

EE/CpE 423

Senior Design

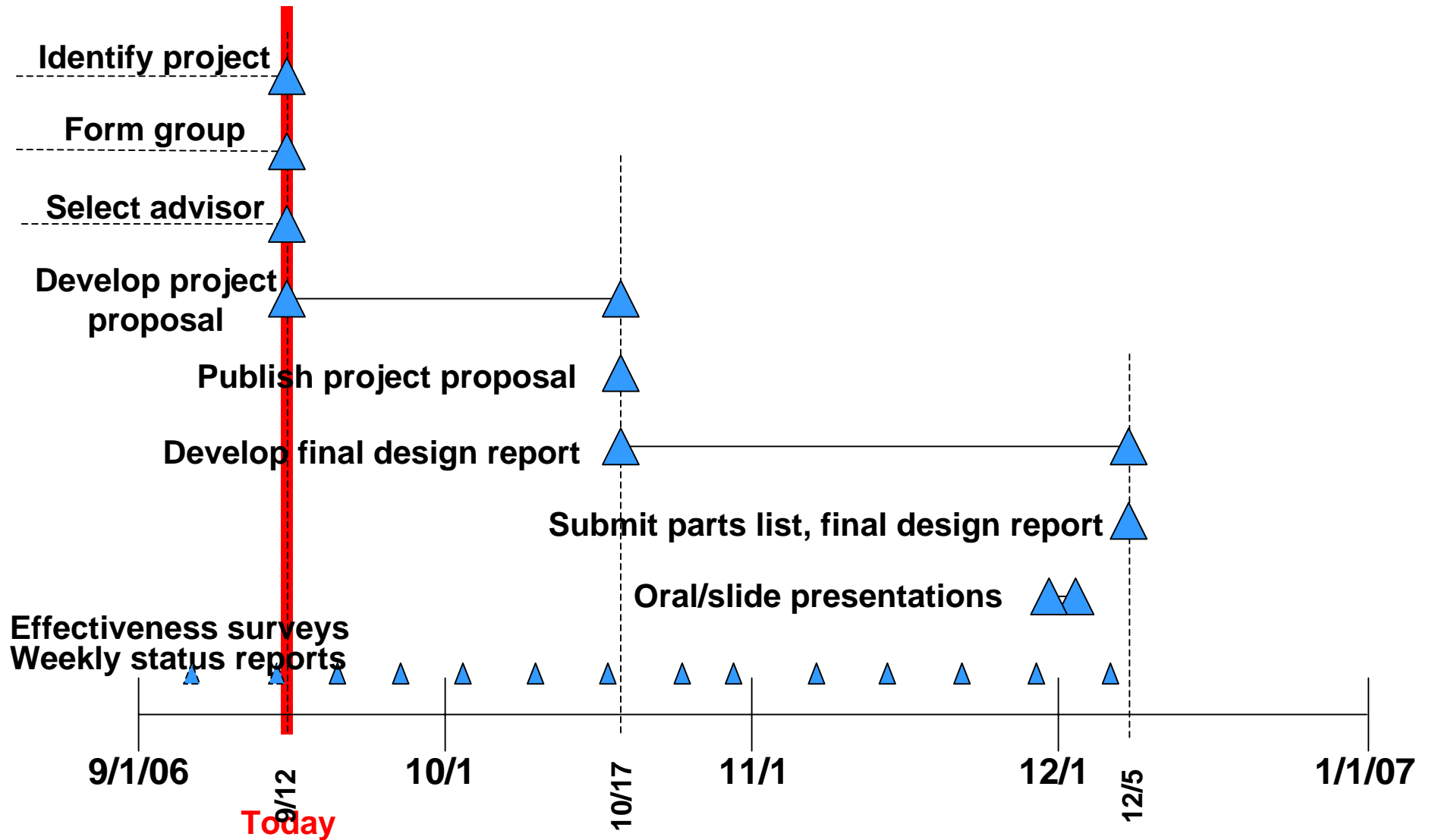
Fall 2005

Class 3 – 9/12/06

Agenda

- Status and deliverables
- Patents, copyright, trade secrets, IP and technical business ethics
- Upcoming speakers

Senior Design Tasks – Fall '06



A comment on class scheduling...

- EE/CpE-423 are scheduled for 3 – 5:50 on Tuesday (A and B-section) and Thursday (A-section).
- E421 is scheduled for Thursday from 9-9:50 and 10-10:50
- TG-401 is scheduled for Thursday, 3-4:15 and 4:30-5:45
- Having heard no overwhelming cry to change the time, we will generally meet from 3-4 on Tuesday, EXCEPT during Senior Design presentations.
- SD presentations will be scheduled from 3-5:50 on Tuesday and 3-5:50 on Thursday. At this point, it appears that the dates will be 11/28 and 12/5. 11/30 may be used if the number of groups gets too large.
- Groups with members taking TG401 will have first choice for Tuesday presentations.
- When you pick your time for SD presentations, keep in mind that E421 will be scheduling presentations during '423 class time. We have no leeway in our schedule, so make sure you don't schedule your E-421 anytime near your '423 presentation. E421 presentations have traditionally run overtime, sliding into the '423 presentations.

Today's Deliverable:

http://www.ece.stevens-tech.edu/sd/material/Project_advisor_form.doc

1 Forming a group to commit to an idea is the first priority

2 Finding an advisor (ECE, PEP, CS) to work with you is your next priority

IF YOU HAVE NOT SUBMITTED THIS FORM, YOUR GROUP DOES NOT EXIST IN EE/CpE-423

3 A working project title is fine

4 A paragraph to a page description is sufficient at this stage

EE/CpE 423/424 Engineering Design		Group Number:
PROJECT/ADVISOR ASSIGNMENT FORM		(Assigned by ECE SD Coordinator)
Project Title		
Group Leader	Name	email
Group Members:		
Advisor:	ECE <input type="checkbox"/> CS <input type="checkbox"/> PEP <input type="checkbox"/>	
Signature:	Date:	

Template version: 9/1/03

Project Status

Group #	Project	Team members	Advisor
1	Wireless Power Control	Derek Busico Brian Behr Katie Haskins Robert Mengert Robert Zienowicz	McNair
2	Electronic Scoring Archer	Vidya Rao Christopher Becker Joe Giunta	McNair
3	MIMO ComBlock Wireless Testbed	Randy Simat Jonathan Garcia James Hoogmoed Robert Leming	Tureli
4	Noise-cancelling windows	Megan Hayes Jake Stolarski Stanford Vogel	McNair
5	Intelligent Autonomous Search System-NOA (Navigation and Obstacle Avoidance)	Olorundamilola Kazeem Marie-Joan Dutreuil Eduardo Garcia	Meng
6	Intelligent Autonomous Search System –ESI (Embedded Systems Infrastructure)	Adam Duda Hoang Dang Matthew Jacoby Nor Azian Che Nazran	Meng

Project Status

Group #	Project	Team members	Advisor
7	Location Estimation of Stationary and Mobile Users in Wireless LAN	Brian Chan Kevin Crowley Vadim Pinsky	Tureli
8	Unwired Cognitively Allocated Networking – Frequency Converter	Xiaoxu Zhao Danny Kwok Patrick McCabe Sean Schumer	Tureli
9	Unwired Cognitively Allocated Networking - Tunable Antenna & FPGA-based control	David Insley Ken Kolodziej Alex Gulagaci Aleh Khapalow Serge Ovchinnikov Wei Yang	Tureli
10	Emergency Communications Systems (ECS)	Mrugesh Patel Amit Desai Nirav Jhaveri Suresh Patel Bhavin Tailor	Man

Students Not in Groups

Clayton Allen	Achal Pathak
Victor Cordero	Chris Rollins
Angel Georgiev	Ricardo Slater
Tae Ha	Gregoire St. Louis
	Jamaal Watkins

Now that you've formed a group...

- Weekly reports due Monday by Noon
 - Use **ONLY** the template provided to ensure consistent format:
 - Template is on Senior Design web site (below)
 - Team leader is responsible for submission of weekly report (electronically)
 - **Group grade will be influenced by timeliness, completeness of reports**

EE/CpE 423-424 WEEKLY STATUS REPORT					
Group #	XX	Week ending:	XX/XX/XX	Report #	XX
Project Title:					
Group Leader:			Advisor:		
Sponsor/Client:					
Total number of person-hours spent on project by group during past week:					
Is project on schedule?					
			Yes	[]	No []
Weekly status:					
Weekly report is due to Senior Design Coordinator by Noon Monday					
<small>Template version: 9/1/03</small>					

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 - To be sure your group gets proper credit for report submissions, email them to mschurgo@stevens.edu and bmcnair@stevens.edu mhames@stevens.edu
 - Email subject should include the date (Monday) the report is due, the group number, and 'weekly report'

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Group #	XX	Week ending:	XX/XX/XX	Report #	XX
Project Title:					
Group Leader:			Advisor:		
Sponsor/Client:					
Total number of person-hours spent on project by group during past week:					
Is project on schedule?			Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Weekly status:					
Weekly report is due to Senior Design Coordinator by Noon Monday					
<small>Template version: 9/1/03</small>					

Now that you've formed a group...

- Group Effectiveness Survey
 - Use ONLY the template provided to ensure consistent format:
 - Template is on Senior Design web site (see below)
 - **EACH** group member must submit survey **EACH** week (electronically)
 - **Group grade will be influenced by timeliness, completeness of reports**
 - Individual grades will NOT be influenced by content of these reports
 - I encourage (but do not require) that you share content with your other team members
 - **DO NOT SEND EFFECTIVENESS REPORTS TO ADVISOR!!!**
 - The tutor doesn't need to see these reports
 - If your group has non-ECE members, do not include them in group effectiveness totals.
 - Check your arithmetic: $\Sigma = 100$

EE/CpE 423-424 GROUP EFFECTIVENESS SURVEY					
Group #	XX	Week ending:	XX/XX/XX	Report #	XX
Project Title:					
Report Submitted By:					
<p>Assign a score between 0 and 100 to each team member (<i>including yourself and the team leader</i>) to indicate how much YOU believe that team member contributed to the overall accomplishments of the group for the week. The total number of points assigned must total 100.</p>					
Team member's name		Score (0-100)			
Sum of scores		100			
<p>Comments on team effectiveness:</p> <div style="border: 1px solid black; height: 150px; width: 100%;"></div>					
Does the team regularly assess its effectiveness?		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Have you shared your thoughts on the team's effectiveness with the rest of the team?		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
<p>Report is due to Senior Design Coordinator by Noon Monday</p> <p style="font-size: small;">Template version: 9/1/03</p>					

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EE/CpE 423-424
GROUP EFFECTIVENESS SURVEY

Group #	XX	Week ending:	XX/XX/XX	Report #	XX
Project Title:					
Report Submitted By:					

Assign a score between 0 and 100 to each team member (*including yourself and the team leader*) to indicate how much YOU believe that team member contributed to the overall accomplishments of the group for the week. The total number of points assigned must total 100.

Team member's name	Score (0-100)
Sum of scores	100

Comments on team effectiveness:

Does the team regularly assess its effectiveness?	Yes	[]	No	[]
Have you shared your thoughts on the team's effectiveness with the rest of the team?	Yes	[]	No	[]

Report is due to Senior Design Coordinator by Noon Monday

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Sum of scores	100

Comments on team effectiveness:

Does the team regularly assess its effectiveness?	Yes	[]	No	[]
Have you shared your thoughts on the team's effectiveness with the rest of the team?	Yes	[]	No	[]

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A note on email submissions and responses

- It is very convenient for students to send mail using WebCT and/or the sd@koala.ece.stevens-tech.edu mail reflector
- HOWEVER, the email that we (course coordinator, TA, tutor) receive appears to have come from WebCT or sd@koala.
- If you expect to receive a response to your email, just place your email address (e.g., jstudent@stevens.edu) in the body of the email (e.g., use a signature file). This will make it easier to click the email address and send you a response
- The alternative: We have to look up your email address on PeopleFinder or a class list, which is error prone and less likely to get immediate responses.

Now that you've formed a group...

- Each group will have a WebCT private discussion group, if you want to use it to coordinate group activity:

The screenshot displays the WebCT interface for a course. The main content area is titled 'Discussions' and contains a table of discussion topics. A black circle highlights the rows for 'Group 1' through 'Group 7'. The 'All' row at the bottom of the table shows 0 unread messages, 3 total messages, and an 'Update' button. The right sidebar contains 'Actions' and 'Options' sections.

<input type="checkbox"/>	Topic	Unread	Total	Private	Anonymous	Locked
<input type="checkbox"/>	Main	0	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Notes	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Announcements	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Looking for a group	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Looking for a member	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Group 1	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Group 2	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Group 3	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Group 4	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Group 5	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Group 6	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Group 7	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	All	0	3	<input type="button" value="Update"/>		

Now that you have the greatest project idea ...

- How do you protect it?

Patents, Copyrights, Trade Secrets, Intellectual Property, and Technical Business Ethics

- Caveat: I am not a lawyer, but I know some good lawyer jokes...
- Patent
 - Describes a process, method, apparatus to perform a function that is:
 - Useful – it must **do** something
 - Novel – no one may have described it before
 - Non-obvious to “a person of ordinary skill in the art” – “*I could have thought of that!*”
 - 20 year protection from filing of idea with US PTO
 - Prevents others from using your ideas
 - Specification and Claims
- Copyright
 - Protects the *expression* of original work by the author, rather than the work itself
 - Normally used with literary, dramatic, musical, artistic, and some other intellectual works
 - Gives copyright owner exclusive right to distribute, perform, display, etc., work
- Trademark
 - A word, symbol, or device used in trade (business) to indicate source of product or service, to distinguish it from others.
- Trade secret
 - Unpublished ideas, documents, processes, procedures, recipes, ..., used by a company in their business

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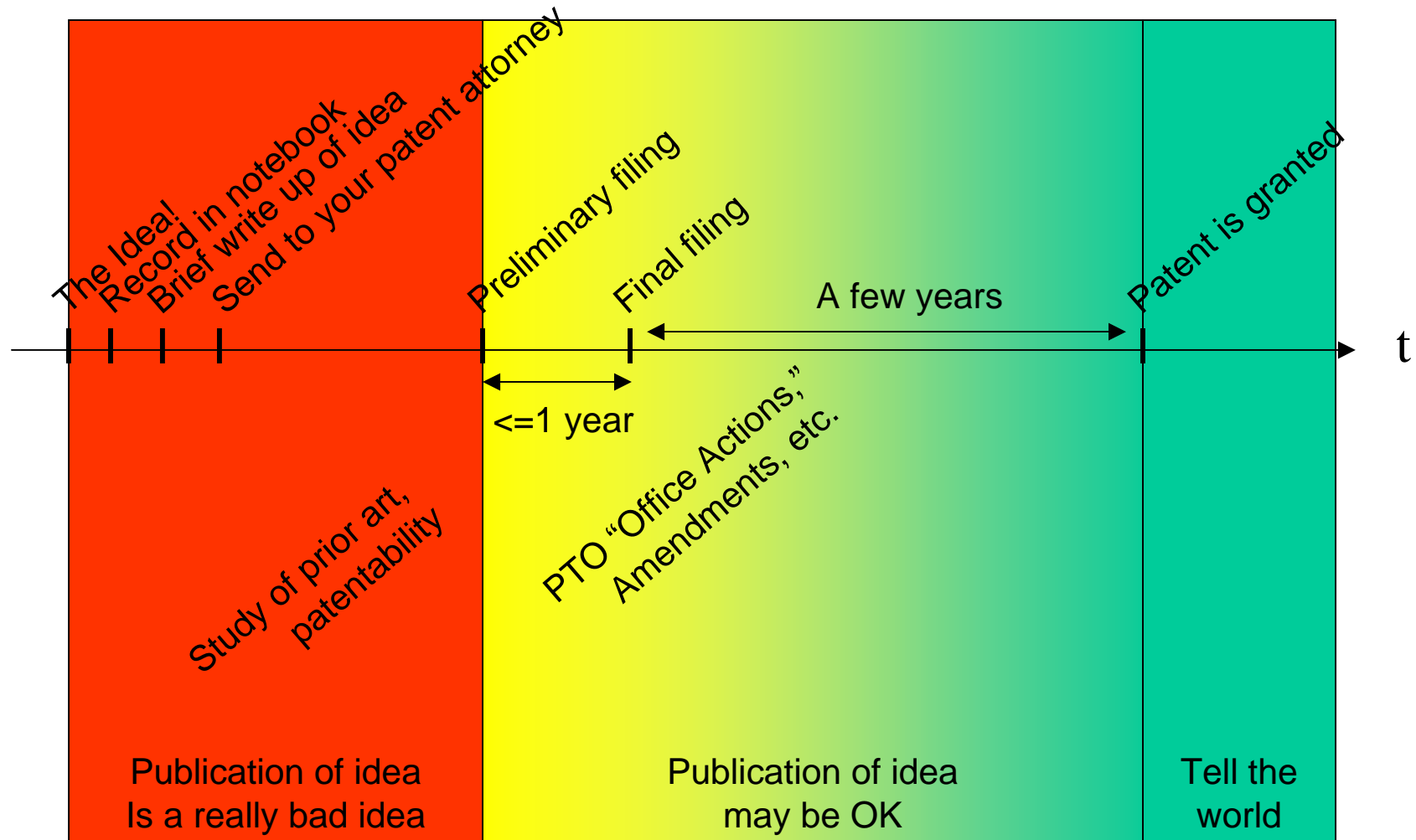
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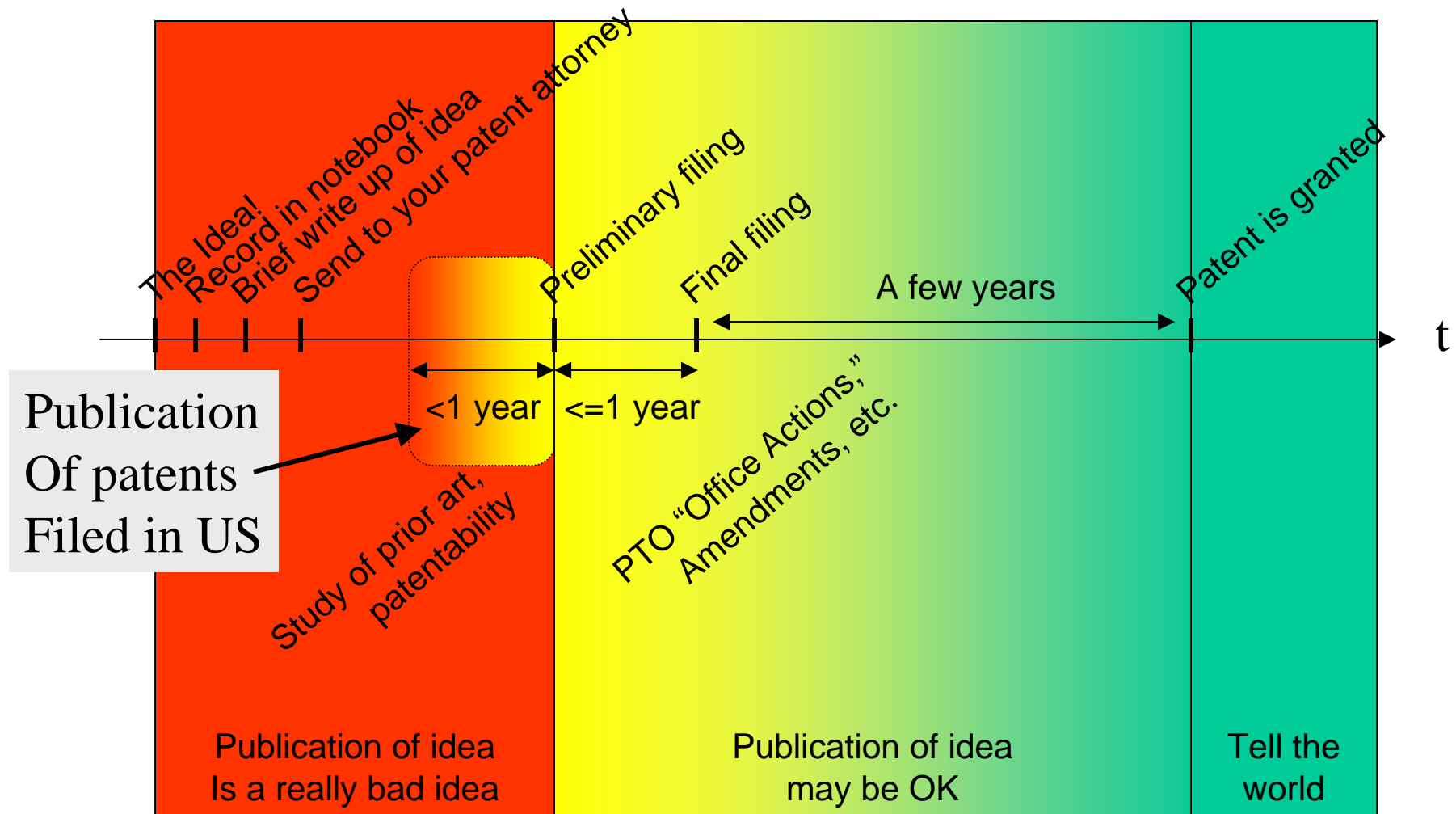
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Patent Process



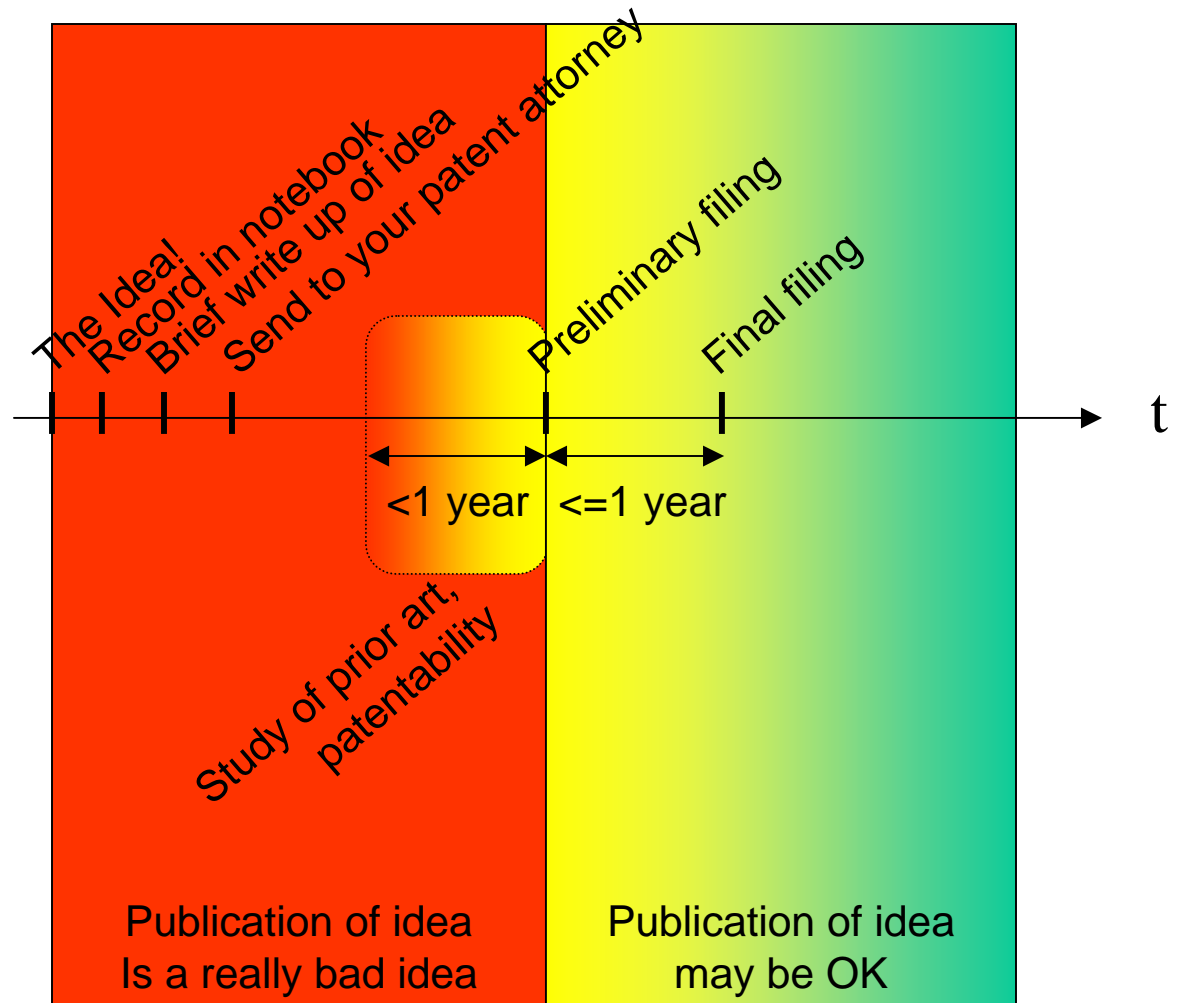
Patent Process



Patent Process

- Implications for Senior Design

- What constitutes “publication?”
 - web site
 - class presentation
 - unrestricted discussion with anyone other than co-inventors, attorney



Protecting IP

- Employee Confidentiality Agreements:
 - “We will sue you if you talk”
- Non-Compete Agreements
 - “What you learned here stays here” – pre-nuptials for the workers
- IP Assignment Agreements:
 - “We own your every waking thought. Maybe your dreams, too”
- Non-Disclosure Agreements (NDA):
 - “Forget what we told you when you leave the building”

Technical Business Ethics

- Extrapolating from open literature
- Competitive assessment
- Probing for information at trade shows, conferences
- Reverse-engineering
- Software disassembly
- Dumpster-diving
- Hacking into competitor's systems

Upcoming topics

- ~~Sept 12:~~ Helena Wisniewski – starting a venture
- Sept 19: Barry Bunin – Planning for when the plan goes awry (shutting down a venture)
- Oct 24: Linda Scanlon – Library research resources
- Oct 31: Ralph Selitto – IP from an attorney's perspective