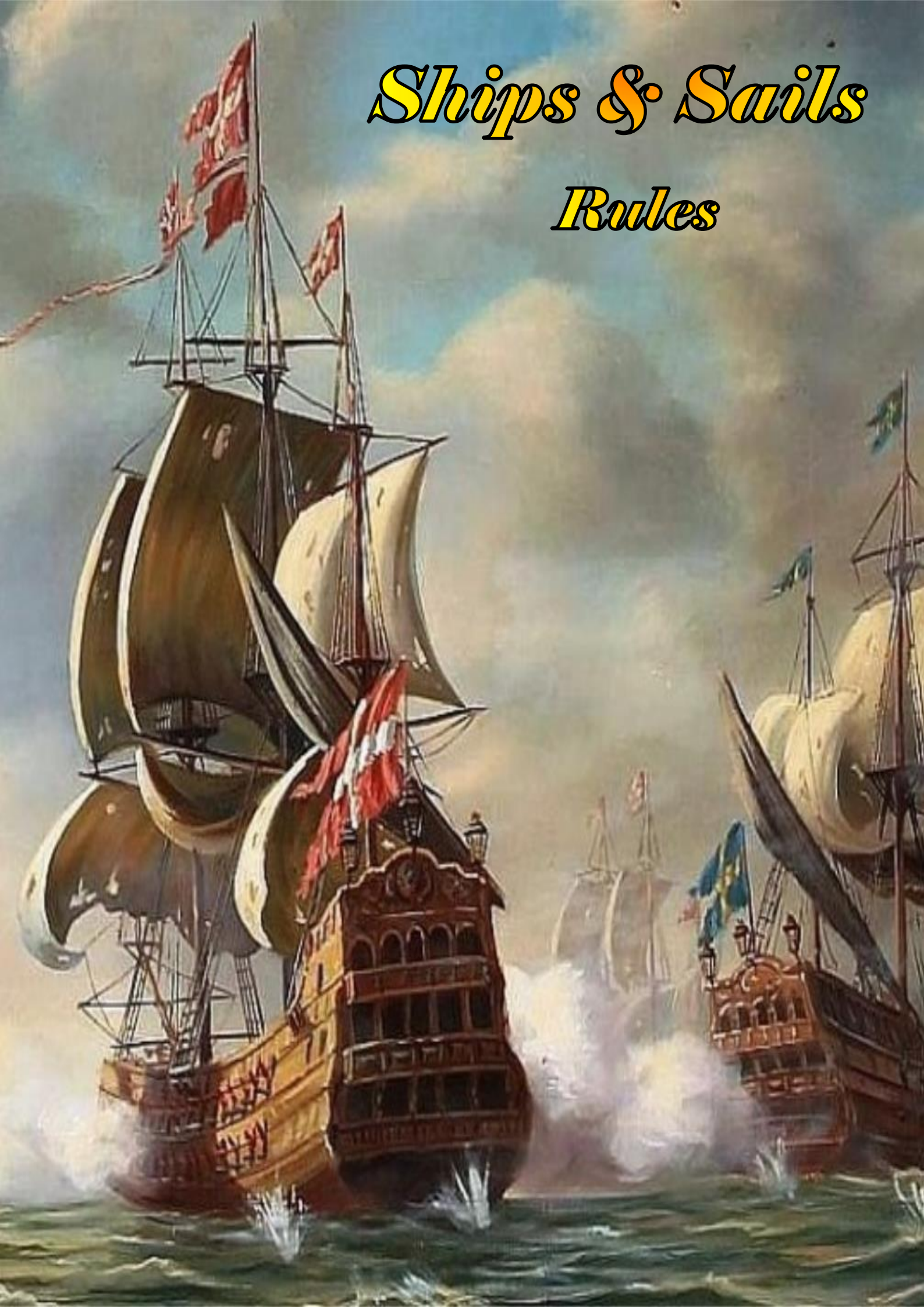


# ***Ships & Sails***

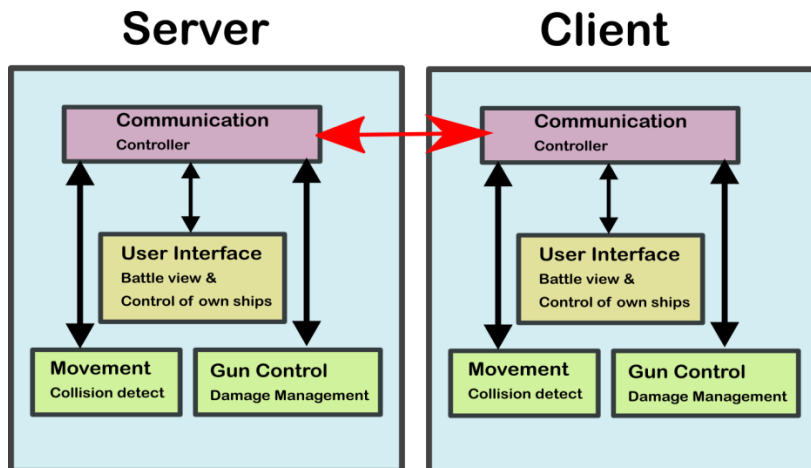
## ***Rules***



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## OVERVIEW OF SETUP

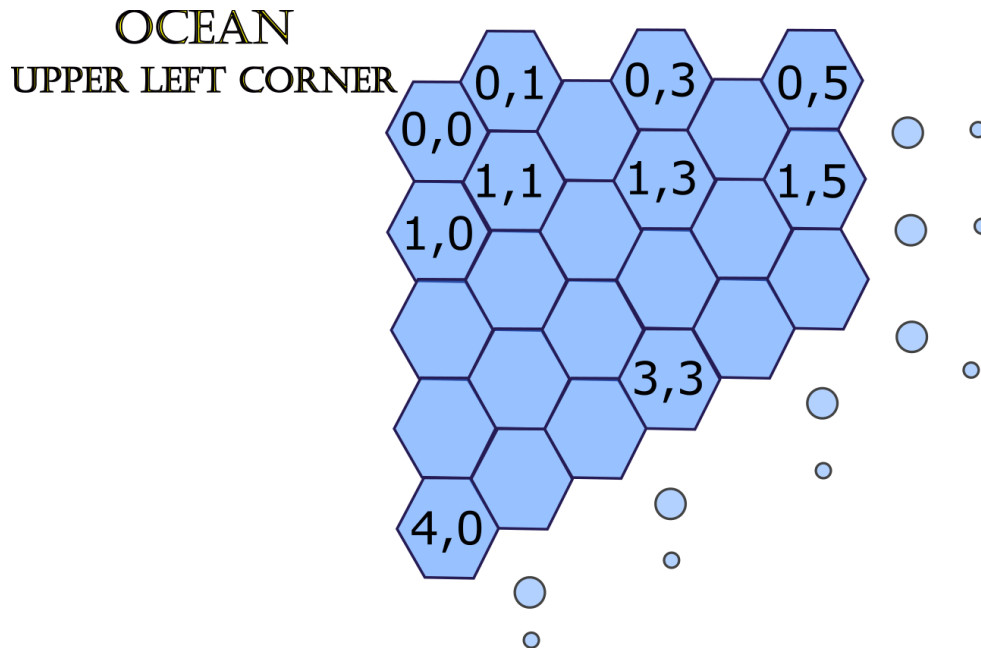
One player's computer act as a Server, the other as a Client. See the document ShipsAndSails\_ModuleExercise3.pdf for further details.



Both the Server and the Client must have a relational database, with at least the information of the participating ships. It can be extended with the actual values as the battle/scenario progress.

## OVERVIEW OF GAME

The game is played upon an ocean. It is covered by hexagons (called hexes). The size of the ocean can vary from one battle/scenario to another.



Over the ocean blows a wind. It has a speed and direction. Both will change from time to time.

The playing pieces are ships (see XXX), which independent of size each can be in one hex. Two or more ships can't coexist in the same hex unless they are colliding. Ships has (among many other abilities) a speed and direction.

The game is played in turns controlled by the Controller (see XXX). Each turn consist of :

1. Weather determination (Server only)
2. Transmitting/receiving :
  - a. Weather (from Server)
  - b. the previous turns actions (moves and attacks).
3. Move module resolve movement damage
4. Attack module resolve attack damage
5. UI shows action
6. UI receives new orders
7. Move module set up the next move (check for legality)

8. Attack module set up the next attack (check for legality)

The winner is either the last with at least one ship floating or has suffer the least damage after a fixed number of turns.

## THE SHIPS.

The basic unit in this game is a wooden sailing ship equipped with a number of guns. A battle (or scenario) consist of a number of ships on either side of the conflict. Each side is represented by a country.

In the game thee are 3 different sizes of ships.

Ships type	# rows of Guns	# of Guns pr. Row	# of Sailors needed	MAX # of Sails	# of Sailors needed	
Brig	1	8	24	4	24	
Ship of the Line	2	16	48	10	60	
Man at War	3	28	84	24	144	

Ships type	# rows of Guns	MAX # of Sailors	MAX Hull	MAX Speed	MAX Speed Change	MAX Sail	# of turns/ turn
Brig	1	60	25	2	1	30	1
Ship of the Line	2	160	50	5	2	40	2
Man at War	3	340	140	4	1	80	1

# of Guns pr. row are for both sides of the ship, i.e. half of the number on each side of the ship. 3 men are needed pr. gun to support the reload and firing of them During a battle the values indicated with MAX are due to change, because of damage.



## THE GUNS

A ship can fire a broadside at either side every second round, if it uses the same ammunition as the previous round.

Shift the kind of ammunition from one to another takes a round extra.

I.e. it can wait for the third or a later round for strategic reasons or because it change the load.

There are 3 different kinds of ammunition :

Cannon ball	Iron balls, which can damage the hull, and in case of a critical hit blow up the whole ship. Short to long range.
Chain	Chains with a minor ball in both ends. They can damage the rigging severely. Average range.
Grape shot	Lot of loose pieces of iron. It can decimate the number of sailors. Short range.

Figure 1 Possible damages dependent upon ammunition

## MOVEMENT

The ships movement is limited by the ships type, the wind direction and eventual damage. The speed of the ship can be from 0 to MAX in the table XXX. The MAX Speed Change is the maximal change pr. turn in speed.

The basic movement is (see Collisions on p. 9) :

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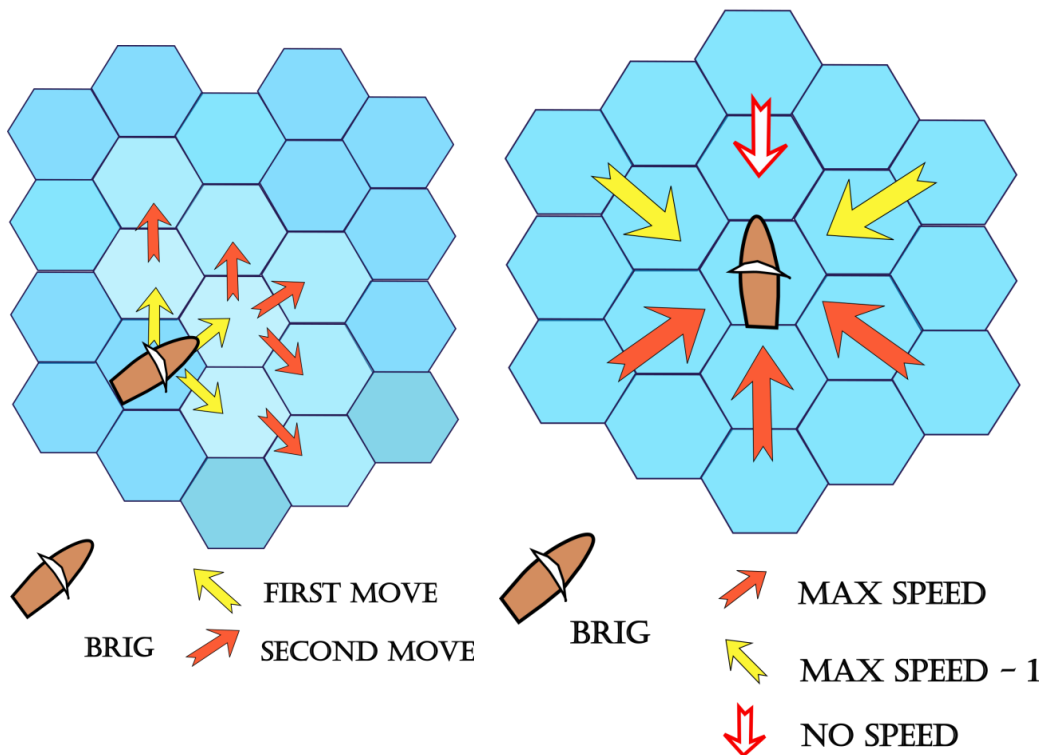
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**BRIG :**



Getty Images/Greg Pease

### WIND DIRECTION DEPENDENCY



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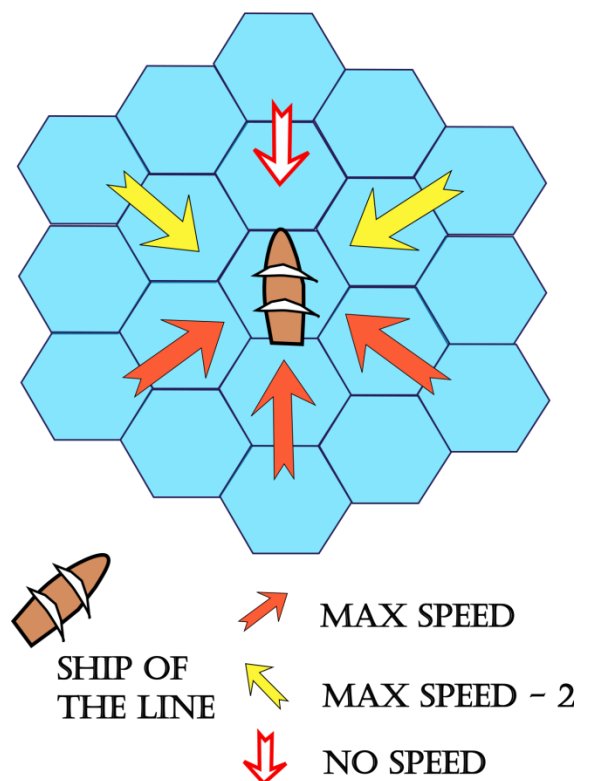
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### SHIP OF THE LINE



### WIND DIRECTION DEPENDENCY

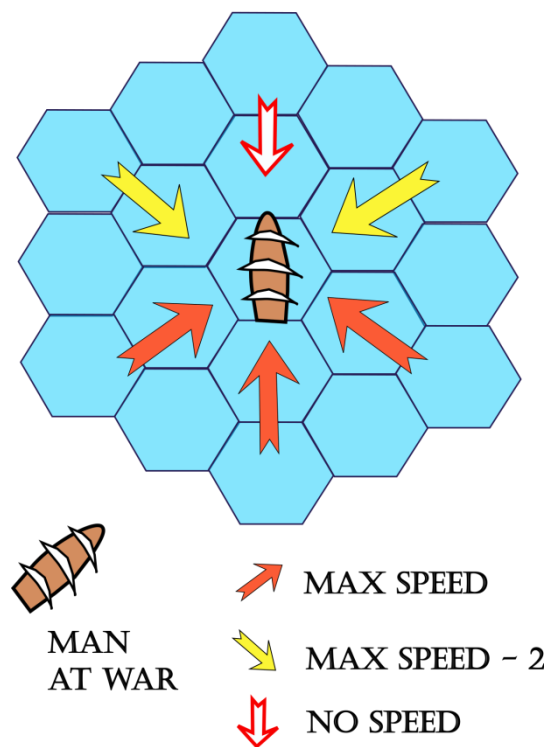
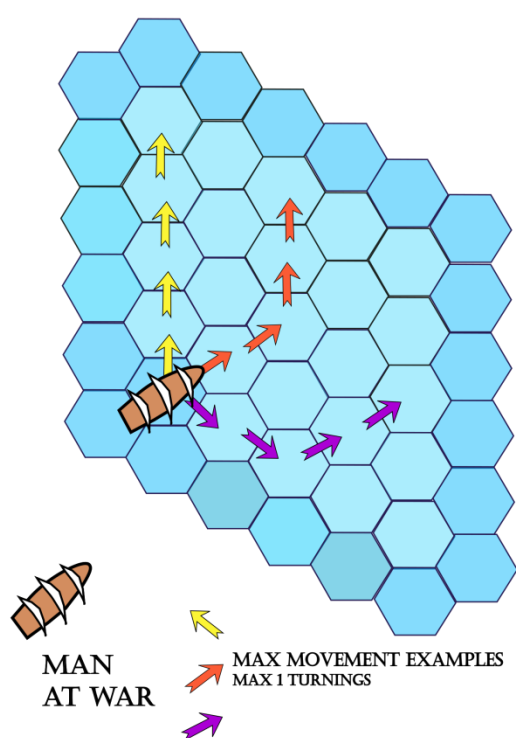




**MAN OF WAR**



**WIND DIRECTION  
DEPENDENCY**



Collision happens when two or more ships try to enter the same hex during movement. All ships in a collision have instantly 0 speed and inflict :

Hull damage =  $\frac{1}{3}$  of actual Hull value of the other ship, i.e

Actual Hull = Previous Actual Hull - Hull Damage

If Actual Hull then is less than or equal to zero, the ship sinks.

If more than two ships are involved, each of them receives damage from all the other ships. :

## BATTLE

After movement is completed firing a broadside (only every second turn) depends upon :

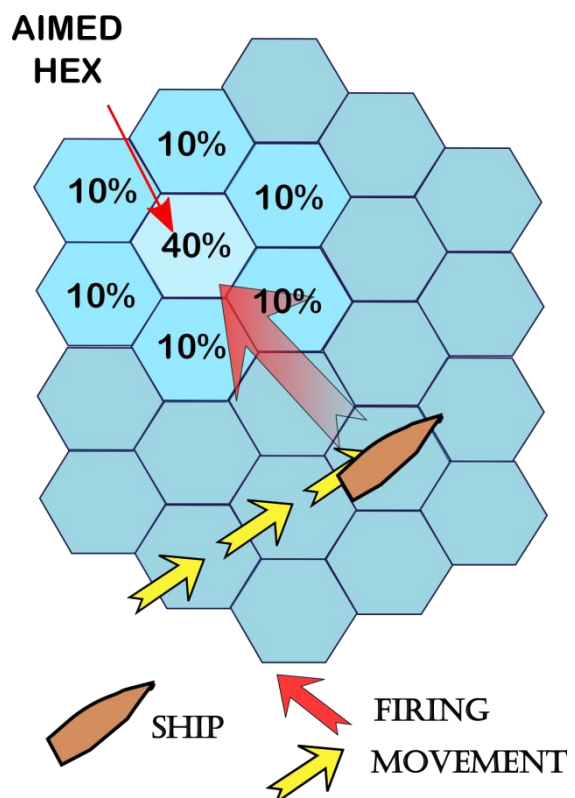
- Type of ship
- # of sailors
- Kind of ammunition

The ship needs 3 Sailors per gun. If fewer are available, the firing power will be reduced accordingly.

## AIMING

The firing squad can aim at a given legal hex. If the enemy ship passes that hex it checks for damage. If it passes several hexes it checks for every hex.

For dependency of ship type, see p. 12.



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Percent	Hit Dice 1 – 10	Damage if hit	Critical Hit
10	1	0.1 * Firing value	---
40	1 – 4	0.4 * Firing Value	if Dice == 1 (see )

### **FIRING VALUE**

is the actual (remaining) capability of the guns. Example :

1. Man at War. 84 guns =  $28 * 3$
2. Broadside 42 guns =  $84 / 2$
3. Lost 18 Remaining 33 guns =  $42 - (18 / 2)$
4.  $33 * 3$  Sailors ?? **Firing value** =  $\min(33, \# \text{ of Sailors} / 3)$

Damage depend upon ammunition. See p. 5.

**CRITICAL HIT.**

If Hit Dice has a range  $\geq 2$ , then a Hit Dice of 1 generates a Critical Hit, which is performed by a 1 – 20 Hit Dice.

Hit Dice 1 – 20	Cannon Ball	Chain Shot	Grape Shot
1	Ship explodes	All rigging lost (ship breaks 1 /turn)	–50% of Sailors
2	Rudder lost (no future turning)	33% of rigging lost	–25% of Sailors
3	---	---	---
4 – 20	---	---	---

Figure 2 Critical Hit Table

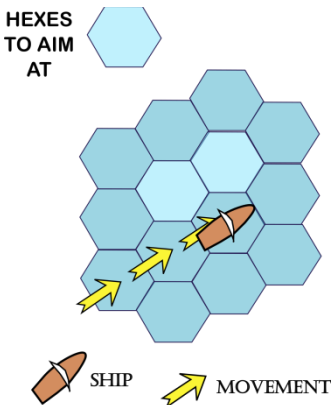
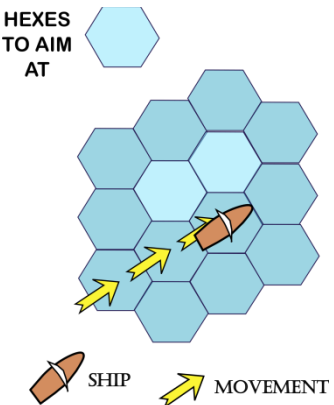
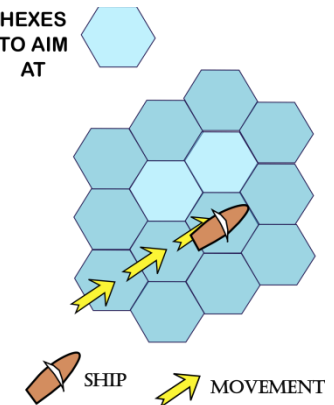
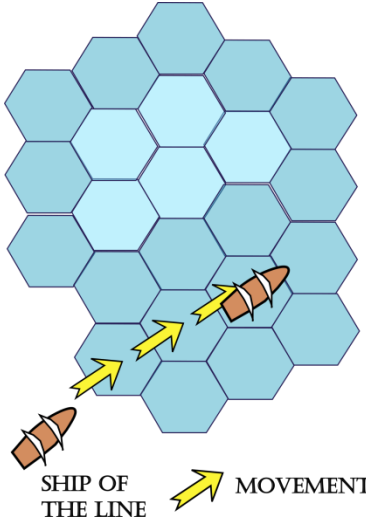
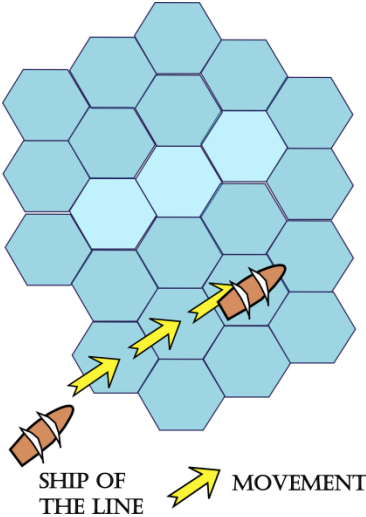
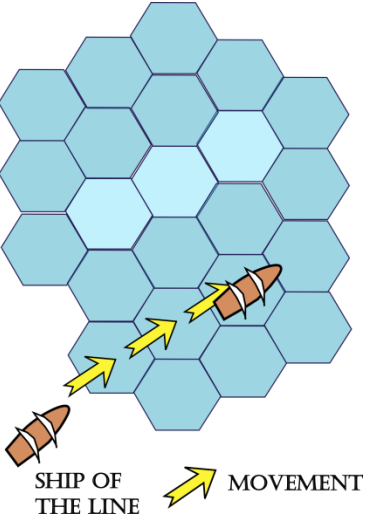
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**AIM DEPENDENCIES**

	Cannon Ball	Chain Shot	Grape Shot
Brig	 <p>HEXES TO AIM AT</p> <p>SHIP MOVEMENT</p>	 <p>HEXES TO AIM AT</p> <p>SHIP MOVEMENT</p>	 <p>HEXES TO AIM AT</p> <p>SHIP MOVEMENT</p>
Ship of the Line	 <p>SHIP OF THE LINE MOVEMENT</p>	 <p>SHIP OF THE LINE MOVEMENT</p>	 <p>SHIP OF THE LINE MOVEMENT</p>
Man at War			