# Work Package Reference

1. 12 June 2024 - research and refactoring
   1. Update games required for the study to the newest versions / updated Operating Systems
   2. Ensure all games required for the study are functioning and prepare documentation for setup
2. 24 june 2024 - testing for stability and prepare to collect data
   1. Test application and ensure proper functioning based on project and study flow
   2. Prepare for the user study for the project
3. 8 july 2024 - QA, data collection
   1. Technical support for the study period across 3 days
   2. Will be required to support on-site
   3. Additional data collection support if necessary
4. 15 july 2024 - finish up and clean up code
   1. Refactoring of as many games as possible for use in future developments
   2. Documentation creation for all games refactored and fixed (TDD for individual games)
   3. Any additional work required by Project PI (Principal Investigator, Prof. Ho Moon-Ho Ringo)

Up till 31 july 2024

# End of week report

## End of week report 1

Update the google document with current and completed tasks.

AppleFrenzy focussed on documentation and collation of JS scripts. Replaced redundant/repeated code into game manager, for a more standardized update loop. Removed unused assets such as “StoppableDelay” by reworking the time system into game manager. Organized code into code blocks for readability and behavior grouping. Implementing game states, unfinished.

StepUpRight focussed on documentation and organizing code blocks.

Debugging of apple frenzy at the moment

Using runtime patch to track time instead of using an animation loop, which is prone to lag, logic interruptions and unfixable due to dependency on proper start sequence.

Previous code uses time as integer comparison despite having deltatime update in script, thus precision is capped on comparison. No inequality logic, rather has hard value comparison.

Current build of apple frenzy has FromPatch Bugs

Current build of step up right has no bugs, no significant improvement over the previous versions but stable

Pin last value only works with reactive values. Where the values automatically change globally and require a frame based pin or subscribing to events. This falls under react programming which I am not very familiar with.

Apple frenzy removed input reactive value error

Updated project to mac

Removed patch loop error, recursive callback removal

Updated scalar variables to reactive, all functions updated as well

Removed all errors

Starting from new logic

## End of week report 2

Complete step up right logic and gameplay, inclusive of time manager and state changes.

Debug apple frenzy logic and gameplay

Changing UI layout to account for new variables and player feedback.

Changing UI scale from iphone 13 to ipad air, then ipad pro. Practical testing required to finalize UI.

Update the docs as usual.

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Meeting notes: record a sample video for the effect. From build to video call, then transitions into the gameplay, inclusive with conversations, repeat 2-3 times.

Refer to deployment notes on full process

Script for the recording - by next week meeting

Screen record with audio, microphone, update the deployment segment

Target video to be 3mins

30s min for build and video call set up

2 mins for gameplay, theoretical 5+60+5s per game(70s), but around 1-2 games to be sufficient

Then 30s for hand off and buffer.

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## End of week report 3

Monday:

Created a global coordinate system for trackers, allowing for easy reference to screen space.

Realized unintended math: the further you are from the camera the more the offset is, usually via a chin pointing in an exaggerated manner.

Added 2 more apples for a total of 4, balanced speed of travel to be random(3-6s), balanced speed of rotation for variety, 3-6s for falling, -720 to 720 degrees for rotation.

Completed collision response and reassigned 2 more materials.

Score tracker updated to work as usual.

Focus on documenting more in the document and in the patches.

Code is habitually documented, refer to GAMEMANAGER.JS

Copy of the code has been added as code blocks for easier reference.

Testing of various games using off the shelf software and party games.

Tuesday: started on recording videos of the video call between participants for apple frenzy and step up right.

Started on updating beach bomb, relatively good quality thus easier to update. Minimal logic errors, focus on UI for ipad pro and unused assets. Documentation will be a pain.

Started on singaball, very bad lol, further details at a later date. Requires extensive research and organization. Many unlinked patches and faulty logic. Hold off till a later date

Wednesday:

Starting on evaluating beach bomb

Update TDD description and create a flowchart

Projected time of completion for the effect, ignore documentation for now to reduce time

Both have the bug where the further the face, the less accurate the origin will be. This may be due to focal length differences of the camera and screen, but highly unlikely. Next likely cause should

New method should have better detection as well as 2 frames of reference if needed, face origin and attached object. This is also scaled to screen size and scale, except for z depth, where some face detection scaling is needed, such as using faceZ as a clamp. However, meta does clamp the face detection range so there is no need to create that conversion. The current fault limits are within acceptable ranges.

Thursday:

Meeting with professor

Streamlining functions, no intention to create patch assets for the time being.

Participated in setup of training and next steps, inclusive of Mr. Chris new instructions to delegate research and analysis tasks.

Friday:

Fixing more bugs -> step up right

Research on domains for physical and cognitive

Streamlining beach bomb

Completed test plan details on TDD

## End of week report 4

Monday: presentation to Dr Liu. continue research on zoom meeting recording.

Er… attempt to fix game restart on time. Instead of level.

Rewrote state manager, starting on linking time and score to it.

Starting to remap logic into the game instead of running off animation loops and reset functions.

Tuesday:

Work from home

Add in tap to play on the games^ apple frenzy and step upright

Start on instructional printout for the games, google slides

Instructional printout: instruction in english/chinese, image of game, movement/posture for input

Compare formats with Dr. Liu.

Wednesday tasks

1. Download zoom on both ipads
2. Check zoom meeting scenario, record meeting as mp4, write new setup instructions, record duration and ease of setup
3. Draft email noting changes, link the video as well as printout slides. Show to mr thomas.
   1. Send email to professors
   2. No need to send email, use it as a script instead
   3. Refer below to email and presentation flow
4. Add in tap to play function for apple frenzy, step upright, beach bomb
   1. Beach bomb removal of countdown timer, no need to inform the user if the user chooses to start the game.

Alt:

1. Fix apple frenzy/step upright messenger link
   1. Remake apple frenzy without sharp wrap
      1. Probably a non-messenger build, then tried to adapt to messenger.
2. write a new set up instruction to handle alternate video recording, hopefully messenger will allow
3. Alternate methods will prioritize the opponent screen, so this is a low priority.
4. Note that messenger has discontinued support for split screen video calls in 2018.

Thursday:

1. Participate in meeting at 11am
   1. Present the email above as a script.
   2. Show the instruction printout
2. Rewrite email as meeting follow-up. Sent to professor, CC supervisors and equivalent
3. Continue on point system for Beach Bomb

Friday:

1. More rewriting point system
   1. Figuring new formula for points
      1. Distance to be flat value, total value to be added
      2. Time score to be edited as well, unsure of the end result
      3. Scale score to 0, 50, 100, with 60 being the base completion. Then the time score will add another 60 for 1 min, each second is -1 pt.
      4. Total time taken for perfect game is 30s+(60-40)s = 50s
   2. Point system not yet implemented
2. Opened new issue, value of time is stored on the main loop, subject to change at any point in time. Maybe a second offset to trigger when the game ends, then use that as a timestamp to subtract from the main value? Should not work as runtime will reset when gamestate changes to result. So we need a dedicated variable to calculate it.

## End of week report 5

Monday:

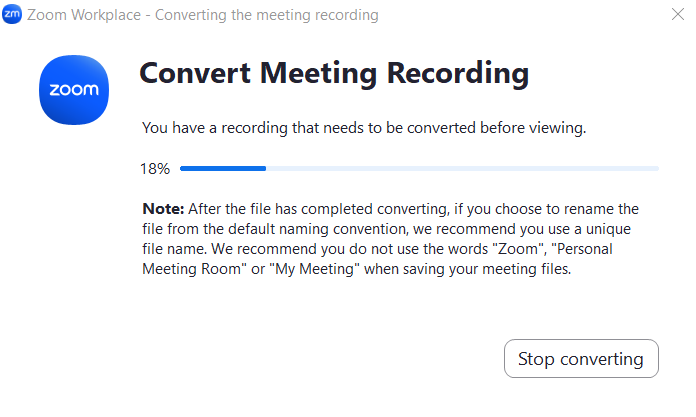
Cleaning up UI

Cleaning up math to ensure smoother collision checks

Abstracting projectile manager’s projectile 1 and projectile 2 update code, into asset patches

Presenting zoom setup, game changes to Dr. Liu

1. Tech support to change perspectives before and after each turn.
   1. Test 0: snap test, mute only 1 ipad and snap on the other, repeat for all participants. Result: ipad microphone works during recording.
   2. Test 1: mute both ipads and host laptop, share screen for both ipads, host does not share screen. Change perspective and see if individual screens are recorded. Changing perspective changes the screen recorded but only if both ipads are muted.
   3. Test 2: mute 1 ipad and host laptop, share screen for both ipads, host does not share screen. Change perspective and see which ipad is recorded
2. Recording is low fidelity and thus laggy and low resolution. Audio quality has diminished and peaks, low/high frequencies are removed.
3. Pro 12 IN screen is black, which did not happen test 0 and 1, appeared during 2 and external testing.

convert time scales with meeting time. Will be stored in the zoom folder in documents.

Tuesday:

Cleaning up UI

Cleaning up math to ensure smoother collision checks, making collision more forgiving with larger tolerance.

Abstracting moles into asset patches instead of unwieldy hardcoding(majority of time)

Documentation of step upright

Recording new gameplay video, email Prof.

As of today, the 2 games are complete. Gameplay has been completed previously, while documentation is complete today. Complete focus on the other 2 games.

Behold,

Fixed asset switcher, attached to new level system.

Rewriting level system to include points and animation within the check phase.

Removal of flat numLevel to use distance to calculate level instead. This is much smoother and reduces the need to store level. Distance score to use total distance traveled instead of inverse calculating score from level. Time score to run with buffer to be more forgiving, does not make sense to constantly decrease time score if the player is unable to finish the level in 0s. This makes the final score higher. Did not balance the star score system, the game is visibly easier now.

New game state manager again, linked to the new time system used in apple frenzy and step upright. Game time to run asynchronously to avoid creating another global variable. Rewrote collision and projectile system to use vector distance instead of boundary overlap. Movement manager now controls distance traveled as well.

Wednesday:

Work from home

Document beach bomb, bug fix beach bomb(cont.)

Thursday:

Meeting on thursday 11am

Document beach bomb, bug fix beach bomb

Record gameplay video for I-Sing

Friday:

Play test apple frenzy and step upright, mock gameplay session, test macbook.

## End of week report 6

Monday:

Coordinated the study session 1, minor issues, awaiting video recording from zoom server processing.

Sign attendance and consent form, voucher collection form.

Tuesday:

Asset management, return luggage, disassemble assets, write a new email to state returning assets.

iPad Stands on the top shelf of the middle i-Sing cabinet.

Retrieve the mac book and figure things out from there.

Rewriting so much code

Documenting more

Headache from code

Meeting with Dr. Liu and Mr Chris for session 1 debrief and session 2 brief, received one drive access for future recordings. New survey links.

Wednesday:

Continue work on Singaball

Rescale everything and make sure everything uses uniform scaling

Rotate everything to ensure they face the correct direction

Break point to do asset check.

Thursday:

(cont.) editing scene entities.

Meeting at 11.30am

I am a cosmetic surgeon not a butcher

Rewrote collision detection and implemented a simplified global coordinate system.

Friday:

(cont.) editing scene entities.

Prepare for a fireball overhaul + detection.

Prepare for state controller overhaul.

Prepare for internal timer removal and use of 3rd state to handle game over.

Increased reliance on scene inheritance. Result and UI panels to provide visibility status.

Removal of “bounces remaining” patch.

Changing compression settings on assets to reduce file size when built.

Asset tagging -> sending email and packing luggage.

Dry run of session 2 with Mr. Chris.

## End of week report 7

Monday:

Coordinated the study session 2, awaiting video recording from zoom server processing.

Sign voucher collection form.

Tuesday:

Process zoom video

Upload to one drive

Organize assets, send email for tracking

Process paperwork for youth

Continue with singaball.

Wednesday: standard as above.

Thursday: work from home

Friday:

Bug fixing

Documentation

Update email

Balancing gameplay, score and difficulty.

## End of Week report 8

Monday:

Show up to the conference hall for a game training session. 9am - 1pm.

Go to the conference hall to give an example/sit in.

More work to be done

Added state controller

Revamped boss fight, slightly slow paced and similar gameplay to the normal levels

Remade UI, info, game, boss, results.

Fixed collision and energy recharge values, balanced to 12 collisions for full bar.

Recharge to work on both forward lean and backward lean.

Documentation of the code, not yet converted to the word document.

Tuesday: documentation. Emails.

DO THE FLOWCHART

Updated the script documentation.

TAKE SCREENSHOT AND COMMENT ON THE PATCHES

Wednesday:

Return the access card. Pls don't forget.