**Meeting Protocols – Fragments (Brain Drain Interactive)**

**03.06.19 – 2nd Meeting**

* Presentation of personal game concepts created over the weekend
* Feedback and discussion of every concept
* 1 favorite concept per group member was picked
  + Factory Simulator (Daniel) *1 final vote*
  + A Flicker In The Dark (Lars) *5 final votes*
  + Fragments (Trix) *6 final votes*
  + Memories (Thiago) *3 final votes*
  + Eradication One Step At A Time (Alex) *0 final votes*
* Voting on final concept
* Settled on **Fragments** as final concept
* Review and discussion of logo scribbles by Trix and Alex
  + Decided to create a final render of #3 and #4 (by Trix) and the brain sponge (by Alex)
* Enumeration of potential problems
  + Find a way to animate a character in different physical states
  + Settle on a primary mode of storytelling
  + Figure out the aesthetic style of the world
  + Find a way to avoid backtracking in level design
* Alex and Trix: Creation of a visual mood board and world sketches
* Thiago and Lars: Explanation of certain programming concepts in Unreal Engine
  + Saving and loading
  + Macros and libraries
  + Connecting Unreal Engine to GitHub
  + UMG (widgets)
  + Blueprint components
* Thiago: Elaboration on the “How to GitHub” guide
* Reviewed mood board and companion/world scribbles
* Updated hack’n’plan
* Wrote an in-depth version of the concept

**05.06.19 – 3rd Meeting**

* Everyone can work around 40 hours per week
* Learning tools and working on the game should be split into different tasks
* On tasks with multiple team members, everyone should log their individual work time
* Decided to NOT include a companion
* Decided to unlock the body parts in pairs
  + Head -> Legs -> Torso -> Arms
* Presented and discussed body part stories
  + Accepted cowardice story the way it is
  + Dismissed original stability idea
  + Decided to focus on aspect of balance for the torso (work-life-balance)
  + Dismissed original strength idea
  + Decided to focus on the physical destruction of somebody else’s work (statue of himself to go full circle)
* Decided against having body parts encapsulated in glowing orbs to grant more freedom in level and puzzle design
* Reviewed first music theme draft and gave feedback
* Agreed on all 3 proposed ability mechanics
  + Running up walls
  + Breathing out air
  + Stretching your arm to launch towards a location
* Trix and Thiago: Finished the Ripomatic
* Alex and Lars: Finished the One Sheet Overview
* Daniel: Set up categories on Spaces for deliverables and blog entries
* Alex and Lars: Laid out the structure of the first pitch presentation
* Alex: Further graphical concepts
* Thiago: Researched and set up Git LFS (for himself and Alex so far)
* Trix (and Lars): Created backgrounds and icons to polish the look of the presentation
* Mentioned and discussed scope issues with current project
* Decide to postpone these discussions until the presentation is done

**06.06.19 – 4th Meeting**

* Fine adjustments of the presentation
  + Swapped order of the first two slides
  + Rearranged mood board
* Distributed slides to team members
* Practiced presentation twice and measured duration
* Scope discussion
  + Keep current concept and structure
  + Most work demanded by the animations
  + About 20 3D assets for the actual areas
  + Work with landscape tool and foliage
  + Distribute workload to non-artists
    - Daniel: 3D hard-surface modeling
    - Thiago: Mathematical aspect of shaders
    - Lars: Painting foliage, visual effects in code / material editors
  + Create level outline for first area as quickly as possible to get an overview of what is needed
  + Need to write an extensive list of all assets required and estimated duration to complete them
* Decided to create visuals related to memories in 2D and put them in the 3D world
  + Some of the art workload shifts to Trix
  + Consistent visual separation of memories and actual objects you can walk on and interact with
* Uploaded deliverables to Spaces

**11.06.19 – 5th Meeting**

* Talked about current Hack n’ Plan workflows
  + Decided to keep tasks in the boards they were originally created for – even if the task wasn’t finished when the board was due
  + Instead, a new task will be added to the board. The title and description should state that this is a new iteration of an already existing task
  + Added a “meta” category for tasks only remotely related to the project itself
* Reviewed character and HUB concepts by Trix
  + Decided to go for a combination of floating meshes and smaller landscapes (meshes for the hub, landscape for the levels)
  + Considered changing the color of the arm area from green to purple
    - Green not really associated with physical violence and destruction
    - Purple used for storm warnings, even worse than red in this sense
  + Agreed on all other colors
  + Doors should not be portals but organically and seamlessly connected to the area
* Tested the wall running prototype programmed by Thiago
  + General movement works perfectly, just looks weird because of the animation
  + Needs a little bit of polishing and the overall slow-down while moving on walls
* Discussed the new level concepts by Daniel and Lars
  + Agreed with all general concepts
  + Need to communicate visually the document piles (area 2) can’t be pushed
  + Decided to exchange the birthday party setting of the arms story for a sculptor who’s friends with MC and secretly in love
* Reviewed and discussed level 1 prototype
  + Need to rethink the overall idea, feels a little static right now
  + Maybe have fire follow up to the locations of the memories?
* Agreed on the general way memories are represented
  + Decided to put drawn 2D scenes in fragment shape
  + Little bit of depth to it, bit of 3D
  + Dissolves when looked at for some time, can’t be revisited
* Reviewed level 3 prototype
  + Agreed to keep the overall layout and look
  + Decided to artificially block the way back with e.g. a statue falling down
* Discarded the idea of decals for color accents because of performance reasons
* Talked about title ideas -> decided to postpone the decision, no clear favorite so far
* Read through the ability breakdown and agreed on every aspect of it
* Remembered and decided to do the falling “animation” in code
  + Body parts should disassemble, fall down, and reassemble on the ground
  + Should happen quite quickly so control is no taken away forever
* Agreed on a general direction for the user interface and menus
  + No elements on the HUD during gameplay except for crosshairs and tutorial displays (no text, just device scheme with highlighted buttons)
  + 2 menus -> main menu and pause menu
  + Decided to aim for an UI without any text at all
* Settings will be added if there’s some time at the end
  + If so, focus on basics like volume, contrast, brightness
* Talked about the saving and loading system
  + Game should be auto-saved
  + Saved when you enter an area and when a new body part is picked up
  + What should be saved?
    - Collected body parts
    - Position of the player
    - Settings if there are any
    - State of the areas
    - Found memories
* Decided to add gamepad support
* The used device will be detected only when the game is started (no continuous detection)
* Allowed designers to place memories on the way back from an area
* Discussed first pitch presentation
  + Will not use Lars’s laptop anymore
  + Good to practice before
  + Next time, start with the presentation 2-3 days before the date
  + Keep the general slide look
  + Despite technical difficulties, everything went quite well
  + Time management was very good
  + What will be exchanged for the next presentations will be discussed then
* Set up new tasks for everyone on Hack n’ Plan
* Agreed to keep the main music theme made by Daniel
* Logged meeting hours
* In the next meeting, we’ll dive into some art tools of Unreal Engine 4
  + Animation
  + Particles
  + Landscapes

**12.06.19 – 6th Meeting**

* Reviewed current state of the hook shot ability
* Thiago: Fixed rotation issue with the hook ability
* Alex: Worked on protagonist’s 3D model
* Introduction to art tools in Unreal Engine
  + Animation
    - Common assets, play rate, root motion
    - Blendspaces 1D, what they are and how to use them
    - Use cases for animation montages and composites
    - Animation blueprints and transition rules
  + Particle systems
    - Looping effects and play once effects
    - Structure of emitters and modules
    - Examination of the most common modules (spawn, lifetime, color, …)
    - Asset data module to change the overall type of emitter (to e.g. meshes)
    - Setting up materials to be used in particle systems
      * Two-sided materials
  + Landscapes and foliage
    - Managing and sculpting terrain
    - Painting simple foliage
* Alex: Continued with the character model
* Trix: Sketched fragment shapes for the memories
* Thiago and Lars: Ability implementation discussions
  + Reviewed hook functionality once more
  + Decided to add a third crosshair state when aiming at something solid that is too far away
  + Decided to not let players grab onto ledges -> instead, pillars are used to show where the hook may be used
  + Apart from that, ability has all the features it needs so far
  + Went through the current setup of the torso ability
    - Talked about the possibility of replacing event tick by a timer for performance reasons
* Decided to have the next meeting on Tuesday, 18.06.19, at 10:30

**18.06.19 – 7th Meeting**

* Reviewed torso theme
  + Everyone liked it a lot in its current state
* Discussed the current duration of music tracks
  + Length is fine right now
  + Testing will show whether or not it becomes too repetitive
  + If it does, we can either lengthen the tracks or code a system that dynamically adds layers to the track to mix things up a little
* Looked at Daniel’s scale and note models
  + Scale needs to be split up into 4 parts to be rotated properly
  + Note was done modeled very quickly (20 mins), could do another one for foreshadowing in the HUB
* Reviewed redesign of area 01 by Daniel
  + How are the ways blocked? Walls of trees and bushes?
  + Portray the floor breaking down as a trap covered by leaves so it fits the forest setting
  + Do newspaper rains as 2D particle systems
* Reviewed greybox layout of area 02 by Daniel
  + Generally like it
  + Scale is a little off compared to the other areas -> might be a problem because more assets need to be placed there to make it look interesting
  + Concerns about players pushing the leisure time objects the wrong way -> use some kind of funnel so they land at the perfect location and block the way the player used to get up to the area for the objects
  + Wrong wall run ways felt a little out of place for Lars
* Spent some time discussing whether the concept of the wall run ability should be adjusted -> decided not to so the other areas can stay the way they are right now
* Reviewed the memory story boards by Trix and Lars
  + Keep the general look of all story boards, just some small adjustments
    - Use a bust instead of a full body statue for the arms story
    - Change the protagonist’s expression from anger to shock in the arms story
    - Make the hut a hunter’s cabin in the legs story
    - Currently, quite the gap between memory 5 and 6 of the legs story
      * Make 5 a two-frame animation shifting the focus back and forth between the cell phone and the protagonist’s face
    - Get rid of the tie for the torso story
* Thought about designing the environment in area 2 to represent an office
* Reviewed the area door concepts by Trix
  + Discussed how they’d open up
    - By swinging open, usually two halves swinging into different directions to open up
  + Agreed to use a single emissive map for the lit parts of the doors
  + Decided to export the door halves separately from the “static” rocks floating in air around it
  + The rocks should have some degree of movement
    - Can be done in code entirely
* Reviewed the team avatars by Trix
  + Agreed that everyone loves them
  + Trix granted us permission to use them privately
* Decided to have our next meeting on Friday, 18.06.19, at 10:30 because some team members are in Cologne for English classes anyways
* Reviewed the wall run ability implemented by Thiago
  + Everything works quite well
  + Just need to change the setup in the animation blueprint to not play the falling animation
  + Thiago wants to adjust the system a little so we can get rid of trigger volumes
    - Using tags might be a solution
* Reviewed the current version of the hook ability coded by Lars
  + Does what it’s supposed to do… 😉
* Looked at the breathe out ability programmed by Thiago
  + General functionality works very well
  + Needs some fine-tuning
    - Air cone should be much thinner at its start
    - Camera should zoom in on the player to visualize the aiming state you’re in
    - Decal should maybe be animated to become more opaque so the player has a way of estimating the charged power level
    - Maybe the missing chest piece of the protagonist could fill up to visualize breathing in a lot of air to release later
* Explained the way the abilities are brought together in the character class
* Agreed to use a different character class while the protagonist only has their head because the whole movement works completely differently
* Quickly talked about measuring performance in Unreal Engine
* Lars explained the basic way of setting up level streaming in UE4 he researched
  + Displaying the levels window
  + Loading and unloading levels in Blueprints
* Reviewed the HUB layout by Lars
  + Overall, the team liked the level a lot (especially guidance, gating, and foreshadowing)
  + Good idea of having the player destroy a statue before entering the statue area
  + Agreed on the improvement of making the conclusion area actually go up a little (rotate the pitch) to get a tangible feeling of climbing something to be able to leave the mind
* Agreed on showing past memories once more in the conclusion area leading to the end of the game
* Compiled the most important information about the upcoming intermediate presentation
  + Date: Thursday, 27.06.19
  + Graded
  + 10 minutes for the presentation again
  + This time, a gameplay video of 2-5 minutes is required
  + Other deliverables: One Sheet Overview, updated GDD, updated presentation as PDF, gameplay video, demo
* Discussed the basic structure we’re aiming for regarding the presentation
  + New aspects we need to include
    - Target audience
    - Project plan
    - Theme
    - Position in media history
  + 7 main aspects that need to be covered
    - Basics (title, theme, platform, …)
      * Duration: 1:00
    - Business (target audience and production plan)
      * Duration: 1:00
    - Design (gameplay and narrative)
      * Duration: 2:30
      * Generally, similar content to last presentation
      * This time, take another body part story as the example
    - Art (references, characters, environments)
      * Duration: 2:00
    - Programming (technical outline and system architecture)
      * Duration: 1:30
      * Mention the engine and tools again
      * Discard the “decoupled systems” and “technical debt” aspects
      * Instead, explain the visualized architecture of the abilities integration
    - Position in media history (main influences and trends)
      * Duration: 1:00
    - Gameplay video (high-impact, edited, in-game footage)
      * Duration: 1:00
      * Excerpt of the full gameplay video
* Thought about the position of Fragments in media and games history
  + No single, dedicated works that the game is based on
  + Game follows certain modern trends
    - Games taking place in the protagonist’s mind (e.g. Gris, Psychonauts)
    - Media dealing with issues of mental health (e.g. Gris, Hellblade: Senua’s Sacrifice)
    - Media about self-acceptance (e.g. Celeste, Getting Over It)
    - Games relying almost entirely on implicit storytelling (e.g. Beyond Eyes, The Unfinished Swamp)
* Defined the content of the gameplay video
  + Gameplay starts in the HUB area
  + Character is already fully assembled
  + All abilities are available
  + Video ends at the end of the conclusion section connected to the HUB
  + Key memories of the past areas are shown
* Talked about the environmental design of the HUB
  + Is it floating?
  + Can we use the landscape tool?
  + If it’s floating, how do we do walls?
  + Can we block ways by placing walls of individual rocks maybe?
* Defined the most important tasks for the upcoming deliverables and assigned them to the team members
  + Daniel
    - Model the area doors
    - Model platforms, pillars, and rocks that can be reused
  + Thiago
    - Fine-tune all abilities in collaboration with a designer
    - Program constant adjustment of the character to the slope they’re walking on
  + Trix
    - Provide modeling references for the doors
    - Draw the final versions of the key memories for the conclusion area
    - Adjust the story board based on the team’s input
  + Alex
    - Finish the main character model
    - Create an idle animation
    - Create a running animation
  + Lars
    - Fine-tune the hook shot
    - Help Thiago with the fine-tuning of the other abilities
    - Finish greybox layout of the HUB (e.g. adding walls and a way back from area 3)
    - Work on the intermediate presentation
    - Playtest the areas for the gameplay video and adjust them accordingly
    - Plan and cut the gameplay video
    - If there’s time, start with the saving and loading system

**21.06.19 – 8th Meeting**

* Reviewed rock meshes by Daniel
  + Right now, they’re too detailed
  + Contrast to e.g. the doors
  + Edges should be scaled down
  + Get rid of the rather complex textures
* Looked at fractured doors by Daniel
  + Looked quite similar to the original concept
  + Not the most stable way of doing it in Maya
* Reviewed skinned and rigged protagonist model
  + Looks really nice!
  + Set up a little test animation
  + Tried to export and import it into Unreal
  + Didn’t work, further investigation is needed
* Discussed scope of the memory scenes for Trix
  + First one took 4 hours
  + For the demo, only one key scene per storyline should be done
  + Other images are not as complex as the one Trix started with
  + If it takes too long, shading needs to be simplified
* Showed art progress to Alex
  + Team avatars
  + Story boards
  + Door concepts
* Reviewed final version of the leg memory scene
  + Keep the ?! for now
  + If no other scene needs something similar, we can always remove it later
* Thought it would be nice to have another music theme for the conclusion area
  + Remix of the themes from other areas to ease the player out of the game
* Sound effects are missing so far
  + Created a task for Daniel
* Showed level 02 to Alex
  + Wall run labyrinth should be turned into office cubicles
  + Way up to the leisure object area should be shortened a little
* Showed Alex the HUB area
  + APPROVED!
* Went through the saving and loading system
  + Works well so far
* Thiago explained some wall run experiments he worked on
  + New solution: Play around with the walkable floor angle of the character
* Discussed the final title
  + Erased ones we didn’t like at all
  + 8 finalists made it into a voting
  + “**Asunder” won!**
* Decided to ask Bernd for design mentoring, preferably on the 25th
* Decided to meet on Tuesday, 25.06.19
* Listed assets needed for the gameplay demo by categories
  + Models
    - Pillars
    - Rock
    - Platforms
    - Arm statue
    - Stairs / ramp
    - Walls
    - Guitar
  + Particles
    - Fog
    - Wall of fire
    - Shards
  + Code
    - Functional wall run
    - Improved slope adjustment
    - Decal improvement
  + Design
    - Walls for the HUB area
    - Adjustments after playtesting
  + Textures and materials for objects
  + Lighting
* Set up tasks on Hack n’ Plan
* Reviewed the controls outline
  + No obvious problems so far
  + Of course, real testing is needed
* Went into different groups for some skill sharing
  + Alex, Thiago, Trix, and Daniel: UV mapping
  + Alex and Thiago: Lighting in Unreal Engine 4
  + Trix and Lars: Particle systems and materials for VFXs
  + Trix, Thiago, and Lars: More lighting in Unreal Engine 4, Thiago shared slides from the lighting course at CGL

**25.06.19 – 9th Meeting**

* Reviewed intermediate presentation
  + Went through the slides
  + Get rid of exclamation mark for the fire shard?
  + Make leg door more orange
  + Decided to use Alex’s laptop
* Reviewed new one sheet overview
  + Use the grey version of the logo instead of the colored one
  + Shard looks somewhat out of place
    - Move somewhere else or get rid of the mask
  + Rest looks really good
* Reviewed updates game design document
  + Get rid of empty lines if we get over the limit
* Looked at Alex’s HUB mesh
* Looked at the protagonist’s walking animation
  + Needs some more work
  + Feels a little robotic right now and somewhere in between walking and running
  + Do something about the movement of the arms
* Listened to and compare music versions (FL studio)
  + Especially legs theme
  + Sound quality of FL version is better but it’s not as punchy
  + Solution: Add some higher frequencies to the version with better sound quality
* Examined in-engine mesh of protagonist
  + Remember to set the roughness in the material to 1 for pitch black
* Stretching idle animation looks nice with playback speed of about 5
* Reviewed new iteration of the wall run
  + Worked really smoothly
  + Still issues with slope adjustment
  + Maybe have two versions of the slope adjustment function?
* Looked at torso ability decal issue
  + Could use a simple sprite that doesn’t need to be projected onto the ground
* Crosshairs could do with something else for the aiming but out of range state
  + Too similar to in range right now
  + Feedback is not obvious enough
* Hook ability leads to collision issues because trace is a line not an actual capsule
  + Will be fixed by Lars after the presentation
* Had a look at the logo animation and liked it
* Removed glowing orbs from the shards and made them bigger
  + Some kind of glowing would still be good
* Set new tasks for the upcoming board
* Listen to sound effects library
  + Decided to give feedback over Discord after everyone could listen to them on their own machine
* Thiago, Alex, Lars: Imported meshes into the project and replaced the grey boxes in the HUB area by the meshes
* Alex, Lars: Set up animation blueprint for main character, had a quick look at LUT color grading

**02.07.19 – 10th Meeting**

* Reminded Alex that we need the separate body parts of the character to continue on the programming side
* Reviewed programming updates
  + Wall run
    - Works smoothly now using parallel ray casts
    - HUB wall needs to be replaced by one without a slope
    - Improvement would be to add an impulse away from the wall when player is too slow
      * Lerp currently doesn’t look natural
  + Head movement
    - Version not using physics works better
    - Needs some additional adjustments to look nice
  + Level events
    - Appearing cigarettes work fine for now
      * Player’s view needs to be blocked somehow
      * They shouldn’t just appear but fall down
    - Scale
      * Pushing objects onto the right side works nicely
        + Objects can still be pushed by colliding with them

Need to get rid of the physics function here

* + Decided to discuss programming concerns at the end of the meeting
* Reviewed art updates by Trix
  + Doors done with substance painter look beautiful
  + Each took about 4-5 hours
  + Maybe set up PBR lighting in Unreal to make it look even better?
  + Tested importing the torso door
    - Worked fine
    - Occlusion map should not be used for roughness or metallic
    - Imported assets will be cleaned up by Lars after he got home
* Reviewed Daniel’s progress updates
  + Old models have been fixed (e.g. scale)
  + New models for the torso area
    - Chair, desk, monitor
    - Already cleaned up by Alex
  + Stressed the importance of following our naming conventions
  + Looked at the new scale model
  + Listened to the new HUB theme
  + Breathing animation alternatives
* Thought about the end of the game
  + More realistic door swings open
    - They’re now able to return to the real world
  + Fade to white as the player passes it
    - Association with death is unlikely because nothing in the story hints at the character being dead
* Thought about the way body parts are collected
  + Little cutscene, control is taken away from the player
  + Camera movement around the found body part
  + Glow of the body part increases in intensity until it’s basically a white screen
  + Fades back to game view, body part is now attached
* Looked at the current sound effects library
  + Need a muffled impact sound for the character hitting a wall during the hook
  + Decided to listen to it and give feedback from home
* Agreed that it’s important to put together the forest level to get a sense of the scale
* Looked at black tree models made by Alex
* Reviewed new story boards
  + Torso story
    - Much better and clearer that way
  + Arms story
    - Not really obvious that character is pushing the statue in an impulse
    - Decided to provide two perspectives for scene 4
      * Close-up of the faces
      * Zoomed out version where you can see the protagonist in a pushing pose
* Reviewed new memory behavior
  + Much better now
  + Changed default color to orange
  + Slowed down the dissolve animation
  + Decided to have the memories dissolve in the color of the area (same as on the doors)
* Reviewed hook with tilted mesh
  + Looks more organic
  + Still misses something pulling the character to the location
    - Add a particle extending from the character’s hand to the hit location
    - While aiming, have a glowing orb effect around the character’s hand using sockets
* Reviewed main menu
* Reviewed the two credits screen versions
  + Decided to use the more organized one with the team logo
* Voted on the breathing animation alternatives by Daniel and Alex
  + Imported Daniel’s animations and set them up to be used in game
  + If Daniel’s win, we need an additional aiming loop with slight movement
  + Couldn’t decide on one version ourselves
  + Brought in external feedback from class mates
  + Decided to come up with a new version
    - Combines Daniel’s and Alex’s versions
    - Character bends forward in anticipation first, then tilts back to breathe in
    - Breath out would then be similar to Daniel’s attempt, just a little slower
* Decided to go with the visual theme of an art studio for the last area (arms)
* Made a list of needed assets by area
  + Legs area (01)
    - Newspaper for particles
    - Fire
    - Hut for the background
    - Leaves particles
    - Trap plane
    - Legs mesh as separate object
  + HUB
    - Plants
    - Stones
    - Head mesh as separate object
    - Hand statue
    - Document piles
  + Conclusion area
    - Proper walls
    - Realistic end door
    - Arm pillars
  + Torso area (02)
    - Football
    - Document piles
    - Sheets to climb up (awards?)
    - Torso mesh as separate object
    - Drawers to use as a bridge
  + Arms area (03)
    - All body parts with a stone/marble material
    - Blocks of marble
    - Pedestal
    - Walls
    - Ceiling
    - Arms as separate object
* Decided which meshes to use Substance Painter for
  + Area doors
  + Platforms
  + Bridge
  + Trees
  + Final door
  + Scale
  + Leisure time objects
  + (Statue body parts)
* Discussed programming concerns by Thiago
  + Agreed to disable pitch rotation while using the breath
  + Need some proper feedback for wall running
    - Particle effects
    - Camera transition
  + Pivot for slope meshes needs to be adjusted, not in the center right now
* Listed settings that should be available
  + Contrast
  + Brightness
  + Volume music
  + Volume sound effects
  + Windowed / Fullscreen
* Decided not to use LUT color grading for now
* Set up new board and tasks
* Defined behavior for the legs in first area
  + Run away up until the leaf trap
  + Stop when player is too far away
* Next meeting will be on Friday, 05.07.19, after the media studies lectures
* Alex, Daniel: Showed Daniel how Alex adjusted his meshes
* Thiago, Trix, Lars: Worked on basic setup for particle systems
* Alex: Created some models for the art studio area