Feasibility Study

❖ **Technical Feasibility**:-

1) Developers' familiarity with the business area:

The business area is financial instruments and educational games. The team's members have good information about this business area but they are not experts in it.

2) Developers' familiarity with technology:
   The technical tools we are going to use:
   - Programming language: Python
   - Libraries: Pygame, Pygame GUI, Matplotlib, Numpy

All team members are familiar with Python, Matplotlib and Numpy. One team member is familiar with Pygame and Pygame GUI based on previous personal projects.

3) Project Size:
   It is about 3 people for 3 months.

4) Conclusion:
   The risk in this stage is low due to the team's high familiarity with the technology. However, due to the team's moderate familiarity with the business area , more research will be required to be done on the subject.

❖ **Economic Feasibility:-**

Costs	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6+	Total for 6 months
Salaries	30	30	0	0	0	0	60
H/W & S/W	0	0	0	0	0	0	0
Training	2	0	0	0	0	0	2
Support & maintenance	0	0	15	5	0	0	20
Total Costs	32	30	15	5	0	0	82
Benefits							
System purchases	0	0	48	24	8	8	88

Total benefits	0	0	48	24	8	8	88
NCF	(32)	(30)	33	19	8	8	6
CNCF	(32)	(62)	(29)	(10)	(2)	6	6

Numbers are in thousands of DHS
NCF: Net Cash Flow
CNCF: Cumulative Net Cash Flow
One period corresponds to one month
H/W and S/W correspond to Hardware and Software respectively

We expect the system to be developed up to a minimum viable product in 2 months with 3 part-time developers. The training costs are to upskill the employees in the appropriate technologies to develop the project. Since this is a standalone system, we expect support and maintenance to decrease to zero after two months of post-launch support for bug fixes and minor feature improvement.

Upon release, we expect an initially high interest (600 purchases in the first month), gradually decreasing to a steady 100 purchases per month at a price of 80 AED. The price point and the estimated numbers are taken from our market research. Take for example the case study of Antichamber, a game fully released in January 2013 with a price of $20 USD. It was developed by an independent one-person team with no prior experience nor known game titles to his name. Upon the first two months of release, it acquired 2000 players per month, and gradually decreased to an average of slightly under 100 new players per month that remains steady to this day (see the below player count graph).
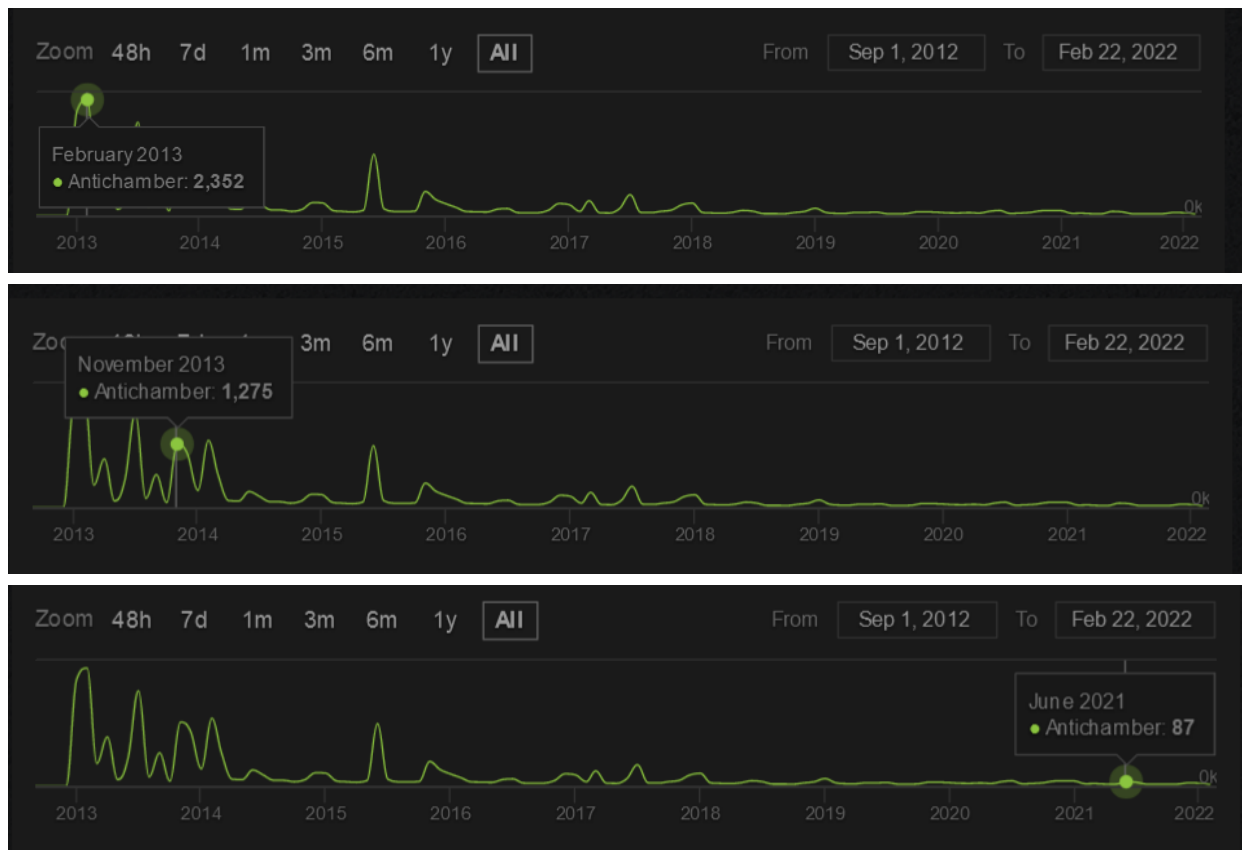
A graph of the player count of the game Antichamber (our market research case study), from release in 2013 up to now.

For our analysis we take the view that even though the two projects are comparable, it is entirely possible ours might get only a third of the attention that other similar games have got upon release. Nevertheless, even under pessimistic assumptions our project ends up breaking even by 6 months after development, and continuing to gain profit after that. Therefore the analysis shows that this could definitely be a good business venture to invest in.

The return on investment (ROI) after 6 months:

$$ROI : \frac{88-82}{82} = 9.8\%$$

The return on investment (ROI) after 2 years:

$$ROI : \frac{232-82}{82} = 182.9\%$$

The break-even point (BEP):

$$BEP : \frac{8-6}{6} = 33.3\%$$

$.333 * 30 = 10\ days$ (into the 6th month)

The project should take 5 months 10 days to break even.

Conclusion: The ROI after 6 months is acceptable given the initial high cost of development after only a few months post-release. The ROI very rapidly increases as maintenance costs diminish and the system sustains regular purchases. Furthermore, the risk is low since the BEP occurs a little after two months after release.