

CROOKED HEAD

# Turn Based Strategy Framework

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FAQ

Version 3.0.5

Over the years since the Framework became available on the Unity Asset Store, I have received literally thousands of messages from users. Please keep them coming, I'm always happy to hear from you. Below I collected questions that I get most often. I tried to keep the list and answers as brief as possible. Feel free to contact me if you need more details.

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**1. Are area of effect attacks available?**

Yes, Area of effect attack is a perfect use case for the Framework's Ability system. The Fireball spell from Example 5 scene is an implementation of such an attack.

**2. Is it possible to create units that take up multiple cells?**

No, the current implementation does not allow it. If you are interested in implementation, look up clearance based pathfinding algorithm.

**3. Is it possible to have multiple units in one cell?**

The default `IsCellMovableTo` method implementation in `Unit` class doesn't allow moving to a cell that is occupied by another unit. Just remove this constraint and you will be able to have multiple units in one cell.

**4. Is the Fog of War mechanic supported?**

No, this feature is not available in the Framework out of the box. So far I've discussed a few ways to implement it with different users. The basic idea is as follows: store references to cells that are visible by a unit in the unit object itself, in the `EndTurn` method in `CellGrid` script iterate over the units and visible cells to show content of visible cells.

**5. Is it possible to move in 8 directions on square grids?**

This feature is not included in any of the examples, but the Framework is designed in a way that allows to easily add it. You just need to include all 8 neighbouring squares in the `GetNeighbours` method in the `Square` class. Check out `Square` script for more details.

**6. Can you create fields that have different heights?**

This feature is not included in any of the examples. To add it, start off by creating a cell with a 'height' field. Next, override the `GetNeighbours` method in your cell - you want it to return cells that have height difference not greater than 1. Finally, override `Equals` and `GetHashCode` methods. Current implementations only take coordinates into account - you need to add 'height' to them.

**7. Is it possible to generate pointy-top style hex grids?**

Grid generator scripts included in the project support flat-top style only. If you want to implement pointy-top style yourself, this is a great resource: <https://www.redblobgames.com/grids/hexagons/>

**8. Units and obstacles are placed with an offset on runtime. Why is that?**

Make sure that the position of parent gameobjects of units, obstacles and cells is set to (0, 0, 0). It is often overlooked and results in objects being displayed with an offset.

**9. How do you spawn units on runtime?**

To include units spawned on runtime in the game simply use the AddUnit method from CellGrid class. It sets up the unit and wires up all of the event handlers.

**10. How do you add / remove cells from the grid manually?**

First of all, you should use one of the map generator scripts to create the cell grid. It is not possible to create a cell grid by manually creating cells, or adding them to existing cell grids. To create custom shaped grids, you should generate the map with one of the scripts, and then simply delete redundant cells manually. You can also deactivate cells gameobject and activate it during gameplay to create dynamically changing battlefields.

**11. Is it possible to have random maps?**

There are no scripts in the project that generate random maps. To add this feature, simply use one of the generator scripts and randomly delete / deactivate cells as explained in the previous question.

**12. Is it possible to display the path in a more sophisticated way?**

No, current implementation does not allow that. The problem is that the method that is used to highlight the path, MarkAsPath, does not have reference to other cells that the path consists of. Let's say you would like to show an arrow along the path. To do that, each cell would need to know the position of the previous and next cell in the path. Therefore, a solution is to add the whole path as a parameter to the MarkAsPath method.

**13. How would you make units rotate towards the next cell while moving?**

Put the RotateTowards method in the MovementAnimation function in Unit class.

**14. Does the Framework support mobile devices?**

Yes, levels created with the Framework can be deployed to mobile devices, there is no dedicated support for mobile controls in the project though.

**15. Are there any additional learning materials, like video tutorials?**

There are no video tutorials. Project documentation, this FAQ, forum thread and example scenes included in the project are all there is. Feel free to contact me by email if you have any questions.

**16. Is there a forum for the TBSF community?**

I opened a thread on Unity forum at <https://forum.unity.com/threads/turn-based-strategy-framework.704129/> There is also a Discord server at <https://discord.gg/uBJNPJHFjB>

**17. Is multiplayer over the internet supported?**

Yes, the Framework supports multiplayer over the internet.

**18. Am I willing to co-develop your game?**

I am always interested in hearing about your projects and would consider joining your team if such an offer is made.