Development of a Retirement/Financial Planning Game

in partnership with

PRUDENTIAL

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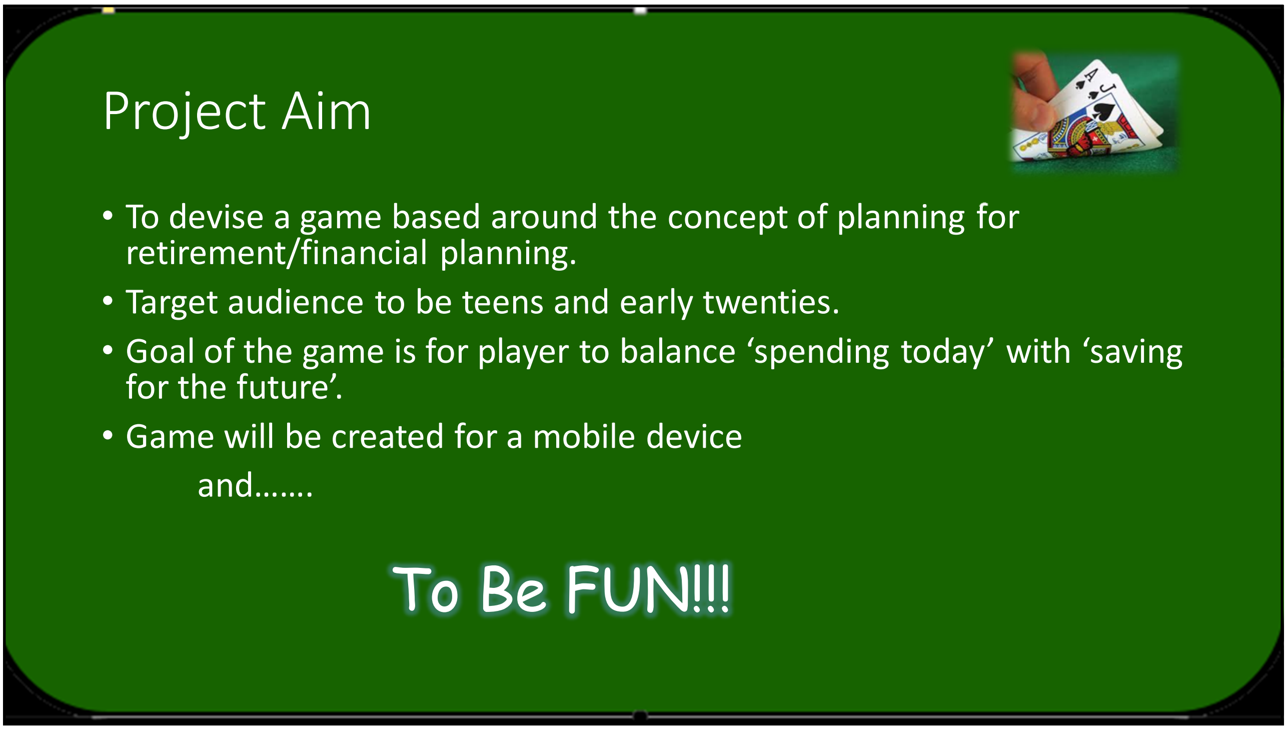
Background

- Prudential – Significant International Financial Services Group.
  - Life Insurance
  - Pensions
  - Investments
  - Funds
- UK operations in Stirling, Reading and London
- IT department based in Reading
- Project was the result of suggestion box for staff

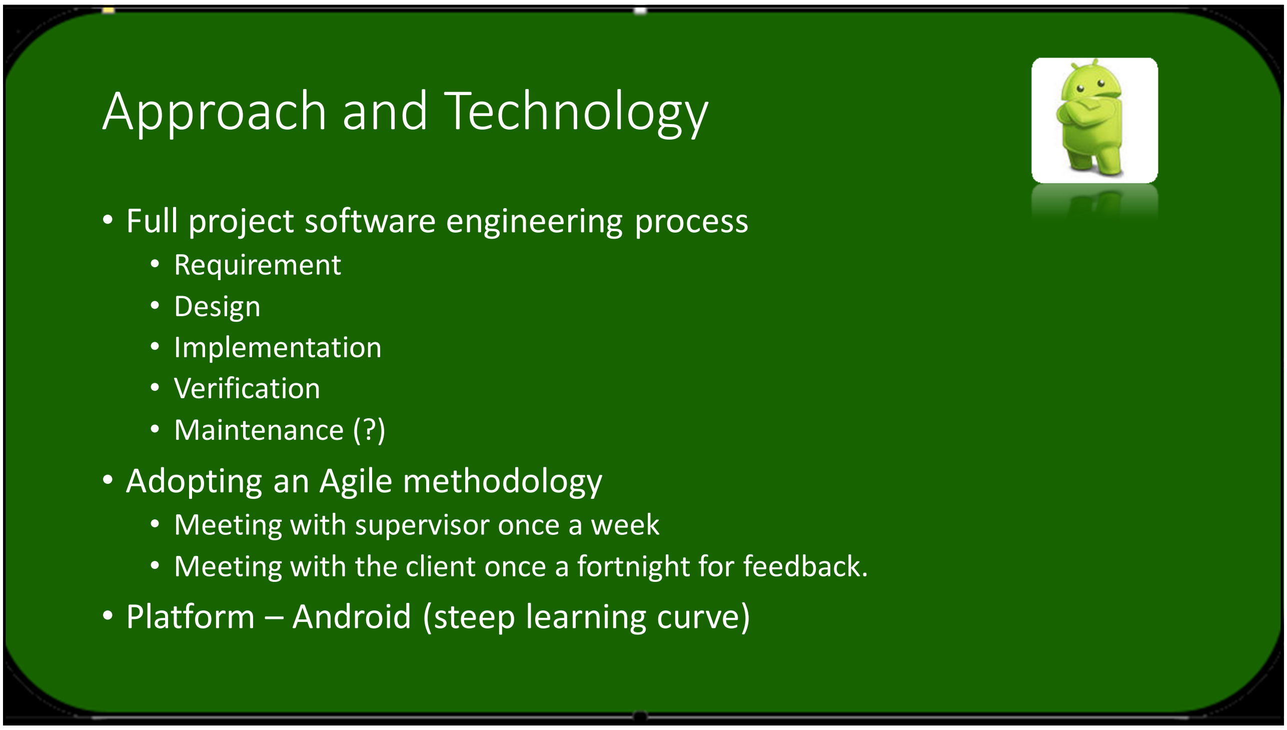


Project Aim

- To devise a game based around the concept of planning for retirement/financial planning.
- Target audience to be teens and early twenties.
- Goal of the game is for player to balance ‘spending today’ with ‘saving for the future’.
- Game will be created for a mobile device

and…….

To Be FUN!!!



Approach and Technology

- Full project software engineering process
  - Requirement
  - Design
  - Implementation
  - Verification
  - Maintenance (?)
- Adopting an Agile methodology
  - Meeting with supervisor once a week
  - Meeting with the client once a fortnight for feedback.
- Platform – Android (steep learning curve)

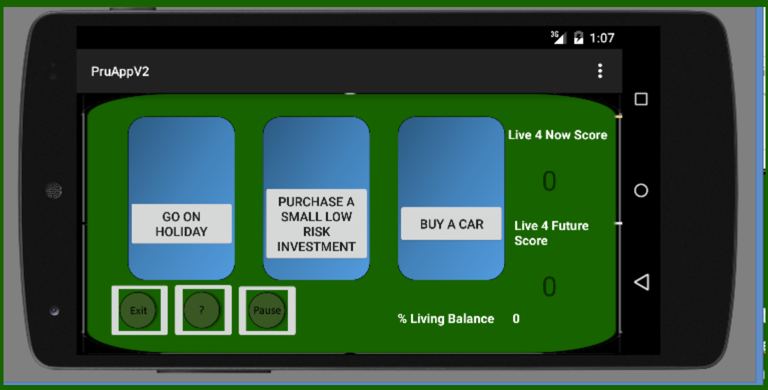
Basic game concept

Game concept:

- Based on strategic game design
- Considering time constraints – using a simple card based concept.
- Inspiration being Heathstone, War Craft and Top Trumps.

- Game idea:
  - Player presented with three choices.
  - Selects two; priority one; priority 2. (e.g. go on holiday, invest money in ISA, have a big night out!)
  - Each decision has a score associated with it for ‘living for today’ and ‘living for the future’ and risk value.
  - **Final** score is an overall balance of these two scores.
  - Crisis cards

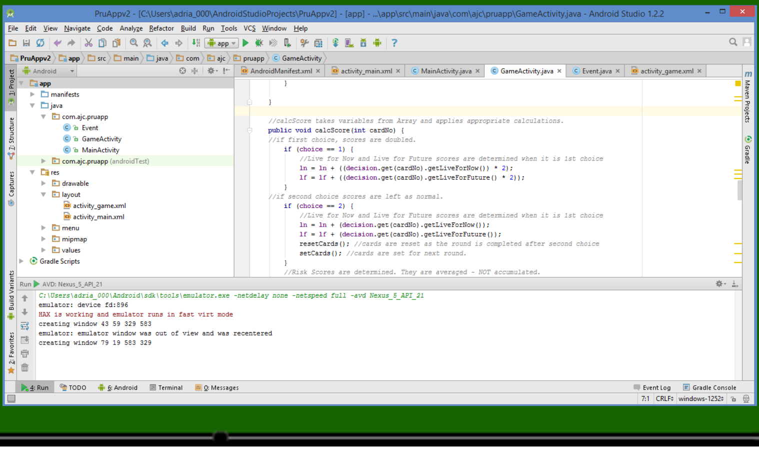
Progress……. Screenshot



- Split into classes
  - gameActivity
  - Event/decision
- Methods
  - setCards()
  - ClickListener()
  - setScores()
  - calcScores()
  - resetCards()

Challenges

- Firming up the Project Specification
- Game Design
- Android Studio
- Java

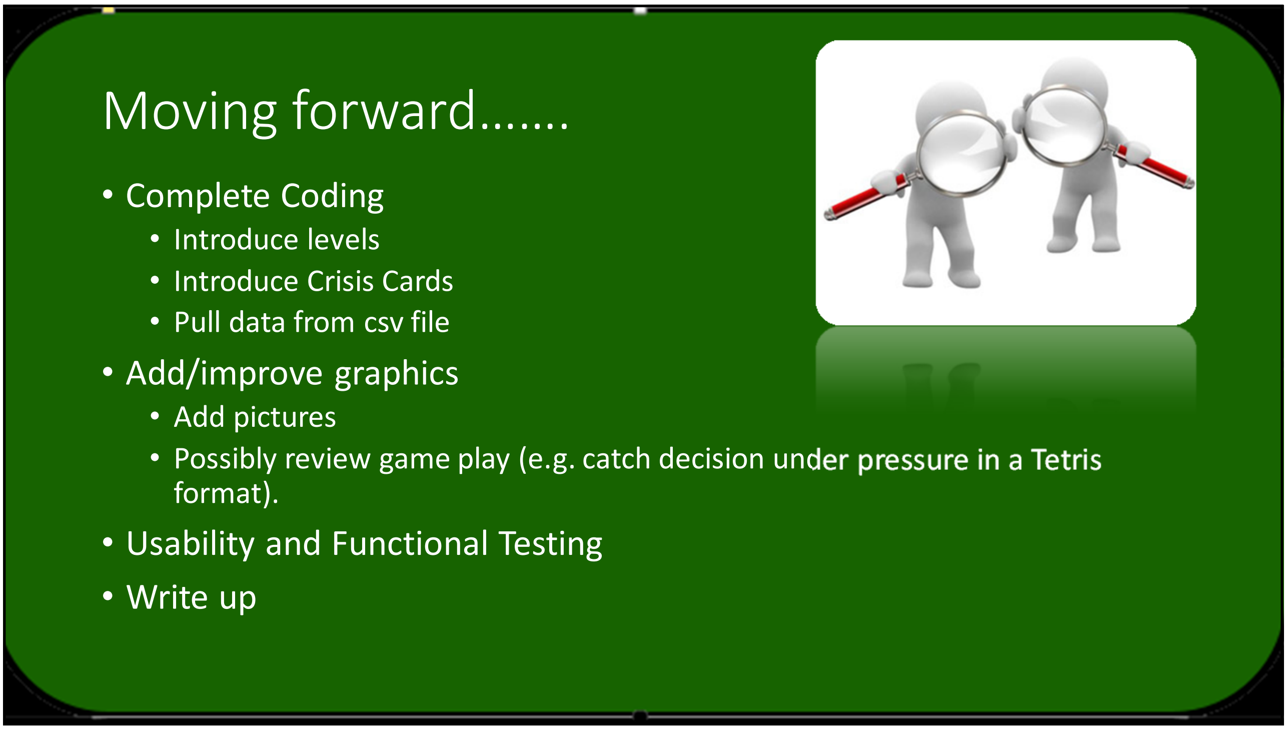

PruAppv2 - [C:\Users\adria_000\AndroidStudioProjects\PruAppv2] - [app] - ...\app\src\main\java\com\ajc\pruapp\GameActivity.java - Android Studio 1.2.2
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
app
PruAppv2 app src main java com ajc pruapp GameActivity
Android
AndroidManifest.xml activity_main.xml MainActivity.java GameActivity.java Event.java activity_game.xml
app
manifests
java
com.ajc.pruapp
Event
GameActivity
MainActivity
com.ajc.pruapp (androidTest)
res
drawable
layout
activity_game.xml
activity_main.xml
menu
mipmap
values
Gradle Scripts
1: Project
7: Structure
Captures
Build Variants
2: Favorites
Maven Projects
Gradle
Run AVD: Nexus_5_API_21
4: Run
TODO
6: Android
Terminal
0: Messages
Event Log
Gradle Console
7:1
CRLF
windows-1252

```java
            }

        }

    //calcScore takes variables from Array and applies appropriate calculations.
    public void calcScore(int cardNo) {
    //if first choice, scores are doubled.
        if (choice == 1) {
            //Live for Now and Live for Future scores are determined when it is 1st choice
            ln = ln + ((decision.get(cardNo).getLiveForNow()) * 2);
            lf = lf + ((decision.get(cardNo).getLiveForFuture() * 2));
        }
    //if second choice scores are left as normal.
        if (choice == 2) {
            //Live for Now and Live for Future scores are determined when it is 1st choice
            ln = ln + (decision.get(cardNo).getLiveForNow());
            lf = lf + (decision.get(cardNo).getLiveForFuture());
            resetCards(); //cards are reset as the round is completed after second choice
            setCards(); //cards are set for next round.
        }
        //Risk Scores are determined. They are averaged - NOT accumulated.
```

```
C:\Users\adria_000\Android\sdk\tools\emulator.exe -netdelay none -netspeed full -avd Nexus_5_API_21
emulator: device fd:896
HAX is working and emulator runs in fast virt mode
creating window 43 59 329 583
emulator: emulator window was out of view and was recentered
creating window 79 19 583 329
```

What I have gained so far….

- An understanding in building Android Apps
- Developing in Android using Android Studio
- Putting into practice knowledge learned
  - Java programming
  - Debugging
  - Object Oriented approaches
  - Software Engineering process
- Stack Overflow – how to read it
- Confidence



Moving forward…….

- Complete Coding
  - Introduce levels
  - Introduce Crisis Cards
  - Pull data from csv file
- Add/improve graphics
  - Add pictures
  - Possibly review game play (e.g. catch decision under pressure in a Tetris format).
- Usability and Functional Testing
- Write up