

Modified Bicycle Motion Capstone

Team 19

Fahad Alajmi

Basem Alghamdi

Alex Lawson

Kathryn Zoe Lucke

Matthew Palmer

- Client Contact

- Web Developer

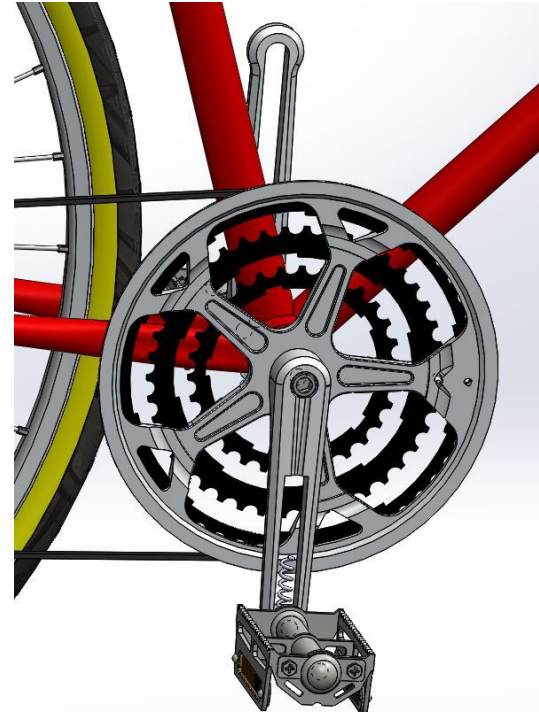
- Project Manager

- Secretary

- Budget Liaison

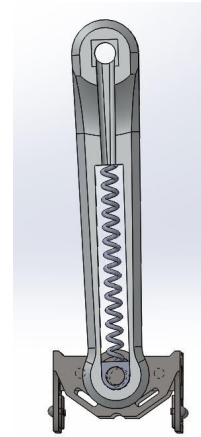
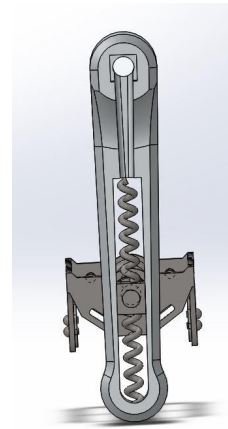
Project Introduction

- Modified Bicycle Motion
 - Limit Range of Motion (ROM) experienced by the knee
 - Create maximum torque
 - Limit the modifications



Updates

- Two Prototypes
 - 1 Tension Spring & 1 Compression Spring
 - Spring
 - 1 Tension Spring
- Started Manufacturing



Manufacturing

- Modify existing crank arm to accompany springs and fittings
- Threaded crank arm spring fittings
- CNC machined slot with stabilization groove
- Pedal fastening



Design Breakdown

COMPONENT	LEADER
Tension Spring	Basem Alghamdi
Compression Spring	K. Zoe Lucke
Fastening	Matthew Palmer
Pedal Holder	Fahad Alajmi
Cranks	Alex Lawson

Schedule and Budget

Schedule

Team Meetings	01/17/2017	01/17/2017
Staff Meetings	01/24/2017	01/24/2017
Presentations	01/31/2017	01/31/2017
Team Meetings	02/07/2017	02/07/2017
Hardware Review 1	02/14/2017	02/14/2017
Staff Meetings	02/21/2017	02/21/2017
Team Meetings	02/28/2017	02/28/2017
Midpoint Report	02/28/2017	02/28/2017
Midpoint Review Presentations	03/07/2017	03/07/2017
Hardware Review 2	03/21/2017	03/21/2017
Team Meetings	03/28/2017	03/28/2017
Staff Meetings	04/04/2017	04/04/2017
Presentation walk-throughs	04/11/2017	04/11/2017
Final Product Testing Proof	04/18/2017	04/18/2017
Team Meetings	05/02/2017	05/02/2017
Final	05/04/2017	05/05/2017

Budget

- Total budget: \$1500

Rank	Material	Quantity	Cost (\$ USD)	
1	Stables	2	0.05	Prototype
2	Rubber Bands	1	0.02	
3	Cardboard	1	0.00	
4	Look Pedals	1	0.00	Cost
5	Tension Springs (3/4")	3	18.96	Design
6	Bontrager Select Crankset (175 mm)	1	35.94	
7	Bontrager race crankset (170 mm)	1	23.00	
Total			77.97	Cost
Remain			1422.03	

Questions?