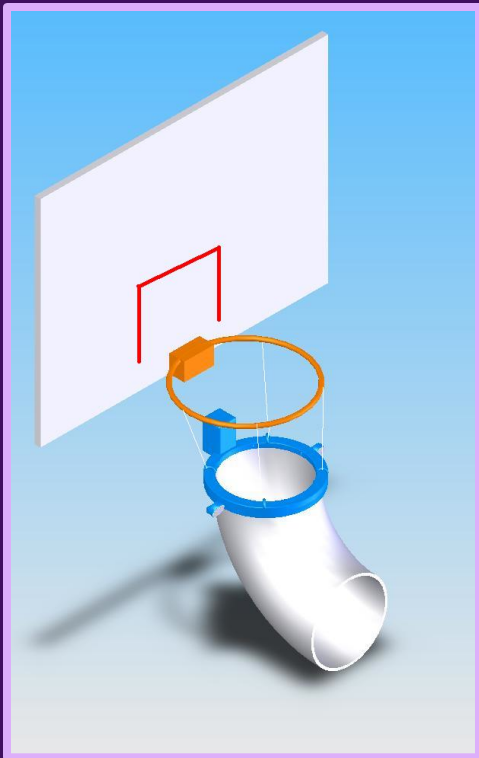
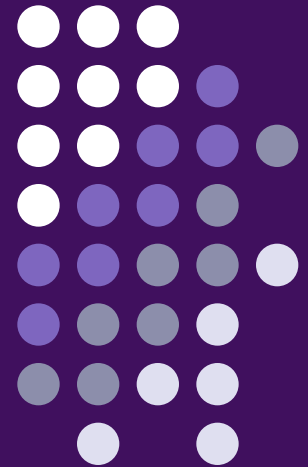


POINTGUARD™



Mock-up Review
Purple Team B
Product Topic: Active Play
10/16/2008



Customer Feedback



- Like
 - More ball-time
 - Less pressure
 - Practice at your own convenience
- Dislike
 - Boring
 - Chasing after ball
 - Not competitive





Preliminary Contract

Product Description: Ball-return device that **actively** tracks player

Intended Customers: Homeowners with basketball hoops

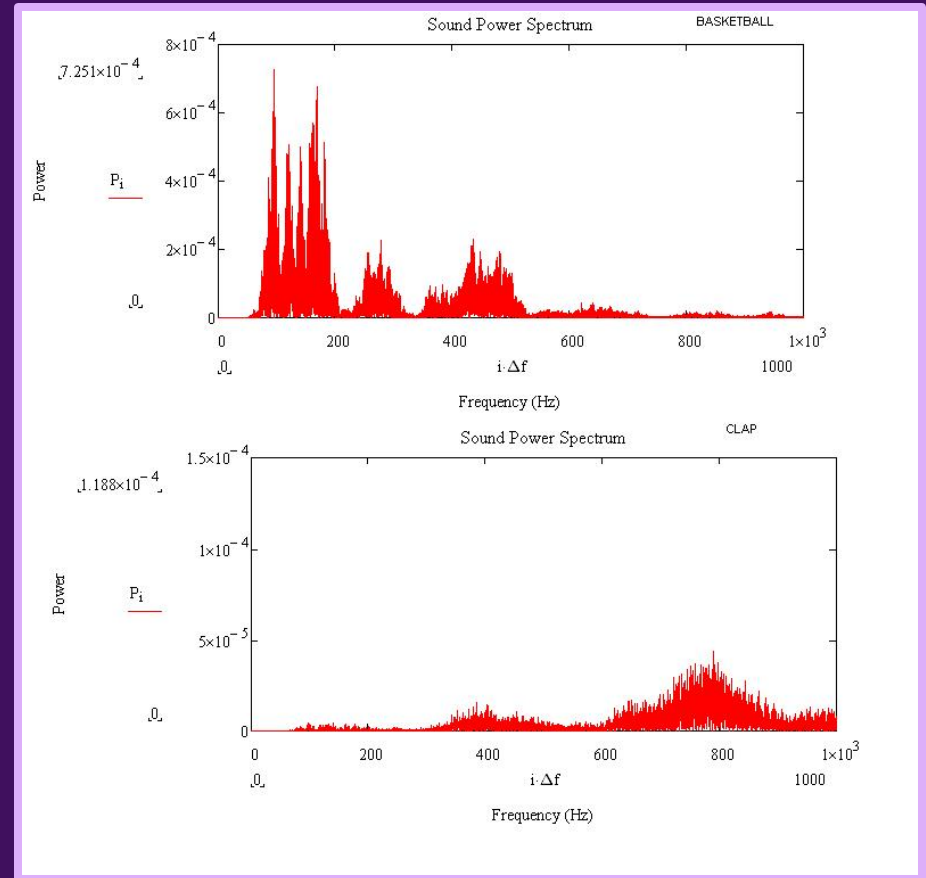
Market: Sports equipment

Customer Need	Design Attribute
Can withstand impact from basketball	Robustness
Weatherproof	Durability
Can be easily removed from basket (<10lbs)	Weight
Can be stored easily in garage (smaller than a lawnmower)	Size
Is affordable for home use (<\$200)	Cost

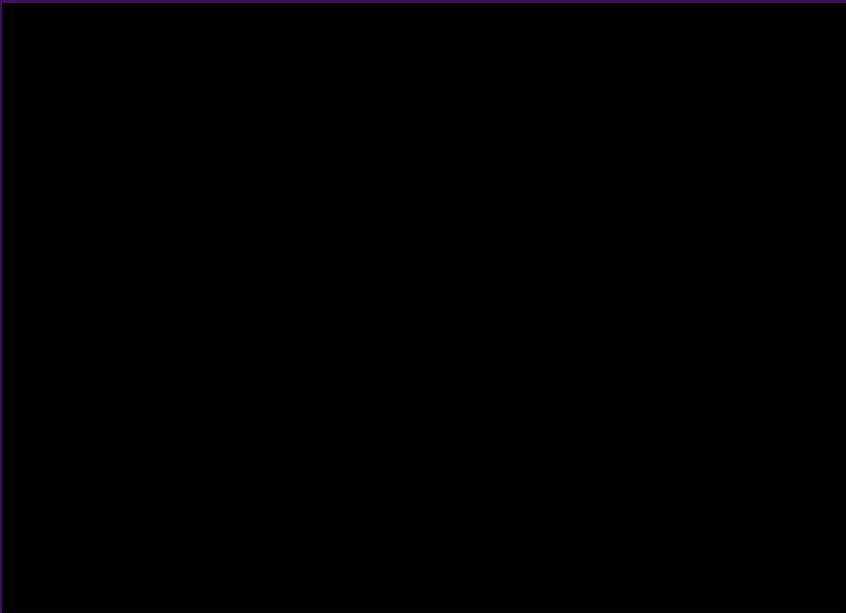


Major Risks

- Range of tracking device
- Rotating ball return device
- Sound activated ball release
- Cheap enough to compete with passive devices



Tracking

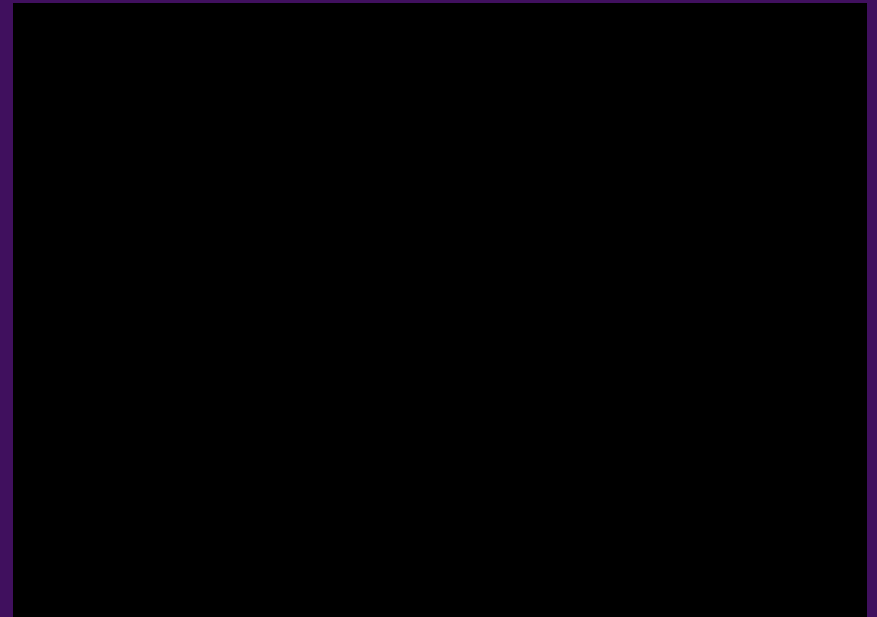


- LEDs and photodetectors
- Proportional gain control
- Range up to 10 feet
- Next steps – increase range and improve motor drive algorithm.



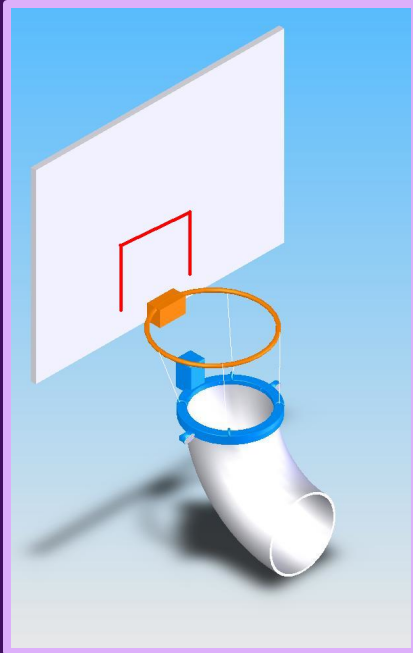
Rotating Ball Return

- Catches ball under hoop
- Motor rotates inner hoop to return ball in direction of player
- Next steps – size up for real basketball and improve robustness





PointGuard



Acknowledgements

- NerdKits
- Mark Belanger at Edgerton Student Shop