What Ails Thee? – Design Document

Greenwich Game Jam 23.2 – Theme: Welfare

Premise: You play as the apprentice to a medieval physician. Patients arrive with various ailments, and you must balance their humours to restore them to health.

Genres: Simulation and Puzzle

Tone: Comic-Historical

Main Verbs: *Diagnose* (physician), *Craft/Brew* (medieval)

Core Game Loop: A patient will arrive and describe their symptoms. The player will need to diagnose them and craft a medicinal treatment from the available ingredients. The patient will then evaluate the success of the treatment (describing any new symptoms), pay, and leave.

Victory Conditions: Earn a sufficient amount of money to please your master

Failure Conditions: Run out of money entirely, or fail to make enough money by the end of the day

Game Mechanics

Balancing Humours

There are four humours, each of which is associated with a particular colour and element, and each of which is paired with an opposing humour:

Sanguis (Red, Air)	*opposing*	**Phlegm** (Turquoise, Water)
Choler (Yellow, Fire)	*opposing*	**Melancholia** (Indigo, Earth)

An excess of a particular humour in the patient produces certain symptoms. The degree of the humour's excess determines the severity of the symptoms.

Balancing a particular humour requires giving the patient a medicine that contains the opposing humour in equal degree. For example, a patient that has an *Extreme Excess* of **Sanguis** requires a medicine that contains an *Extreme Excess* of **Phlegm**.

Patients can have an excess of two humours, provided those humours are not in opposition. For instance, a patient can have an excess of **Sanguis** and **Choler**, but NOT an excess of **Sanguis** and **Phlegm** (since those would cancel each other out).

There are three degrees of excess for each humour: *Mild Excess* (+1), *Moderate Excess* (+2), and *Extreme Excess* (+3).

> Note: We code this on a 7x7 grid with x and y coordinates, with x = Sanguis, y = Choler, -x = Phlegm, -y = Melancholia (see the Paper Plate Prototype).

Diagnosing and Treating Patients

Each patient will attempt to verbally describe their symptoms. More *Extreme* cases will also display visual symptoms (such as boils, horns, stingers, etc.). The player will need to consult **The Booke of Physick** to determine which of the patient's humours is imbalanced, and to what degree of excess. The player will then need to craft a medicine of the opposing humour(s) in the correct degree.

The diagnosis of the patient will require some interpretation on the player's part (as with real-world diagnosis), since the patients' descriptions of their symptoms will not always use precisely the words present in the book. In some cases, the puzzle will require some lateral thinking or deciphering a play on words (e.g., what the book describes as 'Bullishness' will present as a literal pair of horns sprouting from the patient's head).

Once treated, the patient will assess the efficacy of the player's treatment. If the cure is perfect and all of the humours have been correctly balanced, the patient will praise the player; otherwise, the patient will verbally describe any new symptoms resulting from the treatment (with visual symptoms appearing if applicable), and berate the player if those symptoms result from an *Extreme Excess*.

The patient will then leave, and the amount they pay the player will depend on the efficacy of the treatment.

> *Note: Since the tone of the game is light-hearted, symptoms and descriptions will for the most part need to steer clear of genuinely distressing medical conditions. Instead, skew towards favouring 'vices' (i.e., what was considered 'sinful behaviour') and 'absurdity' (e.g., transforming into an animal, growing suddenly short/tall, etc.).*

Crafting Medicines

The player has access to 12 **Ingredients** at any given time. Each **Ingredient** contains a *Mild*, *Moderate*, or *Extreme* excess of a particular humour, with a smaller proportion of **Ingredients** containing an excess of two humours. The player will need to consult **The Booke of Physick** to determine the properties of **Ingredients**. They will then need to combine **Ingredients** together until they have a medicine that will balance the humour of the current patient.

The puzzle of crafting the correct medicine is made more challenging due to how relevant information is presented. For one thing, a medicine will turn a particular colour depending on what humour(s) it currently contains, which means the player will need to consult a colour chart in **The Booke of Physick** to determine the medicine's current composition. For example, a medicine that contains an excess of **Phlegm** will be Turquoise, while a medicine that contains a combination of **Sanguis** and **Choler** will be Orange.

Moreover, the properties of **Ingredients** are displayed in **The Booke of Physick** in terms of the element associated with the **Ingredient** (Air, Water, Fire, and Earth), as opposed to the humour or the colour. Information should also be provided regarding the degree of *Excess* the **Ingredient** contains. For example, an **Ingredient** that contains an *Extreme Excess* of **Sanguis** will be associated with Air in the 3rd Degree, while an **Ingredient** that contains a *Mild Excess* of **Choler** and a *Moderate Excess* of **Phlegm** will be associated with Fire in the 1st Degree and Water in the 2nd Degree.

To produce the correct medicine, the player essentially needs to cross-reference the three different forms of information – symptom, colour, and element – that are associated with each humour in order to work out how to balance the patient's humours.

> *Note: Since the player is supposed to be an apprentice, they shouldn't always succeed. Instead, they should be learning from mistakes ('failing upwards') and becoming more familiar with how the various systems relate to each other as they play.*

Funds and Payment

Restocking **Ingredients** will cost money, and **Ingredients** received are randomly selected. The player will therefore need to decide whether it is worth providing an imperfect treatment as opposed to wasting **Ingredients** in trying to arrive at a perfect treatment. Moreover, since the cost of restocking is a flat rate, the player is incentivised to use up as many **Ingredients** as possible before restocking.

Symptoms

Sanguis

(Blood; Air; Red)

[Historically located in the Liver]

Psychological Symptoms: Typically associated with restlessness, desire, intemperance, hysteria, etc.

Physical Symptoms: Swellings, nosebleeds, sweating/high temperature, etc.

Extreme Symptoms: Delusions

Humour	Code	Description in Book	Visual alterations
Sanguis (x)	1.1	Restlessnesse	
	1.2	Lustfulnesse	
	1.3	Gluttonie	
	1.4	Excitement	
	1.5	Drunkennesse	
	2.1	Sweatinges	
	2.2	Great heate	
	2.3	Swellinges	Enlarged nose
	2.4	Swellinges	Enlarged ears
	3.1	Flights of fancie	
	3.2	Flights of fancie	
	3.3	Leapinges and jumpinesse	Frog legs

Phlegm

(Phlegm; Water; Turquoise)

[Historically located in the Lungs (and/or the Brain)]

Psychological Symptoms: sleepiness/sloth, apathy, forgetfulness, ignorance, foolishness, etc.

Physical Symptoms: cold/flu, boils, physical aches/rheumatism, dizziness

Extreme Symptoms: 'Sluggishness', 'Extreme Thoughtlessness' (disappearing head)

Humour	Code	Description in Book	Visual alterations
Phlegm (-x)	1.1	Forgetfulnesse	
	1.2	Slothfulnesse	
	1.3	Slothfulnesse	

	1.4	Thoughtlessnesse/Ignorance	
	1.5	Foolishnesse	
	2.1	Boils and pustules	Facial boils
	2.2	Boneache	
	2.3	Dizzinesse	
	2.4	Coughs and sneezinges	
	3.1	Asinine behavioures	Donkey ears
	3.2	Severe thoughtlessnesse	Head disappears
	3.3	Sluggishnesse	Snail shell

Choler

(Yellow Bile; Fire; Yellow)

[Historically located in the Spleen]

Psychological Symptoms: anger, envy, pride, irritability, etc.

Physical Symptoms: jaundice, headache, toothache, diarrhoea, vomiting, etc.

Extreme Symptoms: 'Waspishness', 'Bullishness', 'Loftiness' (sudden tallness)

Humour	Code	Description in Book	Visual alterations
Choler (y)	1.1	Wrath	
	1.2	Wrath	
	1.3	Envy	
	1.4	Pride	
	1.5	Irritabilitie	
	2.1	Flatulence	
	2.2	Jaundice	Face turns yellow
	2.3	Vomitinges	
	2.4	Headaches	
	3.1	Waspishnesse	Wasp's sting
	3.2	Bullishnesse	Bull's horns
	3.3	Loftinesse	Grown very tall

Melancholia

(Black Bile; Earth; Indigo)

[Historically located in the Gallbladder]

Psychological Symptoms: cowardliness, regret, anxiety, guilt, despondency, etc.

Physical Symptoms: blackheads (acne), baldness, thinness, stomach-ache, hunger pangs, etc.

Extreme Symptoms: 'Self-disgust' (body dysmorphia/misrecognition), 'Smallness', 'Long-facedness'

Humour	Code	Description in Book	Visual alterations
Melancholia (-y)	1.1	Fearfulnesse	
	1.2	Guiltinesse	
	1.3	Terrors	
	1.4	Regretfulnesse	
	1.5	Sadnesse	
	2.1	Acne vulgaris	Blackheads
	2.2	Bellyache	
	2.3	Baldnesse	Lost hair
	2.4	Thinnesse	Grown very thin
	3.1	Self-disguste	
	3.2	Long-facednesse	Face grown long
	3.3	Smallnesse	Become very short

Dialogue Strings – Patient Arrives

Preamble

[Randomly select from the following depending on *nature* of imbalance:]

Sanguis (x)	I am deeply troubled, for
	I am all aflutter, for
	I am most agitated, for
Phlegm (-x)	I am most confounded, for
	I am much astounded, for
	I am sore perplexed, for
Choler (y)	I am sorely vexed, for
	I am most displeased, for
	I am irked indeed, for
Melancholia (-y)	I am deeply afeared, for
	I am most perturbed, for
	I am much distressed, for

Mild Excess (1)

Sanguis (x)	1.1	I canst not find rest, even in church
	1.2	I am plagued by lustful thoughts
	1.3	mine appetite hath become boundless
	1.4	I hath become too easily excitable
	1.5	I hath developed an overfondness for liquor

Phlegm (-x)	1.1	I oft canst not recall my purpose upon entering a room
	1.2	I can hardly keep mine eyes from closing
	1.3	I be too much inclined to slumber
	1.4	I hath a slowness of thought that giveth others much amusement
	1.5	I oft find myself engaged in foolishness
Choler (y)	1.1	I am filled with ungovernable fury, like unto a maddened goose
	1.2	my rage knows neither check nor respite
	1.3	my neighbour's ass be far greater than mine
	1.4	others perceive not my greatness, despite that I am so mighty
	1.5	I do find my companions most infuriating
Melancholia (-y)	1.1	I be in terror of mine own shadow
	1.2	I hath become filled with guilt for sins too heinous for a priest to shrive
	1.3	even the smallest upset doth fill me with quaking dread
	1.4	I hath made many foolish blunders that do haunt me daily
	1.5	I feeleth myself whelmed with much emotion, like unto a river in spate

Moderate Excess (2)

Sanguis (x)	2.1	mine excess of sweating hath ruined my Sunday garments
	2.2	my skin doth burn like unto a bonfire in Midsummer
	2.3	my nose hath grown like unto a strawberry
	2.4	mine ears hath grown exceeding large
Phlegm (-x)	2.1	my fair visage is marred with boils
	2.2	my bones doth grind together like millstones
	2.3	I am unstable as a teeter-totter
	2.4	I am – ACHOO! – prone to much sneezing
Choler (y)	2.1	my rear vents excessively
	2.2	my features hath adopted an yellowish hue
	2.3	mine innards doth rise up in my throat
	2.4	my skull feeleth as it were splitting at the seams
Melancholia (-y)	2.1	my countenance hath become bespotted with dark craters
	2.2	my belly growls like unto a distempered hound
	2.3	I doubt not that I shall soon be hairless as an egg
	2.4	mine arms and legs hath become like unto twigs

Extreme Excess (3)

Sanguis (x)	3.1	the grey-skinned crew of a flying ship didst probe my fundament
	3.2	a dragon didst fly me to the moon yesternight
	3.3	I hath been transmuted to a jumping frog
Phlegm (-x)	3.1	I hath grown the ears of a donkey
	3.2	mine head hath disappeared

	3.3	I hath been transmuted into a snail
Choler (y)	3.1	a stinger hath emerged from above my rump
	3.2	a bull's horns hath sprouted from mine head
	3.3	I hath grown exceeding tall
Melancholia (-y)	3.1	I hath sprouted an hideous, fleshy growth that bears two holes betwixt mine eyes and mouth
	3.2	my face hath grown exceeding long
	3.3	I hath been greatly reduced in stature

Dialogue Strings – Patient Leaves

Preamble

Randomly select from the following depending on *degree* of imbalance:

Perfect Cure (0)	A miracle, doctor! I am cured!
	Thou art a most excellent physican, doctor, for I am now in perfect health.
	My gratitude, most esteemed doctor, for thou hast cured me rightly!
	Art thou the usual physician? Never before hath I been healed so surely!
	Thou art a paragon, doctor, for I am now in right good health!
	Indeed thou art wise, doctor, for mine ills hath left me completely!
	My thanks, doctor, for now I feeleth aright through and through.
	A most excellent cure, good doctor! Most excellent indeed!
	I hope thou doth remain here, good doctor, for thou art truly a learned physician!
	I shall be certain to recommend thy cures, wise doctor!
	A perfect cure, doctor! I shall see thee lauded by the town crier!
	Glad I am that thou art here, doctor, for thou art wise indeed!
Mild Excess (+/-1)	I seemeth a little better, though it seemeth also
	This physick hath done me good, yet
	My thanks, doctor, for ridding me of my malady, though
	Well, doctor, though hast mostly cured me, though
	I thank thee for thy physick, doctor, though
	Thy remedy worketh in the most part, doctor, though
	I seemeth much improved in my former distemper, though
	Thou hast done well, doctor, though
	Thou hast my gratitude for thy cures, doctor, though
	I thank thee, doctor, for my complaint hath eased - yet
	Thou hath some skill, doctor, yet now
Moderate Excess (+/-2)	It seemeth I be not much improved, for now
	Thou canst not boast of much success, for now
	My troubles are not ended, for in place of my former ailment
	I hath little cause to celebrate, for now

		Thy cures are most disagreeable, for now
		Thy physick hath hardly aided me, for it seemeth
		I feeleth thy cure be almost worse than the malady, for now
Extreme Excess (+/-3)		A pox on thee, doctor, for
		Foolish physician,
		I am much distressed, for
		Thou knave,
		I doth demand to speak with thy manager, for
		Thou hast forever lost my custom, for
		Thou surely hast mutton for brains, for
		Either thou art fool or villain, for

Mild Excess (1)

Sanguis (x)	1.1	I feeleth restless as a flea
	1.2	I feeleth most lustful
	1.3	I feeleth a great desire to gorge myself in yonder pie-shop
	1.4	my limbs do twitch restlessly
	1.5	I hath an overpowering thirst for liquour
Phlegm (-x)	1.1	it seemeth I canst not recall mine own name
	1.2	I feeleth passing weary
	1.3	I feeleth a pressing need to sleep
	1.4	it seemeth I am currently bereft of thought
	1.5	I feeleth newly inclined to foolishness
Choler (y)	1.1	I seemeth filled with sudden anger
	1.2	I doth feel a newfound rage
	1.3	I feeleth most envious of thy good fortune
	1.4	it seemeth thou art more inferior to me than thou wert afore
	1.5	I do find thee grating upon my nerves
Melancholia (-y)	1.1	I feeleth anxious as a startled fawn
	1.2	I feeleth of a sudden wracked with guilt
	1.3	I feeleth a sense of pressing dread, from whence I cannst not say
	1.4	my many blunders seemeth greater than before
	1.5	I feeleth a sadness that I canst not explain

Moderate Excess (2)

Sanguis (x)	2.1	I hath the sweats most powerful
	2.2	my skin be suffused with a terrible heat
	2.3	my nose hath swollen red and large
	2.4	mine ears hath become like unto two sails
Phlegm (-x)	2.1	thou hast marred my looks with boils
	2.2	I feeleth my bones grinding most painfully
	2.3	it seemeth that I canst not hold my balance

	2.4	I am - ACHOO! - filled with - ACHOO! - a need to sneeze
Choler (y)	2.1	my rump hath become full of wind
	2.2	my face hath become yellow like unto a buttercup
	2.3	I feeleth a pressing need to vomit
	2.4	mine head doth ache most fiercely
Melancholia (-y)	2.1	thou hath given me black spots upon my face
	2.2	my belly seemeth most perturbed with rumbling
	2.3	mine hair doth drop from mine head like unto a dog in summertime
	2.4	my body hath grown thin like unto a rake-handle

Extreme Excess (3)

Sanguis (x)	3.1	thy treatment hath bestirred hidden memories of grey-skinned men from the stars probing my fundament
	3.2	thou hath given me foolish memory of flying upon a dragon
	3.3	thou hath transmuted me to a frog
Phlegm (-x)	3.1	thou hath given me the ears of an ass
	3.2	thou hath caused mine head to vanish
	3.3	thou hath transmuted me to a snail
Choler (y)	3.1	thou hath caused a stinger to sprout from my tailbone
	3.2	thou hath given me the horns of a bull
	3.3	thou hath made me like unto a giant
Melancholia (-y)	3.1	thou hath given me an hideous, pointy growth between mine eyes and mouth
	3.2	thou hath made my face exceeding long
	3.3	thou hath made me exceeding small

Additional Text

Intro Letter

Boy,

This Day thou shalt mind the Shoppe in my stead, for the Widow Stapes shall not woo herself.

Maketh me a Proffitt of 150 Farthings, and thou shalt have a second Shirt and leave to wash thyself on Sundays.

Maketh me a paltry Sum, and I shall wax exceeding Wrath, and shall beateth thee with Reeds.

Tend to the Afflicted by ballancing their Humours; The Booke of Physick shall guide thee in this Wise. Remember well that an imperfect Cure atimes be prefferable to a costly one.

Grumio can be sent for more Ingreedients, yet be thee mindful that he chargeth per Journey and not per Item, for he be a Dunce.

Your Benificent Master,

Francis Shadwell

Book Instructions

The taske of any goode Physick is the ballancing of the patient's humours. A slight excess of a particular humour shall yield mental distempers, whilst a greater excesse shall yield physical ailments and even gross transformations.

Be ye mindful that a patient mayst suffer from an imballance of more than one humour if bearing more than one symptome.

To rightly ballance an humour, the patient must be given a draught or elixir of the opposing humour, matching it in strength.

Thus shall an excesse of Phlegm in the patient be ballanced with a Sanguine potion, whilst an excessee of Choler in the patient be ballanced with a Melancholic potion, and thuswise for other excesses and potions accordinglie.

Game Win

Thou didst cure many of the afflicted afore thy master's return, rendering him a fine profit. Thus did he giveth unto thee the boons of a second shirt and leave to wash thyself on Sundays.

Game Lose (Incompetence)

Alas, thy master considered thy earnings meagre, and thusly upon his return he didst beat thee with reeds.

Game Lose (Bankruptcy)

Alas, thou couldst not afford more ingredients for Physick, and thusly upon his return thy master didst beat thee with reeds.

Ingredients

Ingredient	Property	Value
Agrimony	Earth 3	(x 0, y -3)
Betony	Air 1	(x 1, y 0)
Fenugreek	Fire 2	(x 0, y 2)
Fly Agaric	Water 1; Earth 3	(x -1, y-3)

Galangal	Fire 3	(x 0, y 3)
Hawthorn	Fire 1	(x 0, y 1)
Inkcap Mushroom	Water 2; Earth 2	(x -2, y -2)
Mandrake	Water 3; Fire 1	(x -3, y 1)
Peat Moss	Water 1	(x -1, y 0)
Peppermint	Air 3; Fire 2	(x 3, y 2)
Poppy	Water 3	(x -3, y 0)
Purslane	Air 3	(x 3, y 0)
Rosemary	Air 2; Earth 1	(x 2, y -1)
Sorrel	Air 2	(x 2, y 0)
Vervain	Water 2; Fire 2	(x -2, y 2)
Witchbutter Fungus	Earth 2	(x 0, y -2)

UI

A countertop with 3 potion bottles into which players can drop **Ingredients**. The hue and opacity of the potions will change depending on which humour(s) they contain and in what degree.

A book (**The Booke of Physick**) containing information pages on:

1) the humours and their associated colours and elements (with a colour wheel showing how combinations of humours will interact to produce blended colours according to basic colour theory [e.g., **Sanguis** (Red) + **Choler** (Yellow) = Orange potion);

2) the symptoms associated with each humour, ranked in degree of severity;

3) **Ingredients** and their related elements (including the degree to which they contain these elements)

A shelf of draggable **Ingredients** (with a button for restocking **Ingredients**)

A pile of coins displaying the player's current funds

Tooltip display over **Ingredients**, funds, and potion bottles (describing colour in case it's difficult to see)

Paper Plate Prototype

[Note: x and y axes have been switched: **Sanguis** and **Phlegm** = **(x)**, **Choler** and **Melancholia** = **(y)**]