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Comp 3004 A1

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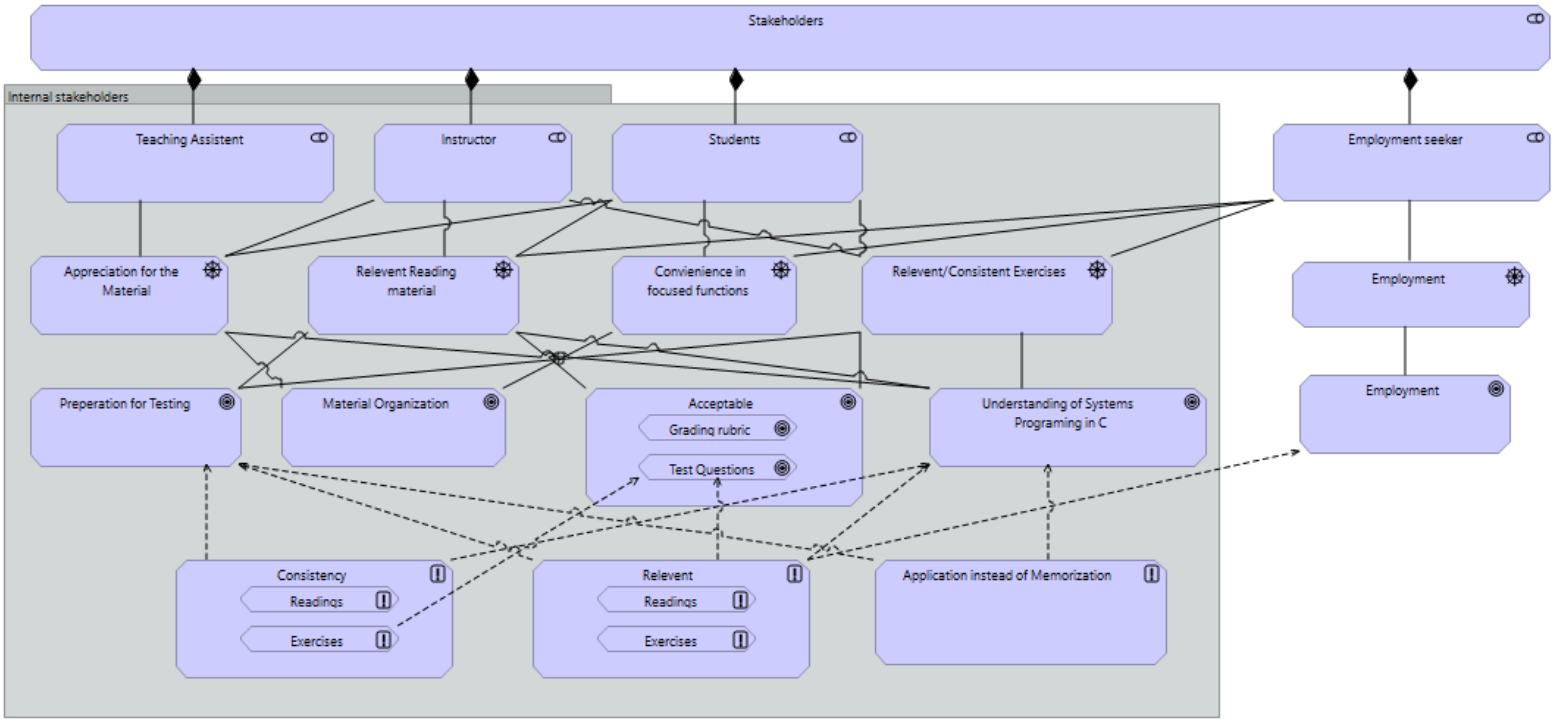
Background 1

The “Build your own textbook” platform is focusing the learnings of “System Programming in C” which is programming a software to service other software or for the underlying computer system. This is a course provided in Carleton university titled as “Comp 2401” the learning goals here are to learn C code and everything it has to offer focusing on some of these aspects shown below:

> System programming, Data representation, Pointers and Memory Management, Build and Makefiles, concurrent Computing, Streams and File I/O, Program Organization, Graphics and Shell Scripts.

The Objective of creating this “Build your own textbook” is to offer stake holders a view of everything they must learn to be successful in “Systems Programming in C”. Showing consistency in readings, exercises and engagement throughout 4 months of this course learning should lead to this success.

Phase A: Vision in Systems Programming in C



As you can see from the image above there are multiple stakeholders to this make your own textbook, each with relations to one another and common drivers (concerns). There are a few internal Stakeholders shown as, teaching assistants, instructors and students. The one external stakeholder is those looking for employment in a common field of study.

Appreciation for the Material is a concern for all internal stakeholders (TA's, Instructor, Students), this is the case because all of these stake holders must have a heart and enjoyment for the material covered to really excel in such a subject. The goals set in place based on this driver are, Material Organization and understanding of systems programming in C, these are the goals here because a good organization will make the material more appealing to read out and this will lead to an understanding of the material both helping the stakeholders to have an appreciation for the material. Finally, the principles set in place to achieve all of these goals are

consistency/relevant reading and exercise material doing this will lead stakeholders to success in programming in C also application instead of memorization will help stakeholders understand the material more.

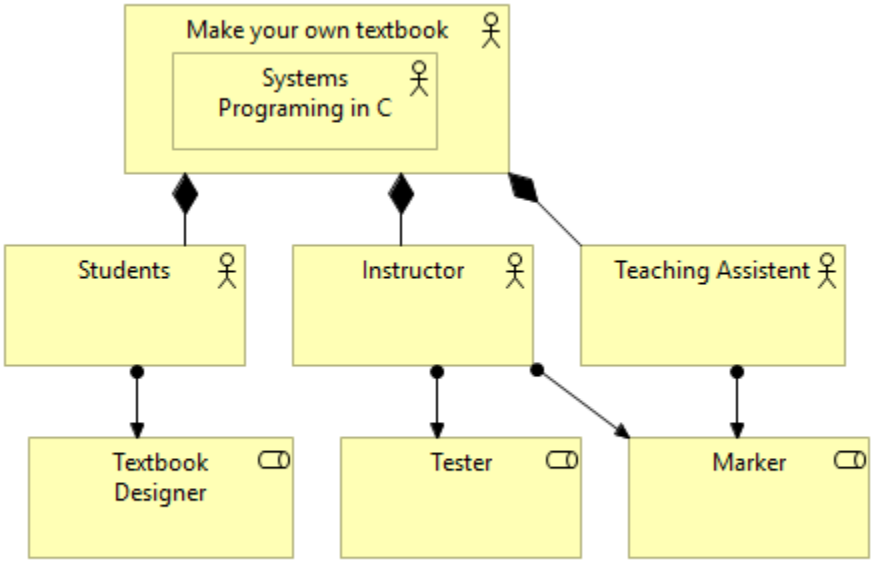
Relevant reading material is a main concern for the instructor, students and employment seekers (external stakeholder). Based on this concern the Goals for this program is to help students Prepare for tests on the subject, giving instructors and TA's a good outline for creating a grading rubric and creating test questions also based on relevant reading material it will make it easier to understanding Systems Programming in C. given these goals all of the principles listed above will lead to the success of the goals.

Convenience in focused functions is a driver for mainly students and employment seekers as it will only give them the information they are looking for, with quick and resourceful information, based on the numbering system in place for the table of contents in the textbook. The goals based on this concern is only organisation because with this goal it will only increase the efficiency in getting material.

Relative and consistent exercises act as a driver for the following stake holders: instructors, students and employment seekers, this reason is because these stack holders look for consistency in relative exercises for Systems programming in C to help gain a better skill at the subject. The goals based on this concern is, test prep, acceptable grading/testing and understanding systems programming in C.

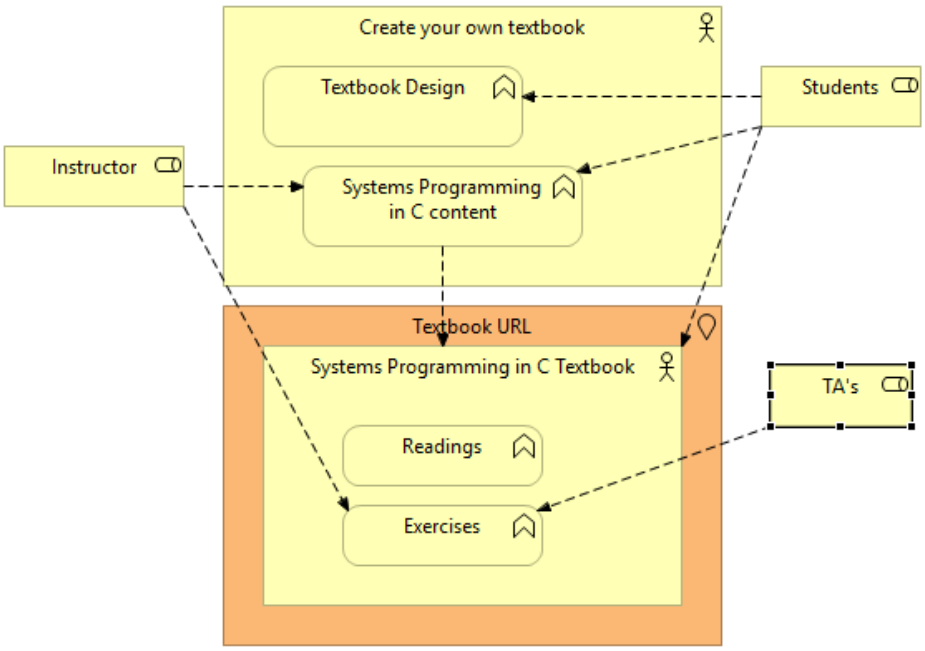
Employment is a concern for the external stakeholder (people seeking employment), basically to get employed.

Phase B: Baseline structure



The Make your own textbook for Systems Programing in C has multiple actors and sees their relationships with one another. The actors shown are instructors, students and teaching assistants. The roles played are the Students who organise and put content in these textbooks. The Instructors who based on the textbook will test the students as well mark these tests and the TA's who also help the instructor help mark these tests.

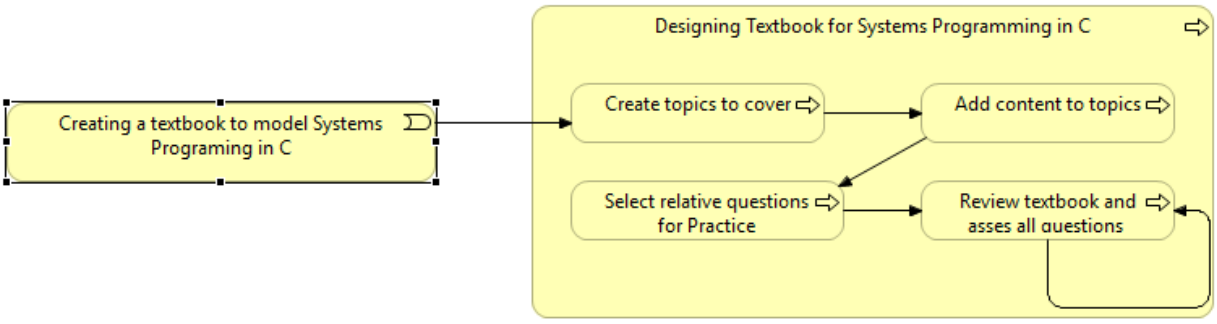
Textbook functions



These functions above are basic functions of a make your own textbook teaching Systems programing in C, these actors in make your own textbook are Create your own textbook, this actor entitles a business function of textbook design and systems programing in C content. The function roles of this Actor have Stake holders of students who design and put content in the create your own textbook and instructor who provides information on the content that the textbook should have.

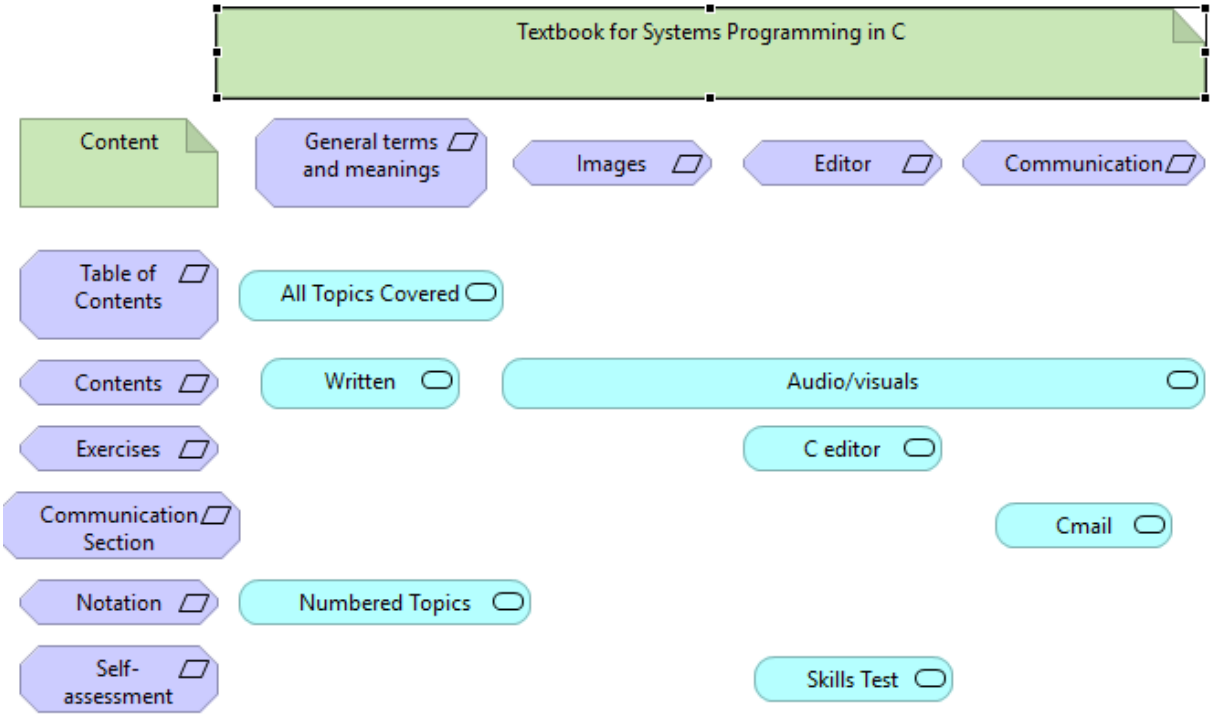
The Textbook should have a URL of some sort for others to access this textbook, the URL will lead to the Systems Programming in C textbook which has the function roles of having Readings and Exercises. These function roles are applied by the students where as the exercises are also supplied by TA's and instructors.

Make your own textbook for Systems programing in C Process



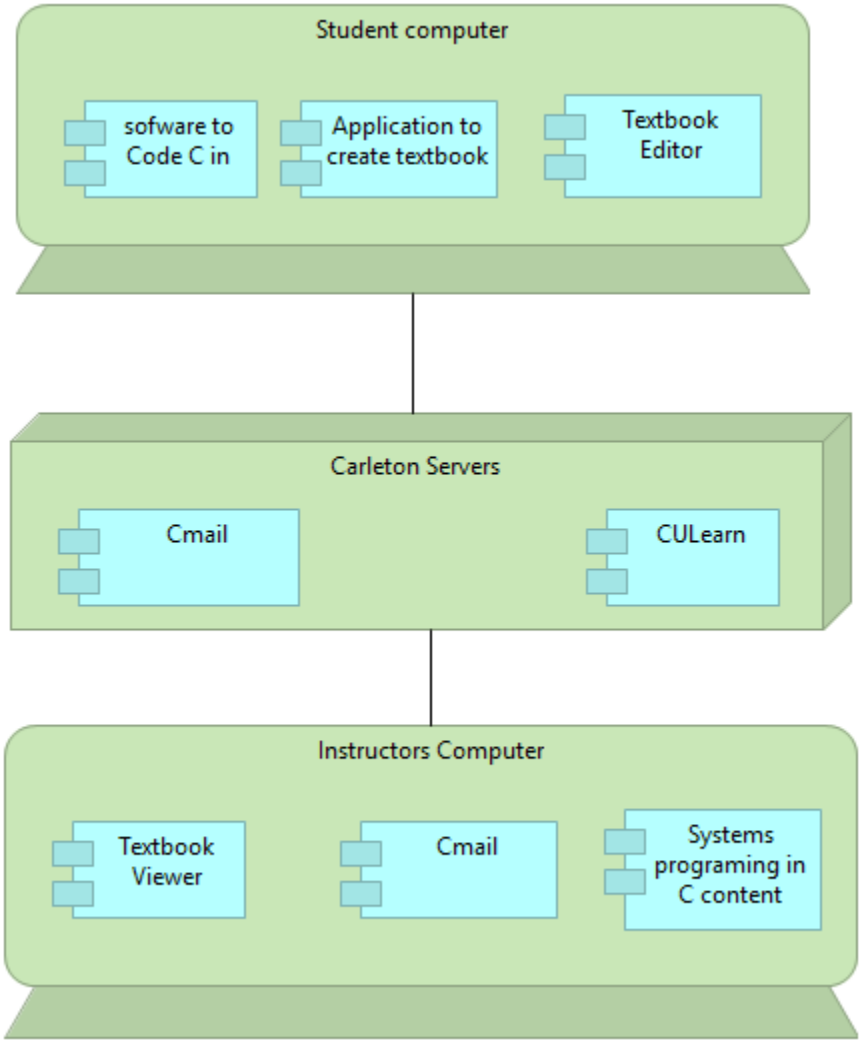
As you can see from Above there is only one process in creating your own textbook which involves creating topics to cover, this is basically where the user would create a table of contents for the textbook providing an organized and easy to read way to display the actual content of the textbook. After creating topics user would add the actual content of the Textbook which is basically everything written out and a few examples of the programing along side the content. The user after adding all the content of the textbook would then review and add relative questions and exercises to reflect the content. In the end the user goes on a loop of reviewing the textbook and completing the exercises to become the ultimate master in systems programming in C.

Phase C: Applications



Seeing the above Model, you can see the applications that go into making your own text book are quiet a bit. The requirements being a table of contents(application for table of contents), the contents(application for written, audio and visual representations), exercises(application to create relative questions, and software(C editor)), communication section(cmail), Notation to follow the topics(Numbered topics so user can follow) and self assessment(skill test to see if material was learned). These are all the applications it takes to create your own textbook.

Phase D: Baseline Technology Architecture for Creating your Own Textbook



As we can see in the modeled diagram above the main devices that are used in creating this textbook are the student's computer which contains the software to code in C, a textbook creator and a textbook editor. The other major device is the instructor's computer which contains Textbook viewer to view student's textbook, a Cmail account and Systems programming in C content to give out to students. Both of these devices are connected through the Carleton servers which act as a node containing Cmail and CULearn. All devices are run through the internet.