

Targets	Estimated Date	% Complete	Completed Date	Person Responsible	# of Hours to Complete	Comments
Planning						
Initial customer needs/problem definition	12/10/2012	100%	12/7/2012	Andrew	2	
Identify stakeholders	12/2/2012	100%	11/30/2012	Andrew	1	Performed by everyone; final check by Andrew
Team setup	11/30/2012	100%	11/30/2012	John	0.25	
Review PRP and Initial Research	12/1/2012	100%	12/1/2012	Andrew	4	Performed by everyone; final check by Andrew
1 page summary	12/12/2012	100%	12/6/2012	Tim	1	
Benchmarking	12/12/2012	100%	12/11/2012	Andrew	2	
Initial specifications	12/5/2012	100%	12/5/2012	Andrew	1	
Interview stakeholders	12/11/2012	100%	12/13/2012	John	4.5	Scheduled interviews w/ Mr. Hanzlik and Mr. Wellin on 12/5, 12/11, 12/13. Task shared by everyone.
Team assessment rubric	12/5/2012	100%	12/3/2012	John	2	
Target quality metrics definition	12/5/2012	100%	12/4/2012	John	5	Performed by everyone; final check by John
Initial project plan	12/14/2012	100%	12/7/2012	John	2	
Update EDGE with planning	12/14/2012	100%	12/12/2012	John	4	
Systems Design Review (SDR)						
Finalize customer needs	12/11/2012	100%	12/13/2012	Andrew	2	Delayed due to interview scheduled for 12/13 with customer. Shared by Andrew and John.
Functional decomposition	12/10/2012	100%	12/7/2012	Andrew	2	
Brainstorm for concept generation	12/7/2012	100%	12/5/2012	John	2	Performed by everyone; Final check by John
Concept options/models	12/7/2012	100%	12/7/2012	John	2	Performed by everyone; Final check by John
Concept selections	12/12/2012	100%	12/12/2012	John	9.5	Discussed in meeting on 12/9; to be finished after 12/11 meeting
-Flow visualization	12/12/2012	100%	12/9/2012	Dan	0.5	Electrolysis and beads
-Flow speed control	12/12/2012	100%	12/9/2012	Dan	0.5	Valve control
-Holding fixture	12/12/2012	100%	12/9/2012	John	0.5	Magnets
-Angle of attack fixture	12/12/2012	100%	12/12/2012	John	2	Magnets
-Fluid	12/12/2012	100%	12/9/2012	John	0.5	Water
-Water movement	12/12/2012	100%	12/9/2012	Andrew	0.5	Water pump
-Water reservoir	12/12/2012	100%	12/9/2012	Andrew	0.5	Drum on a cart interfaced
-Flow meter	12/12/2012	100%	12/9/2012	Andrew	0.5	High speed camera
-Input water	12/12/2012	100%	12/9/2012	Andrew	0.5	Garden hose to reservoir
-Cart structure	12/12/2012	100%	12/9/2012	Andrew	0.5	Commercial cart
-Expelling water	12/12/2012	100%	12/9/2012	Tim	0.5	Pump and valve system
-Flow straighteners	12/12/2012	100%	12/9/2012	Tim	0.5	Plate w/ holes > tube type
-Geometry of water table reservoir	12/12/2012	100%	12/12/2012	Tim	1	Nozzle geometry (contracting section)
-Tank material	12/12/2012	100%	12/9/2012	John	1	HDPE
Final specifications/HOQ	12/12/2012	100%	12/13/2012	John	4.5	Delayed due to interview scheduled for 12/13 w/ customer; task shared by Andrew and John.
Feasibility analysis	12/15/2012	100%	12/15/2012	John	12	Discussed next steps in meeting on 12/9; Final check by John
-Electrolysis	12/15/2012	100%	12/15/2012	Dan	5	To be analyzed on 12/15-12/16 (mini-experiments)
-Bubble rise for electrolysis	12/15/2012	100%	12/14/2012	Tim	2	
-Uniform flow speed analysis	12/15/2012	100%	12/11/2012	Tim	1.5	CFD Analysis
-Viscous effects analysis	12/15/2012	100%	12/8/2012	Andrew	0.5	
-Test specimen holding	12/15/2012	100%	12/15/2012	Andrew	1	
-Flow analysis	12/15/2012	100%	12/15/2012	Tim	1	
-Pump power required	12/15/2012	100%	12/13/2012	Andrew	1	
System model	12/15/2012	100%	12/13/2012	John	3	
Timing diags.	12/16/2012	100%	12/14/2012	Dan	1.5	
Risk assessment	12/15/2012	100%	12/14/2012	Dan	2	Performed by everyone; final check by Dan
Preliminary Budget	12/16/2012	100%	12/15/2012	Andrew	4	
SDR Presentation Slides	12/17/2012	100%	1/6/2013	John	3	Delayed due to waiting for Tim to add final selections slide
Update EDGE with SDR Information	12/22/2012	100%	1/9/2013	John	5	Delayed due to waiting for Tim to add calculations
Update project plan through SDR	12/22/2012	100%	12/21/2012	John	4	
Detailed Design Review (DDR)						
HW/SW design	1/30/2013	100%	1/30/2013	John	26.5	Includes feasibility analysis and experimentation
-Water Table Construction	1/16/2013	100%	1/11/2013	John	2	Curbell Plastics- Contacted representatives (acrylic sheets and adhesive)
-Table to Hold Water Table	1/16/2013	100%	1/11/2013	John	1	
-Test Fixture Holder	1/16/2013	100%	1/16/2013	Andrew	2	
-Piping	1/18/2013	100%	1/18/2013	Andrew	3	
-Pump	1/18/2013	100%	1/16/2013	Andrew	5	New pump w/ larger hp needed than that provided by Mr. Wellin
-Drum reservoir	1/21/2013	100%	1/18/2013	Andrew	1	Changed to a rectangular tank for drain purposes
-Control Flow	1/21/2013	100%	1/17/2013	Andrew	1.5	Butterfly
-Electrolysis	1/30/2013	100%	1/30/2013	Dan	6	
-Tank Geometry	1/22/2013	100%	1/22/2013	Andrew	3	Decided that CFD analysis was not necessary due to variable geometry
-Cart Design	1/18/2013	100%	1/18/2013	John	2	
Develop CAD model	1/20/2013	100%	1/25/2013	John	26.5	Final check by John; A lot of components changed upon customer review --> reason for delay
-Tank	1/16/2013	100%	1/16/2013	Tim	3.5	Shared by Tim and John
-Piping	1/20/2013	100%	1/23/2013	Tim	11	Shared by Tim and John;
-Reservoir/Cart	1/16/2013	100%	1/23/2013	Tim	2.5	
-Total Assembly	1/20/2013	100%	1/23/2013	Tim	8	
-Create pictures for EDGE	1/20/2013	100%	1/25/2013	Tim	1.5	Putting assembly and major component drawing in pdf on EDGE
Week 7 Meeting w/ Customers	1/23/2013	100%	1/23/2013	John	1.5	Meeting to discuss progress on feasibility analysis w/ customers
Update Quality Metrics	1/23/2013	100%	1/23/2013	Dan	2.5	
Develop CAD drawings	2/1/2013	100%	1/30/2013	John	4	
-Tank	2/1/2013	100%	1/30/2013	Tim	1	
-Pipes	2/1/2013	100%	1/30/2013	Tim	0.5	
-Cart (for water reservoir)	2/1/2013	100%	1/30/2013	Tim	1	
-Test Specimens	2/1/2013	100%	1/30/2013	Tim	1.5	
Identify "off-the-shelf" parts needed	1/26/2013	100%	1/23/2013	Andrew	6	Shared by Dan and Andrew; final check by Andrew
Assy. process	2/2/2013	100%	2/1/2013	John	13	Shared by Andrew, Dan, and John; Final check by John
-Tank	1/25/2013	100%	1/25/2013	John	5	
-Pipes	2/2/2013	100%	1/30/2013	Andrew	4	All done except waiting on feedback from team about flowmeters 27 Jan
-Test Specimens	2/2/2013	100%	1/29/2013	Andrew	2	
-Cart (for water reservoir)	1/30/2013	100%	2/1/2013	Dan	2	
Tank Breakdown Procedure	2/15/2013	100%	2/14/2013	Dan	2.5	
Test plan	2/2/2013	100%	2/1/2013	Dan	4	Shared by Andrew, Dan, and John; Final check by Dan
BOM	2/3/2013	100%	2/1/2013	Andrew	15	
Budget, POs	2/15/2013	100%	2/13/2013	Andrew	3	Shared by everyone; final check by Andrew
Risk Management Update	2/5/2013	100%	2/1/2013	Dan	2.5	Shared by Dan and John; final check by Dan
DDR Presentation	2/8/2013	100%	2/8/2013	John	7	Shared by John and Dan; Final check by John
Update EDGE with DDR Information	2/15/2013	100%	2/14/2013	John	6	Final check by John; Need to action items list from DDR
Update project plan through DDR	2/15/2013	100%	2/14/2013	John	2	

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Preparation for MSD II						
Review EDGE for Errors	2/15/2013	100%	2/10/2013	Dan	1.5	
Update MSD I Project Plan	2/15/2013	100%	2/10/2013	John	1	
Prep for MSD II / Project Plan	2/15/2013	100%	2/10/2013	John	1.5	
Team Evaluations						
Week 3 Team Evaluation	12/15/2013	100%	12/15/2013	John	0.5	
Week 7 Team Evaluation	1/23/2013	100%	1/23/2013	John	0.5	
Week 10 Team Evaluation	2/15/2013	100%	2/12/2013	John	0.5	
Staging						
SW coding/test	N/A	N/A	N/A	N/A	N/A	N/A
Component inspection	3/15/2013	100%	3/27/2013	Andrew	4	
-Water Table Tank for Leaks	3/5/2013	100%	3/6/2013	Andrew	1	Delayed due to late tank delivery.
-Wood for Cart	3/6/2013	100%	3/5/2013	John	0.5	
-Electrical Components	3/12/2013	100%	3/27/2013	Dan	1	Delayed due to backordered parts
-Piping for Damage or Leaks	3/11/2013	100%	3/6/2013	Andrew	1	
-Misc. Parts	3/15/2013	100%	3/15/2013	Tim	0.5	
Manufacturing/Build Phase						
System assy.	3/22/2013	100%	4/25/2013	John	78	
-Water Table Tank	3/11/2013	100%	3/8/2013	John	13.5	
-Nozzle Panels	3/6/2013	100%	2/15/2013	John	7	Performed by Tim Jordan and John Harrington
-Honeycomb Flow Straighteners	3/8/2013	100%	3/8/2013	John	2	Worked on by John and Andrew
-Baffle	3/11/2013	100%	3/8/2013	Tim	3	May require rework in future pending testing
-Magnetic Strips	3/8/2013	100%	3/7/2013	John	1	
-Inserting Holes in Tank	3/8/2013	100%	3/7/2013	Andrew	0.5	
-Cart Assembly	3/13/2013	100%	3/8/2013	John	13	Tim and Dan assisted in construction
- Cart Platform	3/8/2013	100%	3/8/2013	John	7	Performed by John, Tim, and Dan
- Mount Water Reservoir	3/11/2013	100%	3/8/2013	John	2.5	
- Mount Pump	3/13/2013	100%	3/8/2013	John	3.5	Performed by John and Dan
-Electrical Components	3/16/2013	100%	4/2/2013	Dan	21.5	Electrolysis components and circuit, power box, circuit enclosures, e-stops
- Electrolysis Wand	3/11/2013	100%	4/2/2013	Dan	6	Performed by Dan and Andrew; delayed due to platinum wire
- Electrolysis Circuit	3/13/2013	100%	3/12/2013	Dan	1.5	
- E Stop Configuration	3/16/2013	100%	3/19/2013	Dan	3	Delayed due to parts delivery
- Power Junction Box	3/16/2013	100%	3/19/2013	Dan	11	Delayed due to parts delivery
-Piping	3/21/2013	100%	3/14/2013	Andrew	20.5	
- Piping Infrastructure	3/21/2013	100%	3/14/2013	Andrew	14	Worked on by Andrew, Tim, and John
- Piping Mounting Post	3/21/2013	100%	3/11/2013	John	2.5	
- Piping Debugging for Leaks	3/21/2013	100%	3/20/2013	Andrew	4	Worked on by Tim and Andrew
-Test Specimens	3/22/2013	100%	4/25/2013	Andrew	8.5	
- Cylinder	3/22/2013	100%	3/5/2013	Andrew	0.5	Andrew and John
- Plate	3/22/2013	100%	3/15/2013	John	2	
- Bernoulli Curve	3/22/2013	100%	3/15/2013	Tim	3	
- Airfoil	3/22/2013	100%	4/25/2013	Andrew	3	
-System Full Assembly	3/22/2013	100%	3/20/2013	Andrew	1	Worked on by Andrew and John
Update EDGE with Build Documentation	3/22/2013	100%	3/27/2013	John	5	Performed by everyone
Update Project Track Schedule	3/22/2013	100%	4/25/2013	John	2	
Full Functioning Demo						
Full exercise	3/22/2013	100%	3/22/2013	John	3	
Week 3 Demonstration	3/22/2013	100%	3/22/2013	John	1	
Week 3 Update to Risk Management	3/22/2013	100%	3/22/2013	Tim	1	Worked on by John and Tim
Week 6 Demonstration	4/12/2013	100%	4/12/2013	John	1	
Week 6 Update to Risk Management	4/12/2013	100%	4/12/2013	Dan	1	
Problem management / debug	4/19/2013	100%	4/17/2013	Andrew	30	Worked on by everyone; A lot of time spent debugging electrolysis
Quality assessment	4/19/2013	100%	4/19/2013	John	2	
Week 9 Final Demonstration	5/3/2013	100%	5/2/2013	John	1	
Week 9 Update to Risk Management	5/3/2013	100%	5/2/2013	Dan	1	
Update EDGE with Demo Notes	5/3/2013	100%	5/2/2013	Andrew	1	
Testing						
Exec. test plan	4/1/2013	100%	4/17/2013	Andrew	15	Worked on by everyone
Data collection	4/26/2013	100%	4/17/2013	John	10	Worked on by everyone
System modeling/data	4/26/2013	100%	4/17/2013	Andrew	5	Worked on by everyone
Reconciliation	4/29/2013	100%	4/19/2013	Andrew	2	Worked on by everyone
Assembly Instructions	4/29/2013	100%	4/17/2013	Tim	4	
Breakdown Instructions	4/29/2013	100%	4/17/2013	Tim	4	
User Instructions	4/29/2013	100%	4/17/2013	Tim	4	
Update EDGE with Testing Validation	4/29/2013	100%	4/23/2013	John	6	
Reporting						
Final paper	5/1/2013	100%	4/29/2013	John	15	Worked on by Andrew and John
Imagine demo	5/4/2013	100%	5/4/2013	Andrew	2	
Poster	5/3/2013	100%	4/23/2013	Tim	15	
Update Project Track Schedule	5/5/2013	100%	5/3/2013	John	1.5	
Lesson learned	5/10/2013	100%	4/29/2013	Dan	1	
Final presentation	5/10/2013	100%	5/10/2013	John	3	
Team Evaluations						
Week 13 Team Evaluation	3/22/2013	100%	3/27/2013	John	0.5	
Week 16 Team Evaluation	4/12/2013	100%	4/26/2013	John	0.5	
Week 19 Team Evaluation	5/3/2013	100%	5/3/2013	John	0.5	