

# Melbourne Gaol Escapists

Ke Yu: s3686930   Biao Li: s3675917   Tanzim Shahriar: s3642965   YiGong Wang: s3585378

## Game Guide:

Press arrow keys to select facing direction or move your character.

(If your input does not match your character's current facing, it will change its facing based on your input)

Press corresponding ability keys to cast abilities.

(make your character face toward where you like to cast the ability, then press ability key)

As a prisoner, your goal is to escape the prison (find the red tile)






As a Law enforcer, your target is to arrest all prisoners before they could escape

## Faction (Team):

**Prisoner:** Havoc, Jager, A57, LockSmith

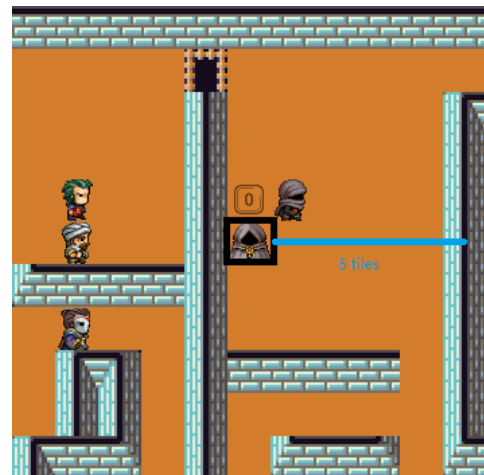
**Law enforcement:** Warden, Guard

## Characters & Abilities:





Image	Name	Ability	Ability Key	Ability description
	Havoc	Break through wall	Q	Break a wall tile
	Jager	Place a trap	W	Place a trap on floor tile
	A47	Disguise	R	Create a bait to distract enemies
	LockSmith	Pick lock	E	Unlock a door tile
	Warden	FOV * = 5 (passive), Arrest another player	F	Has greater FOV by default, score points by arresting enemies.
	Guard	Arrest another player	F	score points by arresting enemies.
N/A	Common	Super Charge!	A	Skip current turn and move 3 tiles at next turn.

\*FOV: field of view






A demonstration of FOV:



Status:

Image	Name	Description
	SuperCharged	Indicates that you are super charged, can move 3 times this turn
	arrested	Indicates that you are arrested and eliminated
	trapped	Indicates that you are trapped, can not move in this turn.
	normal	Normal state, the number indicates your stamina

Tiles:

Image	Name	Description
	Floor	Basic tile
	Wall	Normally, players can not walk on it, but can be broke by ability
	Door	Locked by default, can be unlocked by ability. (unfortunately, there is no open/close animation)
 (same a floor because trap is invisible)	Trap	Immobilize the player who steps on it for 3 turns
	Goal	Prisoners' ultimate goal is to find and step on this tile

Other Game Function:

Name	Key	Description
Saving game	Y	Save game session to file
Undo	T	/
Loading game	T	Load a game session from file
Pausing game	Escape	Pause the game

Undo:

After pressing T, a window (see Figure 1) will pop up and ask how many turns would like to undo. Choose 1,2 or 3 from the drop-down menu (see Figure 2) to undo or choose “load another universe” to load game.

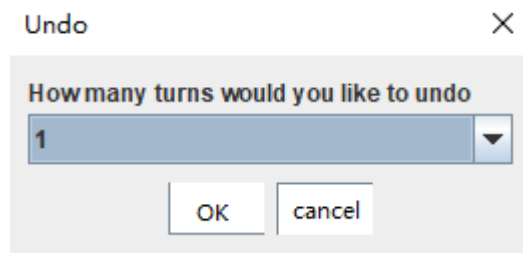


Figure 1

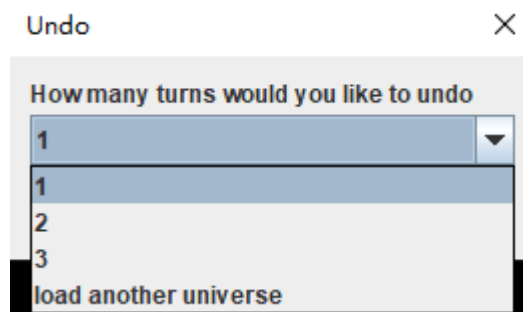


Figure 2

Pausing game:

When escape key pressed, the game will ignore all input until you press escape again

## Design Pattern:

Please refer to other pdf files in submission folder for class diagram or click on the link

### Creational Pattern:

- [Singleton](#): keep one and only one instance of an object
- [Abstract Factory](#): hide object instantiation behind the scene, only exposing a simple interface

### Structural Pattern:

- [Decorator](#): modify tiles' responsibility and image at runtime
- [Proxy](#): a ProxyPlayer that forward move requests to real player and keep other requests to itself

### Behavioural Pattern:

- [Observer & State](#)<sup>\*</sup>: change the the key layout accroding to game states
- [Command](#): undo and load game
- [Visitor](#): decouple players and skills, easy to add more skills in ther future.

<sup>\*</sup> a simple [sequence diagram](#) is included to demonstrate the implmentation of observer & state patten

## Individual Contribution:

Ke Yu: 25%

game mechanics, Controller & Model classes, design pattern implementation.

Biao Li: 25%

UI implementation, View classes, design pattern implementation.

Tanzim Shahriar: 25%

game board design, design pattern implementation.

YiGong Wang: 25%

documentation and diagrams, design pattern implementation.