AI Analysis

For this assignment I've chosen to take a look at the game Final Fantasy Tactics. The reason I've chosen this game is because I'm planning on making a similar game for the final assignment of kern module Game Development 3.
In Final Fantasy Tactics players have control over a small group of characters, and are tasked to defeat a similar group op opposing characters. This happens on a grid of square tiles, on which each character takes a turn, and uses that turn to move about the field and attack enemies using a selection of special abilities. These special abilities are decided by a characters 'job', and gains access to more abilities and jobs as the character gains experience and levels up. Between (as well as during) these combat scenarios the player plays through a detailed and complex storyline.

Describe the function of the AI in the game

There is no AI outside of combat, as all dialog consists of linear dialog, and there are no AI characters to interact with on the world map. As such, the only function of the AI in this game is to control the opposing team's characters during combat.

Write the different states that you can observe of an NPC in the game, and when these trigger

The AI during combat seems to have a different amount of states varying between the job (character class) of the character and its role in the team. However, each one seems to have three overlapping states: default, supportive and wounded.

The Default State: This is the aggressive state, in which the goal of the AI is to get within range of the player's characters, and attack them. The execution of this varies between the types of characters, with melee characters getting into close range to attack, and range characters keeping their distance and seeking the high ground for additional range. There's a strong priority to attack weaker and wounded characters first. Additionally there's a priority to pick up health crystals, even at full health.

The supportive state: In this state the character will disengage from combat to heal injured allies back up (either via magic or potions). This triggers when an ally gets injured below a certain threshold (below ~70%?). Normal characters swap between this and the default state whenever there is or isn't an injured ally they can heal. Support type characters (like white mages) take on this state by default and stay in it.

The Wounded State: This seems to be the same for each type of character, and happens once a character falls below a certain percentage of health. The primary indicator of this state is that the character will attempt to keep as much distance from the player's team as possible. During this state the character will focus on regaining health (either from itself or a healing crystal on the map). If the character doesn't have access to a source of healing it will attack the player if it has an opportunity to do so. Otherwise this state often results in the character skipping its turn at the edge of the map. If all other AI-controlled characters are either dead or also in the wounded state the character will switch back to the default state.

Additionally, the player has the option to enable the AI for his own characters, and has 4 AI options to choose from with the following descriptions:
- **Fight for Life**: "*Attacking a target takes precedence over your own safety.*"
- **Protect allies**: "*Protecting a target takes precedence over your own safety.*"
- **Save fading life**: "*Restoration of HP and MP takes precedence over everything.*"
- **Run like a rabbit**: "*Self-restoration is top priority. Will try to escape to a safer area.*"

During testing after I discovered this feature I never noticed the "protect allies" from happening in the computer controlled AI. While supportive characters seem to follow the "save fading life" description by default, offensive characters still prioritized healing allies over attacking if they have the ability to do so. As such, the given player AI options seem to overlap somewhat with the

Tell what you find good about the AI

Overall, the AI for Final Fantasy Tactics is fairly straightforward. It does a good job fulfilling its function, but doesn't do anything surprising. Each class and role does a good job of using its different abilities and magic (which there are a lot of). It does a good job of maintaining distance when using ranged attacks, and casts enough defensive spells help out its allies without going overboard (usually).

Tell what you would improve about the AI

There are a couple of things that could be improved in the AI.
The wounded state can weaken the AI's chances in combat. While it's realistic that a character would retreat from danger, it often reduces the AIs chances of winning. Additionally, since characters gain experience for each turn they take, this state can be abused to farm experience points. As such, there should be some more checks and considerations before entering this state.
An additional thing about the wounded state is that it doesn't consider allies who might have healing spells available. The AI will attempt to run, and an ally will have to walk up to heal. While this generally isn't much of an issue, it could be improved if the AI took the turn order into consideration. It could check if an ally could heal the character before the player can finish it off.
When deciding where to move, the AI doesn't seem to take its environment into consideration. For example, it doesn't prioritize standing next to walls and such to prevent opponents from flanking or attacking in the back (which has a higher chance to hit). While this was difficult to test, ranged characters also only seems to take the distance to an enenmie into consideration, and not the actual route a character would have to take in order to reach him. This would rarely make a difference, but it could be improved.
Lastly the AI controled characters do a poor job of protecting eachother. For example, melee characters will run forward leaving ranged characters on their own. It doesn't intentionally try to block paths or block adjacent squares of other characters. The AI could consider pathing to allies, and all the directions from which an ally could be attacked. Maybe when making a map the designers could assign choke points that the AI could make use off.