgaben zum Großteil an Hand eines Spieles aufgebaut. Dieses Semester handelt es sich hierbei um das Spiel „ZombieGo“. Die verbindlichen Spielregeln sind im Blog zur Vorlesung unter <http://seblog.cs.uni-kassel.de/category/currentterm/pmws1617/> zu finden.



Abbildung 2: ZombieGo



Abbildung 3: Zombie Map

Machen Sie sich mit den Regeln vertraut!

The player starts the game and picks a color. Once created, the players avatar is displayed on a map using a predetermined position. The start position of the first player is the first grass field and the start position of the second player is the last grass field. Features on the map include Zombies and trainers. The Game is a turn-based game and within a turn the player has three action points (AP).

Move 1AP

attack 3AP

catch 2AP

The player can move from one place to another place. The player can catch a Zombie with a trap and can attack a Zombie with another Zombie. Players earn experience points for various in-game activities. The player can only move on grasses and cannot enter rocks. The cost of moving from one place to another are calculated based on the places that lie in between the places. Therefore, moving from a place with coordinates (1,0) to a place with coordinates (1,2) would cost 2 (AP). In order to catch a zombie, the player has to choose one of their one traps and is required to throw a dice for an aggressive value. The dice ranges from values 1 to 6. After throwing the dice, the zombie also throws a dice, to provide a defensive value. During the action of catching a zombie, the used

trap is always consumed. Catching a zombie is calculated using the following formula : $(\text{Successrate of Trap}) + (\text{Aggressive Value} - \text{Defensive Value}) * 5 > \text{Random number ranging from 1 to 100}$. Successfully catching a zombie, rewards the player with 1 experience point. Attacking a zombie requires the player to own a zombie, which requires the player to catch it in the first place. Before attacking a zombie, the player has to throw a dice for an aggressive value. The dice ranges from values 1 to 6. After throwing the dice, the zombie also throws a dice, to provide a defensive value. The zombie of the player attacks the wild zombie, using his attack count, when $\text{Aggressive Value} \geq \text{Defensive Value}$ is given. The wild zombie attacks the zombie of the player, using his attack count, when $\text{Defensive Value} \geq \text{Aggressive Value}$ is given. Successfully attacking a wild zombie, rewards the player with 1 experience point. Successfully killing a wild zombie, by lowering its health count to 0, rewards the player with 10 experience points. If the health count of the players zombie gets lowered to 0, the zombie dies and the player loses the zombie, without further penalties. Players who run out of traps, turn into spectators, that can no longer attack and catch zombies and cannot move on the map. When all players run out of traps to use, the game ends and the player with the highest amount of experience wins the game. The first player wins automatically in case both players have the same amount of experience at the end of the game. When a turn ends, without the game ending, a new zombie wild is generated on a random grass with a random health and attack pool, if there are less than 5 wild zombies.

Aufgabe 2 - Textuelle Szenarien (12P)

Erstellen Sie **drei** textuelle Szenarien zu konkreten Spielsituationen des Spiels „ZombieGo“. Die Szenarien sollten jeweils ca. $\frac{1}{4}$ Seite lang und in Englisch verfasst sein. *Hinweis: Ein textuelles Szenario besteht IMMER aus einem Titel, einer Startsituation, einer Aktion sowie einer Endsituation. Diese 4 Teile sollten sichtbar (durch Farbe/Absatz) voneinander getrennt sein!*

Um den Einstieg zu erleichtern, hier ein einfaches Beispielszenario, welches natürlich nicht für die Hausaufgabe verwendet werden darf:

Title: Attack a Zombie

Startsituation: Alice and Bob are playing ZombieGo. Alice has one Zombie: "LittleBrain" with 5 Attackpoints. Alice stands on ground 1339 and bob stands on ground 1344. Bob has no Zombie. A Zombie stands on ground 1339. It's Alice's turn.

Action: Alice attacks the Zombie with "LittleBrain". Alice rolls the attacker dice. The result is six. The Zombie throws the defense dice with a three.

Resultsituation: Alice has killed the Zombie and earns experience.