

----- Original Message -----

Subject:no PPR meeting tomorrow March 25; but 5-6 new device ideas due

Date:Sun, 24 Mar 2013 17:19:07 -0400

From:Daniela Rus <rus@csail.mit.edu>

To:ppr@csail.mit.edu, Daniela Rus <rus@csail.mit.edu>

CC:Mieke Moran <mieke@csail.mit.edu>

Dear All

There will be no PPR meeting tomorrow March 25. We would like to still collect everybody's ideas (5 for the MIT and Harvard team members, 6 for the Penn team members) by 4pm Mon March 25.

I will circulate the integrated list in a few days so we can each digest it a bit before discussing it at the meeting on April 1.

daniela

From: Ankur Mehta <mehtank@csail.mit.edu>

Subject: Re: [PPR] no PPR meeting tomorrow March 25; but 5-6 new device ideas due Date: March 25, 2013 5:06:12 PM EDT

To: Daniela Rus <rus@csail.mit.edu>

Reply-To: Ankur Mehta <mehtank@csail.mit.edu>

Things that I would like a robot to do for me:

- Move the dishes from the drying rack to the cupboard
- Floss my teeth - Refill my water bottle when it gets empty
- Fill and tie water balloons
- Take the trash out to the curb

From: Shuhei Miyashita <shuheim@csail.mit.edu>

Subject: Re: [PPR] no PPR meeting tomorrow March 25; but 5-6 new device ideas due Date: March 25, 2013 4:32:16 PM EDT

To: Daniela Rus <rus@csail.mit.edu>

Hi Daniela,

sorry for the delay. I understood you're collecting ideas for locomotion. Here are my ideas:

- Amoeba -> it can self-repair, and can locomote
- Clam (sea shell) -> it can close the shell and protect, and swim
- Turtle -> it can do locomotion, and can protect head/legs by hinding/folding
- Shrimp, jelly fish
- Clab

- Frog

Some are not exactly doing locomotion, though.

If you're asking for new device ideas, here are my ideas:

- self-folding sensor
- miniature origami (cannot manually fold)

looking forward to tomorrow's discussion!

Shuhe

From: "Daniel E. Soltero" <soltero@mit.edu>

Subject: Re: [PPR] no PPR meeting tomorrow March 25; but 5-6 new device ideas due

Date: March 25, 2013 4:29:12 PM EDT

To: Daniela Rus <rus@csail.mit.edu>

Hi Daniela,

I guess this is not so much an idea about a device, but rather an idea on something that the database that this project is building should have. I think it should include different folding "styles" or patterns depending on how rigid, a segment needs to be on a robot. Intuitively, the more rigid a part needs to be, the more complicated the folding pattern is. Maybe if the user can understand the relationship between rigidity in its robots and folding complexity, it might be useful. Maybe that could be a feature on a GUI: as the user specifies its parts and the rigidity required for each part, a bar that indicates difficulty level of folding (or expected folding time) can be updated.

Daniel E. Soltero

From: John W Romanishin <johnrom@MIT.EDU>

Subject: Re: [PPR] no PPR meeting tomorrow March 25; but 5-6 new device ideas due **Date:** March 25, 2013 4:05:30 PM EDT

To: "rus@csail.mit.edu" <rus@csail.mit.edu>

Hi Professor Rus,

List of Ideas:

- lightweight ornithopter micro-aerial vehicle
- printed robotic camera mount (pan+tilt/ control camera)
- Folded 3d-printer (maybe something less precise like a food-3d-printer)
- Ice-Skating robot
- Foldable mechatronic dancing robot

-John

From: Mike Tolley <miketolley@gmail.com>
Subject: Re: [PPR] no PPR meeting tomorrow March 25; but 5-6 new device ideas due
Date: March 25, 2013 3:07:49 PM EDT
To: Daniela Rus <rus@csail.mit.edu>
Cc: Rob Wood <rjwood@eecs.harvard.edu>, Sam Felton <smfelton@gmail.com>

Hi Daniela,

I'm not sure what format you're looking for, but here are some ideas we've been tossing around over here at Harvard:

1. Self-folding plane

I think it would be an awesome demonstration to make an airplane self-fold then take off. Steering control while in the air might also be possible. After some preliminary tests with toy propellers, I don't think it will be possible to make a propellered paper airplane take off with the power sources for folding and flight. However, I spoke to Mirko Kovac (who was a postdoc with Rob, now a Lecturer at Imperial College London), and he has done some work on rocket-propelled fliers. We discussed some ideas like a plane you put on a hot plate that both causes it to fold and ignites the rockets. Or else a plane that folds and ignites rockets while plugged in to a power source that is disconnected on takeoff.

2. Guitar

Rob suggested it might be interesting (and fun) to think about a folded/self-folded electric guitar. We were thinking about using the foam-filling concept to improve rigidity without increasing the mass.

3. Chair/Recliner

Another idea we discussed with Rob would be to investigate a self-folding chair. Maybe something that could be shipped flat, then plug it in and it folds up. This would force us to deal with issues of materials and strength. Another option if we wanted something robotic would be a chair that can transform into a recliner.

4. Lamp

Sam suggested the idea of a lamp. I'm picturing something with integrated LEDs that's folded and looks really cool but again, can be shipped flat or printed at home. It could also do something like turn on and/or move itself in response to ambient motion or lighting.

5. Self-actuated blinds

Sam and I also came up with blinds that fold or unfold themselves at certain times of the day or in response to direct sunlight, etc.

I hope this is something like what you had in mind! I'll look forward to seeing you next week.

Mike
