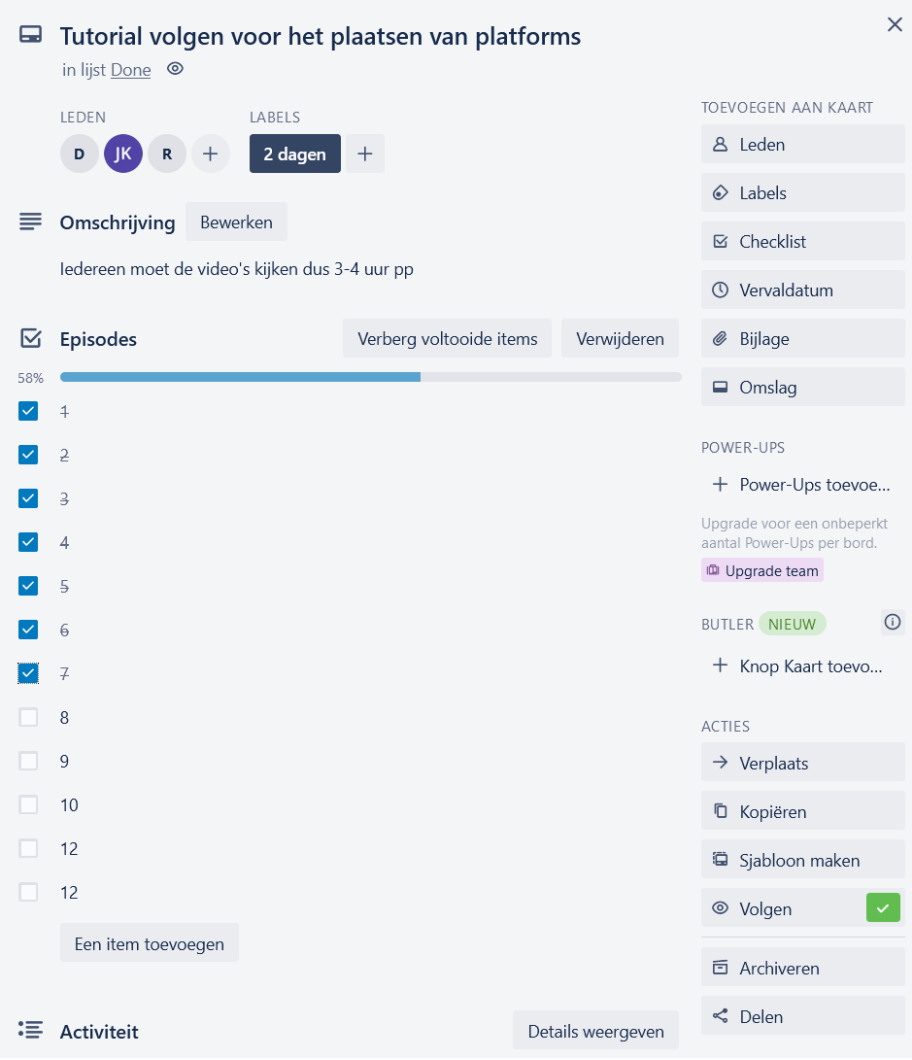
Code User Story
Roel

Tutorial gevolgd en juiste gravity gemaakt



Code character.cpp

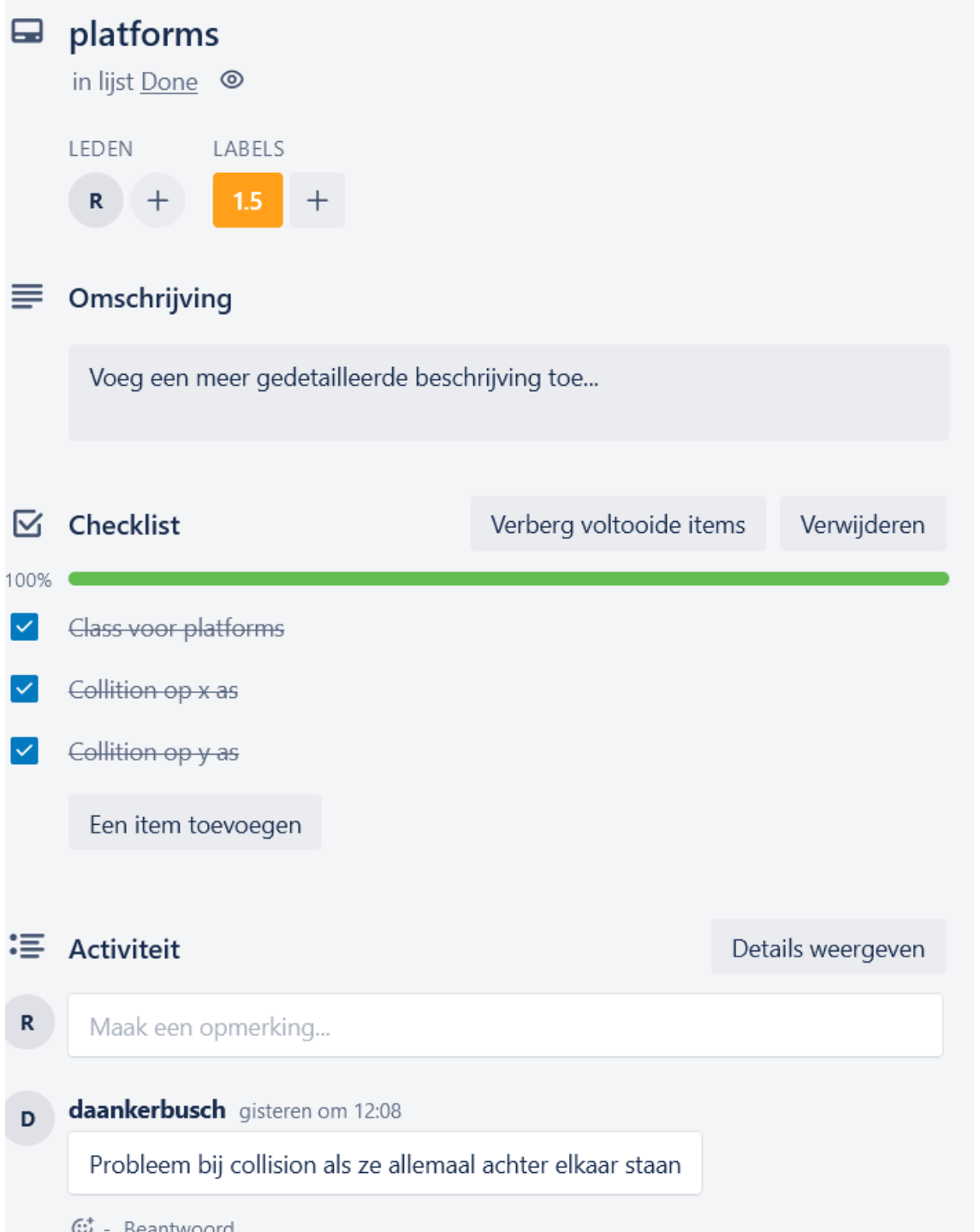
Character.cpp

```cpp
#include "Character.hpp" //Character.cpp

#include "DEFINITIONS.hpp"

namespace engine{

	//Definitions for Character
	Character::Character(const sf::Vector2f &position,  const sf::Texture &texture, const sf::Texture &texture_flip) :
			position(position),
			texture(texture),
			texture_flip(texture_flip)
	{
		sprite.setTexture(texture);
		sprite.setPosition(position);
		width = sprite.getGlobalBounds().width;
		height = sprite.getGlobalBounds().height;
	}

	Character::Character():
			position(0,0)
	{}

	void Character::flipTexture() {
		if(flip){
			sprite.setTexture(texture);
		}else{
			sprite.setTexture(texture_flip);
		}
		flip = !flip;
	}

	void Character::setTexture(sf::Texture &texture_, sf::Texture &texture_flip_) {
		texture = texture_;
		texture_flip = texture_flip_;
		sprite.setTexture(texture);
		width = sprite.getGlobalBounds().width;
		height = sprite.getGlobalBounds().height;
	}

	void Character::setPosition(const sf::Vector2f &position_) {
		position = position_;
		sprite.setPosition(position);
	}

	void Character::setPosition(const float &x, const float &y) {
		position.x = x;
		position.y = y;
		sprite.setPosition(position);
	}

	sf::Vector2f Character::getPosition(){
		return position;
	}

	void Character::draw(sf::RenderWindow& renderWindow) {
		renderWindow.draw(sprite);
	}

	void Character::move(sf::Vector2f movement) {
		position += movement;
		if(movement.x < 0 && !flip){
			flipTexture();
		}else if(movement.x > 0 && flip){
			flipTexture();
		}
		sprite.setPosition(position);
	}

	void Character::move(const float &x, const float &y) {
		position.x += x;
		position.y += y;
		sprite.setPosition(position);
	}

	sf::Vector2f Character::nextPosition(sf::Vector2f movement) {
		return position + movement;
	}

	sf::Sprite Character::nextSprite(sf::Vector2f movement) {
		sf::Sprite temp;
		temp.setTextureRect(sprite.getTextureRect());
		temp.setPosition(position + movement);
		return temp;
	}

	sf::Sprite& Character::getSprite() {
		return sprite;
	}

	bool Character::objectCollisionAndFalling(const sf::Sprite &object, const float& dt) {
		//Als de volgende move van de player in het object zit

		sf::Sprite temp = nextSprite(velocity * dt);

		if(temp.getGlobalBounds().intersects(object.getGlobalBounds())){

			//rechts
			if(getPosition().x> object.getPosition().x + object.getGlobalBounds().width){
				velocity.x = 0;
			}
			//links
			else if(getPosition().x + width < object.getPosition().x ){
				velocity.x = 0;
			}
			//onderkant
			else if(getPosition().y > object.getPosition().y + object.getGlobalBounds().height){
				velocity.y = 0;
			}
			//bovenkant
			else{
				velocity.y = 0;
				jump = 0;
				on_ground = true;
			}
			return true;
		}//Als de player niet het object raakt
		else{
			return false;
		}

		//delete temp;
	}

	void Character::updateVelocity(const float &dt) {
		//Velocity update
		if(velocity != sf::Vector2f{0,0}){
			move(velocity * dt);
		}
	}

	void Character::respawn(sf::Vector2f spawn) {
		setPosition(spawn);
		velocity.x = 0;
	}

}
```

Code character.hpp

```hpp
#pragma once //Character.hpp

#include <SFML/Graphics.hpp>

namespace engine{

	class Character{
	private:
		sf::Sprite sprite;
		sf::Vector2f position;
		sf::Texture texture;
		sf::Texture texture_flip;

		bool flip = false;

		void flipTexture();

	public:
		sf::Vector2f velocity = {0,0};
		float speed = 400.0f;
		float jump_speed = 600.0f;
		float slow_down = 0.0f, slow_down_ground = 20.0f, slow_down_air = 5.0f;
		float speed_up = 0.0f, speed_up_ground = 40.0f, speed_up_air = 30.0f;
		int height, width, max_jump =2, jump = 0;
		bool jump_done = false, on_ground = false;

		Character(const sf::Vector2f &position, const sf::Texture &texture, const sf::Texture &texture_flip);

		Character();

		void setTexture(sf::Texture& texture_, sf::Texture &texture_flip_);

		void setPosition(const sf::Vector2f& position_);

		void setPosition(const float& x, const float& y);

		sf::Vector2f getPosition();

		void draw(sf::RenderWindow& renderWindow);

		void move(sf::Vector2f movement);

		void move(const float& x, const float& y);

		sf::Vector2f nextPosition(sf::Vector2f movement);

		sf::Sprite nextSprite(sf::Vector2f movement);

		sf::Sprite& getSprite();

		bool objectCollisionAndFalling(const sf::Sprite &object, const float& dt);

		void updateVelocity(const float& dt);

		void respawn(sf::Vector2f spawn);
	};

}

```

Platforms gemaakt



Code

Platform.cpp | Platform.hpp

```cpp
#include "Platform.hpp"

namespace engine
{
	Platform::Platform(GameDataRef data) : _data(data){}

	void Platform::addPlatform(sf::Texture& texture, const sf::Vector2f& position) {
		sf::Sprite platform;
		platform.setTexture(texture);
		platform.setPosition(position);
		platformSprites.push_back(platform);
	}

	std::vector<sf::Sprite>& Platform::getPlatforms() {
		return platformSprites;
	}

	void Platform::draw(){
		for (sf::Sprite platform : platformSprites){
			_data->renderWindow.draw(platform);
		}
	}
}
```

Platform.cpp | Platform.hpp

```cpp
#pragma once

#include <SFML/Graphics.hpp>
#include "Game.hpp"
#include <vector>

namespace engine {

	class Platform {
	public:
		Platform(GameDataRef data);

		void addPlatform(sf::Texture& texture, const sf::Vector2f& position);

		std::vector<sf::Sprite>& getPlatforms();

		void draw();

	private:
		GameDataRef _data;
		std::vector<sf::Sprite> platformSprites;

	};

}
```

Extra taken

- Ik heb de achtergrond gemaakt
- En daan + joris geholpen bij het maken van testlevel