CMPT 362 Fall 2025 Group 30

Final Presentation

Members: Ario Katchooi Branden Nero

Cameron Lee Jonathan Osuji

Section One

Our Game “Aquatic Exploration”

Section One: Our Game “Aquatic Exploration”

- Initial Pitch
- Deviations from Initial Pitch
- Final Demo
- Threaded Design Diagram
- Our App’s Purpose and its Value

Section Two: Development Process Analysis

- Project Scope and Challenges Overcome
- Lessons Learned
- Team Effort Breakdown
    - Ario Katchooi
    - Branden Nero
    - Cameron Lee
    - Jonathan Osuji

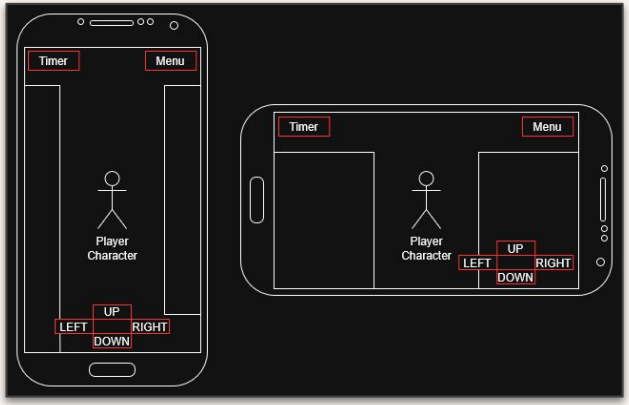
Initial Pitch

Deviations from Initial Pitch

The Manual controls UI element changed from 4 buttons to virtual joystick.

We implemented a global leaderboard.

We implemented a level timer.

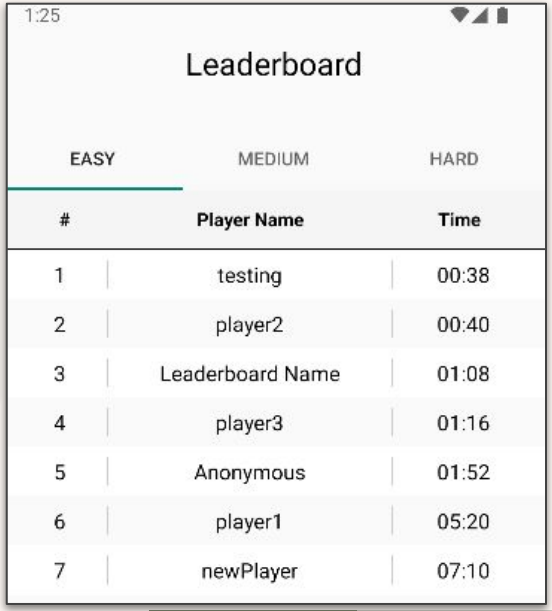


Original manual control scheme UI

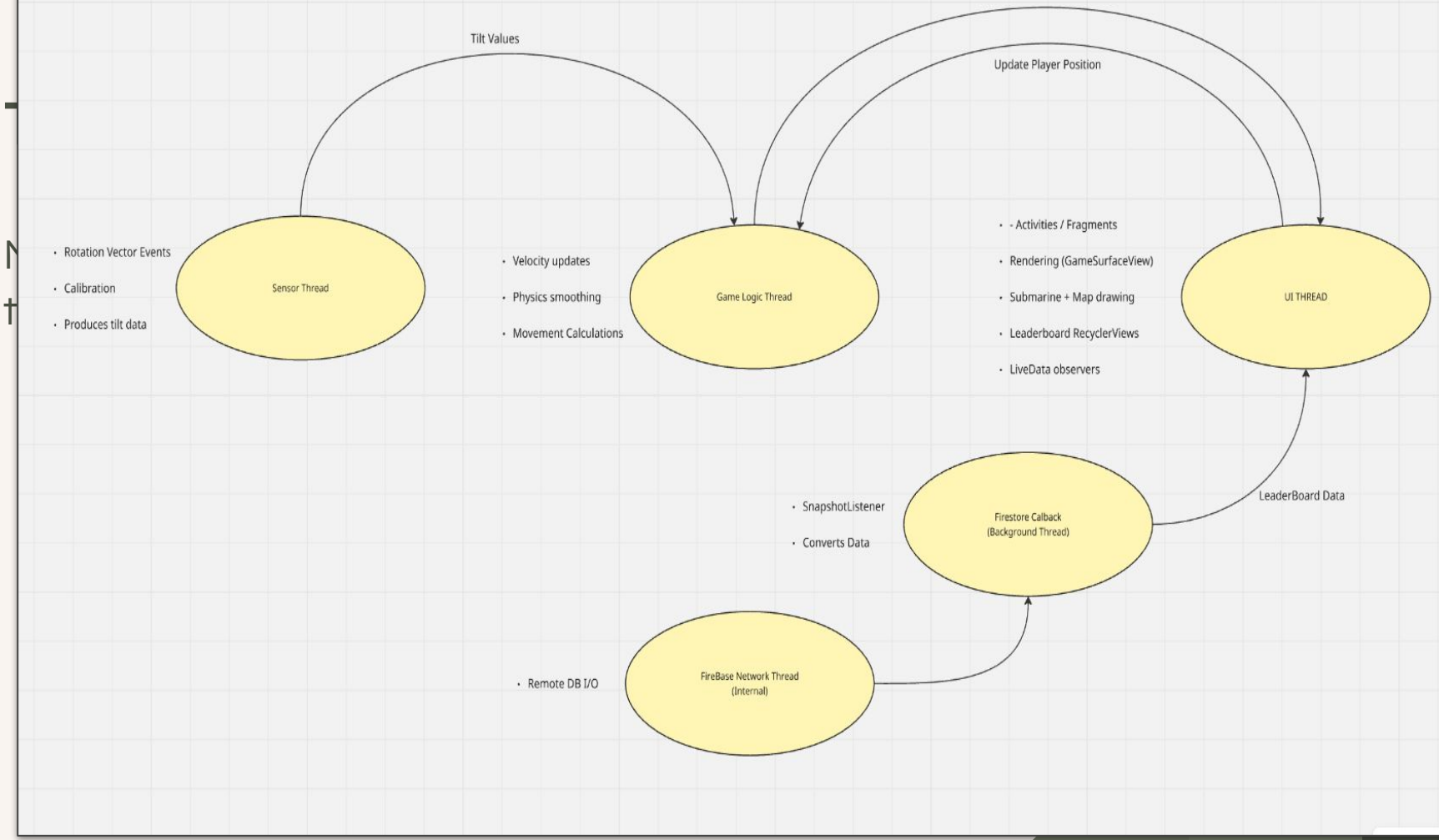
New manual control scheme UI

In game timer UI element

Global leaderboard



Final Demo (01:58 - 05:44)


Tilt Values
Update Player Position
Rotation Vector Events
Calibration
Produces tilt data
Sensor Thread
Velocity updates
Physics smoothing
Movement Calculations
Game Logic Thread
- Activities / Fragments
Rendering (GameSurfaceView)
Submarine + Map drawing
Leaderboard RecyclerViews
LiveData observers
UI THREAD
SnapshotListener
Converts Data
Firestore Callback
(Background Thread)
LeaderBoard Data
Remote DB I/O
FireBase Network Thread
(Internal)

Our App’s Purpose and its Value

We wanted to make something fun and interactive.

Our app allowed us to prototype accessible gaming interfaces for the visually impaired.

Gave our group the opportunity to professionally develop our Android skills.

- OpenGL and Android graphics rendering
- Cloud databases and Firestore integration
- Android sensor Api and sensor data processing

Section Two

Development Process Analysis

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Project Scope and Challenges Overcome

Our group contained 4 not 5 people.

Our app is composed mainly of Android Api components not covered in class.

Due to learning on the fly we had to adapt to a changing design.

All group members experienced a compounding workload from all their courses during the second half of this project.

All combined, these factors resulted in the need to cut back on some features.

Lessons Learned

Weekly or more team meetings were extremely valuable for keeping the group organized.

- Allowed brainstorming
- Keep track of project status
- Dynamically manage workload.

Fostering an environment that encouraged group members to self assign themselves to project components lead to increased productivity.

- Members with relevant knowledge could leverage it
- Personal interest encouraged faster development

Team Effort Breakdown: Ario Katchooi

Original Pitch: App idea generation and refinement.

Show and Tell 1: Accelerometer research, website creation and hosting, app name brainstorming, Show and Tell 1 voice over.

Show and Tell 2: Acceleration controls implementation, Show and Tell 2 video creation and voice over.

Final Presentation: Website creation and hosting, acceleration controls refinement, User interface refinement.

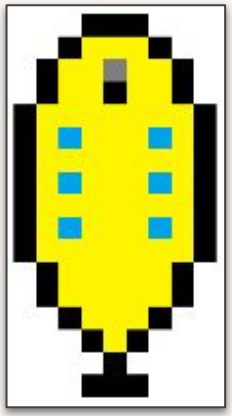
Team Effort Breakdown: Branden Nero

Original Pitch: App idea generation and refinement, pitch video creation.

Show and Tell 1: OpenGL research and implementation, app name brainstorming, Show and Tell 1 video creation and voice over.

Show and Tell 2: OpenGL implementation refinement, game asset creation, collision implementation, sound implementation.

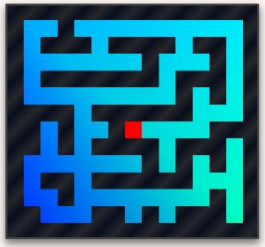
Final Presentation: Game asset polishing, final Presentation video creation and voice over.



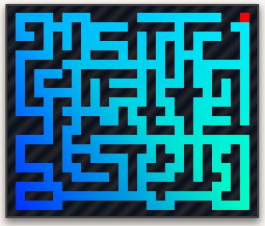
Submarine

Easy map

Medium map



Hard map



Team Effort Breakdown: Cameron Lee

Original Pitch: App idea generation and refinement.

Show and Tell 1: User interface drafting and implementation, database research, app name brainstorming, Show and Tell 1 voice over.

Show and Tell 2: Manual controls implementation, database implementation, game logic implementation, game timer implementation.

Final Presentation: Manual controls refinement, user interface functionality refinement.

Team Effort Breakdown: Jonathan Osuji

Original Pitch: App idea generation and refinement.

Show and Tell 1: User interface implementation, app name brainstorming.

Show and Tell 2: Vibration implementation, user interface integration with database.

Final Presentation: User interface refinement, vibration implementation.

Thank You For Listening!

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