Announcements

-Programming for Mechatronic Systems Autumn 2017 (41012-2017-AUTUMN-CIT ▼ Go

Updated Project Files and Documentation

Posted on: Tuesday, 20 June 2017 7:02:2 7 PM AEST

In response to a number of Emails and On line Discussion Forum we are providing an update to project files (a3_help) and Individual Project HELP guide (version 4), please refer to guide for complete information.

Summary of changes:

1. Updated srv calls in the a3_help with float64 allowing doubles to be specified, **the service call should be made with GLOBAL coordinates.**
2. Resolved inconsistency in OgMap size due to omitted column in guide **(_map_resolution:=0.1)**
3. Sample code (gen_path.cpp) to allow path to be created via clicking on OgMap. **gen_path.cpp needs to have inserted your image->global and global->image code to fully function**
4. An example of **publishing path directly to topic** is also provided in guide.

Keep questions on Discussion Forum and we will address them in batch if they are crucial.

Subject Link /Assessment/Assignment 5 : Individual Project

> Posted by: Alen Alempijevic
>
> Posted to: Programming for Mechatronic Systems Autumn 2017 41012-2017-AUTUMN-CITY

UTS CAS Postgrad Studies Expo 2017

Posted on: Wednesday, 14 June 2017 6:20:03 PM AEST

As discussed in Class, an advertisement from our Center if your considering a career in Robotics Research

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CALL FOR PARTICIPATION

UTS CAS Postgrad Studies Expo 2017 : 4-5 July 2017

Centre for Autonomous Systems, University of Technology Sydney

Applications due: immediately (20 June 2017 at the latest) General enquiries: Thomas.Surridge@uts.edu.au

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The CAS Postgrad Studies Expo 2017 is a student forum to be held at UTS's Centre for Autonomous Systems (CAS) over two days, 4-5 July 2017.

The expo will introduce prospective postgraduate students to research in robotics and autonomous systems, including an in-depth discussion of active research areas and what life is like as a postgrad student in CAS.

Postgraduate study (Masters and PhD) provides you with an exciting opportunity to join the rapidly growing robotics research community. A postgraduate degree will open doors to both academia and the emerging robotics industry, in Australia and around the globe.

CAS would like to invite high-calibre undergraduate (third year and above) and Masters students in a range of robotics-related disciplines to attend. The expo will support on-campus accommodation for all successful applicants. Note: Limited travel support will be provided.

APPLICATION

The application process is simple. Please send us your transcripts (unofficial is fine) and a short (1-to-3 sentence) expression of your interest in robotics. You may attach a CV if you feel that it paints a more accurate picture of you than transcripts alone. Spaces are limited so please send your application as soon as possible. Applications are evaluated on a rolling basis (immediately when received) and are due by 20 June 2017 at the latest.

Please send your application to: Thomas.Surridge@uts.edu.au

Posted by: Alen Alempijevic

Posted to: Programming for Mechatronic Systems Autumn 201741012-2017-AUTUMN-CITY

Additional Catch-Up Session and Peer Review 3

Posted on: Thursday , 8 June 2017 10:08:4 3 PM AEST

Dear students,

The additional catch-up class will take place on Wed 14th June 15:00-18:00 in CB11.B1.401, the class has been added to your timetabling.

The class will solely focus on assistance with regards to your Individual Projects, we sincerely hope you have commenced your projects and encountered first hurdles you wish to discuss and seek help on.

Peer Review 3 information will be delegated tomorrow, with a due date of Sunday 18th June 2017 23:59.

Posted by: Alen Alempijevic

Posted to: Programming for Mechatronic Systems Autumn 201741012-2017-AUTUMN-CITY

Week 12 - Preview

Posted on: Sunday , 4 June 2017 9:42:08 PM AEST

Marks and feedback for Assignment 3 have been disclosed on Friday 1st June. The delegation of Peer Review 3 material will occur on Wednesday.

We have provided support packages for the Individual Projects, they are available under Assignment 5 / Support Packages. The support packages and the Assignment 5 will be the focus of the session tomorrow. We will endevour all students have the packages up and running and understand the sample code provided, in order to be able to move forward with the Individual Projects.

Subject Link /Assessment/Assignment 5 : Individual Project/Support Packages

> Posted by: Alen Alempijevic
>
> Posted to: Programming for Mechatronic Systems Autumn 201741012-2017-AUTUMN-CITY

Week 11 - Preview

Posted on: Friday, 26 May 2017 5:08:10 P M AEST

This week we will finalize the "building blocks" required for the Individual Projects: OpenCV + ROS and the use of ROS Services

Readings have been made available, though it is essential you have completed the exercise from last week (having a node publish a random number and other node create a histogram),

Traditionally in robotics we refer to three layers: perception (sensing) / actuation (control) and cognition (decision making). For your projects a map of the environment is needed, we utilise OpenCV for encoding/querying the map. Your projects will be focused on actuation (control) and cognition (decision making) of a simulated robotic platform. We will present more details in Mondays class with the final assignment becoming available that evening.

> Posted by: Alen Alempijevic
>
> Posted to: Programming for Mechatronic Systems Autumn 201741012-2017-AUTUMN-CITY

Condition Variable Example Code

Posted on: Tuesday, 23 May 2017 1:08:07 PM AEST

Hi Students,

The condition variable example shown in class has been uploaded to UTS Online for your reference. Find it in the code examples folder or via the attached link.

Subject Link /Subject Documents/Additional Material/Code Examples/Condition V ariable Example

> Posted by: Alex Virgona

Posted to: Programming for Mechatronic Systems Autumn 201741012-2017-AUTUMN-CITY

Week 10 - Preview

Posted on: Sunday, 21 May 2017 8:50:08 AM AEST

This week we move into the CBSE paradigm and introduce ROS as a example of middleware designed specifically for Robotics. The final projects are based on ROS and leverage all knowledge acquired in subject thus far. The Readings have been updated and I specifically wish to draw attention to the CBSE reading Chapter 2.

The marks for Peer Review 1 have been updated and formative feedback will be provided in class, if your submission was Peer Reviewed you will be in receipt of an Email on Monday containing all the amalgamated feedback from your colleagues over you submission.

Subject Link /Readings

Posted by: Alen Alempijevic

Posted to: Programming for Mechatronic Systems Autumn 201741012-2017-AUTUMN-CITY

Assignment 3 - Extension

Posted on: Friday, 19 May 2017 9:54:50 A M AEST

Dear students,

As discussed in class, the Assignment 3 deadline has been extended to Thursday 25th May 2017 23:59.

Subject Link /Assessment/Assignment 3 - Threading, Synchronisation and Data Integrity/Assignment 3: Threading, Synchronisation and Data Integrity

Posted by: Alen Alempijevic

Posted to: Programming for Mechatronic Systems Autumn 201741012-2017-AUTUMN-CITY

Week 8 - Wrap Up

Posted on: Friday, 12 May 2017 4:51:29 P M AEST

Couple of updates this week

- Assignment 2 marking has been completed, marks and feedback are available on UTSOnline, we will provide formative feedback at the Lecture
- Material for Week 9 on Unit testing and Doxygen together with the samples are available in Readings
- Assignment 3 is now available on UTSOnline
- Peer Review 1 Marks will be updated tomorrow (Saturday 13th May), you will also be in receipt of an Email

- Peer Review 1 Marks will be updated tomorrow (Saturday 13th May), you will also be in receipt of an Email outlying how your mark was derived
- Peer Review 2 delegation will be available via Email by tomorrow (Saturday 13th May)

Posted by: Alen Alempijevic

Posted to: Programming for Mechatronic Systems Autumn 201741012-2017-AUTUMN-CITY

Assignment 2 - Minor Correction

Posted on: Saturday , 22 April 2017 9:34:4 5 PM AEST

Assignment 2 details have been updated, the requirement to have documentation auto-generated from in-source markup has been removed. Documentation should be in the form of comments for all function and member variables.

Doxygen, the tool for documentation from in-source markup will be introduced in Week 09.

Posted by: Alen Alempijevic

Posted to: Programming for Mechatronic Systems Autumn 201741012-2017-AUTUMN-CITY

Week 5 Wrap-up

Posted on: Thursday , 13 April 2017 11:14 :31 PM AEST

We wrap up Week 5 with important announcements, please consider all information provided.

Assignment 1 Marks
Assignment 1 marks and feedback have been released this morning, please revert to the MyGrades to access your

Peer Review
As part of Assessment task 4 for 41012 Programming for Mechatronic Systems you are required to perform peer co assessment are eligible to be part of the peer review process. The task of peer review for assessment task 1 was ju document to perform the review. You need to login with your UTS student Email to access the Google document, w

Assignment 2
Material related to Assignment 2 is available under the Assessment / Assignment 2 tab. **Assignment 2 is due Sun** clarification of Assignment 2.

Week 6
As per Subject Outline, there is no class in Week 6 (Mon 17th April) due to the public holiday. Please finalize any o

Subject Link /Assessment/Assignment 2 - Utilising Abstraction for a Range of Sensor Classes

Posted by: Alen Alempijevic

Posted to: Programming for Mechatronic Systems Autumn 2017 41012-2017-AUTUMN-CITY

Week 2 Tutorial Slides

Posted on: Tuesday, 21 March 2017 9:28: 46 AM AEDT

Good Morning Students,

Thanks for a great first tutorial. Wonderful to see many of you successfully compiling your own classes. This is truly the gateway to the powerful paradigm of object oriented programming.

The slides from yesterdays tutorial session have been uploaded. Please make sure you complete the rectangle example by next week and understand it thoroughly. You also need to attempt the random number exercise. Post any questions you have in the discussion board, and while you're there see if you can help others.

Subject Link /Subject Documents/Lecture/Lab Notes/W eek 02

Posted by: Alex Virgona

Posted to: Programming for Mechatronic Systems Autumn 2017 41012-2017-AUTUMN-CITY

Orientation and Preparation (W eek 1) Activities

Posted on: Friday, 10 March 2017 1:27:05 PM AEDT

Dear students,

Student learning and engagement with a subject takes place 1 week before face-to-face classes.The "session" (previously known as a semester) officially starts on 13th March.

What to do in Week 1:

- Watch the Introductory Video.
- Read the Subject Outline.
- View the information on setting up your build system using QtCreator and CMake (link supplied below : Subject Link)
- Watch material from Ch 1 and 2 of "C++ Essentials" from Lynda.com (to refresh your C knowledge)
- Attempt the problems from Ch 1 and 2 of "C++ Essentials" from Lynda.com (to refresh your C knowledge)
- Attempt the problems from Week 1 Lecture Notes

In Week 2:

- A Practice quiz will be conducted in class to gauge your understanding of topics in C covered in Week 1 to a level for students enrolling in 41012, so that academic staff can focus classroom activities to facilitate your learning.

We have provided a guide to support above learning activities available under Subject Documents.

Subject Link /Subject Documents/Additional Material/Setting Up Linux / ROS Environment

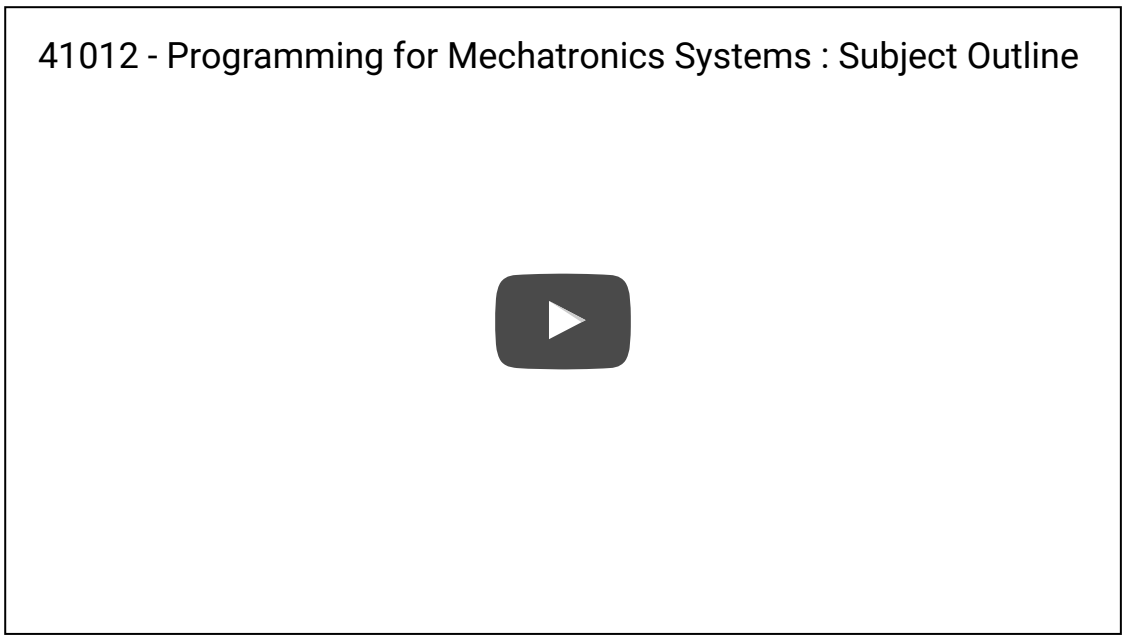
Posted by: Alen Alempijevic

Posted to: Programming for Mechatronic Systems Autumn 2017 41012-2017-AUTUMN-CITY

Welcome to 41012 - Programming for Mechatronics Systems

Posted on: Sunday, 24 July 2016 11:59:00 PM AEST

Welcome to 41012 - Programming for Mechatronics Systems, an overview of the subject is provided via a Video Introduction



Please peruse the **Subject Outline** for more details on the **Program** for this semester.

The Online Course material that ties in wi the pre-readings in program is provided under **Readings**.

Subject Documents contains folders with other weekly support material.

I encourage you to use the **Discussion Board** to start conversation rolling with peer support.

I look forward to meeting you all at the first class on 20th March 2017 in room CB11.B1.401

Subject Link/Subject Outline

Posted by: Alen Alempijevic

Posted to: Programming for Mechatronic Systems Autumn 2017 41012-2017-AUTUMN-CITY