

Project Structure

1. Root Directory

- ``Pipes-In-the-Desert.iml``: IntelliJ IDEA module file.
- ``.idea/``: Directory containing project-specific settings for IntelliJ IDEA.
- ``out/``: Compiled classes and resources directory.
- ``src/``: Source code directory.

2. Source Code (``src/``)

- **``PipeElement``**: Contains classes related to pipe elements.
 - ``ActiveElement.java``
 - ``Cistern.java``
 - ``Pipe.java``
 - ``PipeElement.java``
 - ``Pump.java``
 - ``Spring.java``
- **``Tile/``**: Contains classes related to tiles.
 - ``Tile.java``
 - ``TileManager.java``
- **``main/res/``**: Resource directory for images and map data.
 - ``desert.png``
 - ``dessert.png``
 - ``map.txt``
 - ``pipe.png``
 - ``plumber.png``
 - ``pump.png``
 - ``saboteur.png``
 - ``spring.png``
 - ``verticalpipe.png``
 - ``watertank.png``

User Guide

Prerequisites

- Java Development Kit (JDK) installed.
- An Integrated Development Environment (IDE) such as IntelliJ IDEA is recommended.

Setting Up the Project

1. Open the Project in IntelliJ IDEA

- Open IntelliJ IDEA.
- Select "Open" from the Welcome screen.
- Navigate to the extracted project directory and select it.

2. Build the Project

- Once the project is loaded, build the project by selecting ``Build`` -> ``Build Project``.

3. Run the Project

- After building the project, you can run it by selecting ``Run`` -> ``Run 'Main'``.

Project Components

1. Pipe Elements

- Classes within the ``PipeElement`` directory represent various components of the piping system:
 - ``ActiveElement``: Represents an active component in the piping system.
 - ``Cistern``: Represents a cistern in the system.
 - ``Pipe``: Represents a pipe.
 - ``PipeElement``: Base class for pipe elements.
 - ``Pump``: Represents a pump.
 - ``Spring``: Represents a spring.

2. Tiles

- Classes within the `Tile` directory manage the tiles on which the pipe elements are placed:
 - `Tile`: Represents a single tile.
 - `TileManager`: Manages multiple tiles.

3. Resources

- Images and map data used by the project are stored in `src/main/res/`.

Usage

1. Gameplay Overview

- The game involves placing and managing pipes in a desert environment to ensure water flows from springs to cisterns.
- Players can interact with various elements like pumps and valves to control the flow of water

2. Customization

- You can customize the map and elements by modifying the files within the `src/main/res/` directory.
- For instance, you can edit `map.txt` to change the layout of the map.

This guide provides a basic overview to get you started with the "Pipes-In-the-Desert" project.