

Requirements

Scope

The project scope for our group this semester will include creating an Android app for the honors college. If the college/students like the app, then an iOS app can be created by future students; creating an app for both platforms is something most certainly out of our scope. This would include creating an app for the students, a web-based administrative app and creating a database of student information along with a collection of all requirements created by the admin.

The Android app for the students will include a checklist to help students understand the requirements to graduate with honors. The requirements to graduate with honors vary in the year and type of honors being pursued. This app is intended to help students understand the requirements through a checklist and coaching along the way. First, the student will create a profile for initial login, including the handbook they are following. The app will give students the opportunity to view requirements, check-off completed requirements and view in-progress requirements. The app will assist students in understanding requirements with the help of prompts coaching along with way.

The web-based administrative app will include two main functions. The first is having the ability for the admin to create and/or update requirements for future years' handbooks. Most changes from year to year will be a quantitative change; admin should be able to import a previous handbook and make changes to the requirements to reflect the new handbooks' requirements. The second function is for the admin to view statistics of the students using the app. These statistics include the year and type of honors being pursued along with expected graduation year and major/minor.

The database for this app will have two separate tables. One table will include all student information. The profile a student creates will initiate a new record in the table and the database will then keep track of that students' progress in requirements. The second table will include the necessary requirements for each year and type of honors being pursued.

Our project scope took a turn from using the schools' official banner database to creating our own database. The app had turned into a self reporting checklist instead of an auditing system. We decided on the checklist, since we know it can be in use to live students and is more of a realistic scope for one semester.

User Population

For this application there will be two user populations, Student and Admin. Student will be defined as any current honors student, and Admin will be defined as an Assistant Director, student fellows, honors staff, or John Feldkamp. The student population will have the ability to log-into the system and customize their different honors settings, from the honors program they are pursuing, to different notification settings available through the app. Students will also have the ability, once they have selected their honors program, to view and check things off of their checklist for the given program. Students using this application will require no skill in computing other than a basic understanding of how to use a phone application.

The Admin population will have the ability to add or alter the handbooks that are stored in the application database. They will also be able to view statistical data about honors students that will be stored in the application. This data will range from the amount of students that are enrolled in a type of honors, to the amount of students that are following a given handbook. The admin side of the application will require a minimal level of skill when it comes to computing.

Computing Environment

The computing environment for this application will include the android system that our application will run on, the internet will be used for the web app that the admin side will run on, and a database that the application will connect too. Android systems will be used to run the front end of the student side of the application, this will be where the students will have all their interactions with the app. The internet functionality is where the admin will be able to update handbooks, and view the statistical data that the application will provide through the database. The database we are creating will hold a student's log-in information and the handbook information that the app will use. The login information will include the student's username, password, E-ID, the handbook year they are following, and the different type of honors that the student is following.

Glossary

Administrator

A staff member of the Honors College who will interact with the administrative side of the developed software to either create and update Handbooks in the system, or view usage and user statistics.

Advisor

A staff member at the Honors College who can meet with Honors Students to help discuss or explain Honors Requirements, course selection, and various other subjects.

Cultural Experience

More formally titled as Honors College Community-Based Intellectual and Cultural Activities, this is one half of the Honor Experiences requirement for University Honors students in certain Handbook years. Examples are detailed in the Handbook and may include options like studying abroad or attending three lectures of a series.

Departmental Honors

A particular Honors designation which is earned by the successful completion of at least 12 hours of Honors credit in the major or minor, including a Senior Thesis or Project. In addition to University Honors, many Honors Students pursue Departmental Honors in more than one major/minor. Successfully pursuing Departmental Honors allows them to maintain Honors privileges throughout years at EMU.

Exit Interview

To be scheduled at least two months prior to a student's graduation date, this interview takes about 30 minutes, and it is important for several reasons: to review transcripts and verify completion of requirements; to make sure the student's name, degree, and Honors graduation status appear correctly on the graduation certificate; to complete needed biographical information for the commencement program; and to fill out an Honors College evaluation.

Handbook

The official document supplied by the Honors College that details the specific requirements for each of the different designations of Honors. A handbook is

released for each school year. An Honors student will follow the handbook of the year they are admitted into the Honors College, or may choose to follow a newer handbook.

Highest Honors

Highest Honors marks the most distinctive recognition of academic excellence in the Honors College. Upon completion of 56 credits, but before exceeding 84 credits, students may apply for Highest Honors. Students must maintain a 3.7 or higher cumulative GPA, and complete many other specific requirements. To apply for Highest Honors, students must have completed or be in the process of completing University Honors and/or Departmental Honors.

Honors College

An institution in which students may apply for to pursue and achieve Honors designation upon completion of necessary requirements and graduation from the University.

Honors Contract

Honors contracts provide an opportunity to earn Honors credit in non-Honors courses and also provide a means to waive certain Honors requirements.

Honors Course

Honors courses are taught as either special sections of regularly scheduled departmental offerings (usually as General Education classes) or as specific courses developed only for Honors students. Honors courses are available only to Honors College members, and enrollment is restricted to 20 students. Any foreign language class that fulfills an EMU General Education requirement can also be counted for University Honors credit, provided a minimum grade of B- is earned.

Honors Credit

Academic credit dignified by the completion of either a special Honors course or a contract with a course grade of B- or better. Honors credit cannot be earned from a class taken pass/fail. If a student is working towards University Honors, some Honors credit must be earned each semester in which a minimum of 12 credit hours is taken. If for two consecutive semesters no Honors credit is earned, Honors membership will be terminated at the end of the second semester.

Honors Director

A staff member of the Honors College whose approval is required for many processes of pursuing an Honors designation.

Honors Experience

Co-curricular activities that broaden the educational experience by encouraging involvement in cultural and intellectual events/activities that promote civic engagement. They are usually a semester-long commitment. There are two types of Honors Experiences: Cultural Experience (Honors College Community-Based Intellectual and Cultural Activities) and Leadership Experience (Leadership and Civic Engagements Activities).

Honors Student

A student that has applied and been admitted into the Honors College and remains in good standing as defined by the Honors College.

Leadership Experience

More formally titled as Leadership and Civic Engagements Activities, this is one half of the Honor Experiences requirement for University Honors students. Examples are detailed in the Handbook and include options like serving as a representative on a campus committee or serving as a New Student Orientation Assistant

Requirement

A line item that must be completed to achieve a particular Honors designation. Requirements may include several sub-requirements or may offer multiple options to satisfy the completion of a requirement.

Star Lecture Series

A particular lecture series in which attendance is required for certain Handbook years. Attendance of additional Star Lectures can also count towards a Honors Student's Cultural Experience requirement, as detailed in certain Handbooks.

Starkweather Hall

The building on Eastern Michigan's campus in which the Honors College is located.

Types of Honors Designations

The Honors College has three primary types of Honors designations a student can pursue: University, Departmental, and Highest Honors.

University Honors

A particular Honors designation which is earned by the successful completion of 24 Honors credits, as well as other requirements. Of these, 18 must be in General Education, 3 must be in the major or minor, and the remaining 3 may be in either General Education or the major/minor. It is common for first-year students entering the Honors College to pursue a University Honors designation.

Non-Functional Requirements

The system should be portable to IOS.

The system should be able to move over to IOS at a later time.

Rationale: In order to reach as many students as possible it is important to have the application available on both Android and IOS platforms.

- 1.1 The system should be well documented.
- 1.2 The system should be abstractly designed.

The system should be easy to use.

The system should have a good flow to it and be intuitive. Help files and the such should not be needed for users to learn how to use the system.

Rationale: Students will not use a phone app that is clunky and takes a lot of time to figure out.

- 2.1 Students will be able to use the application simply by going through the application. They will understand how the application works and be able to navigate and use the application within 5-10 minutes of use.
- 2.2 Staff will understand how to use the admin side of the application just by viewing the options presented to them when they log in. They will understand how the admin side works and be able to navigate and use the application within 10-15 minutes of use.

The system should be secure.

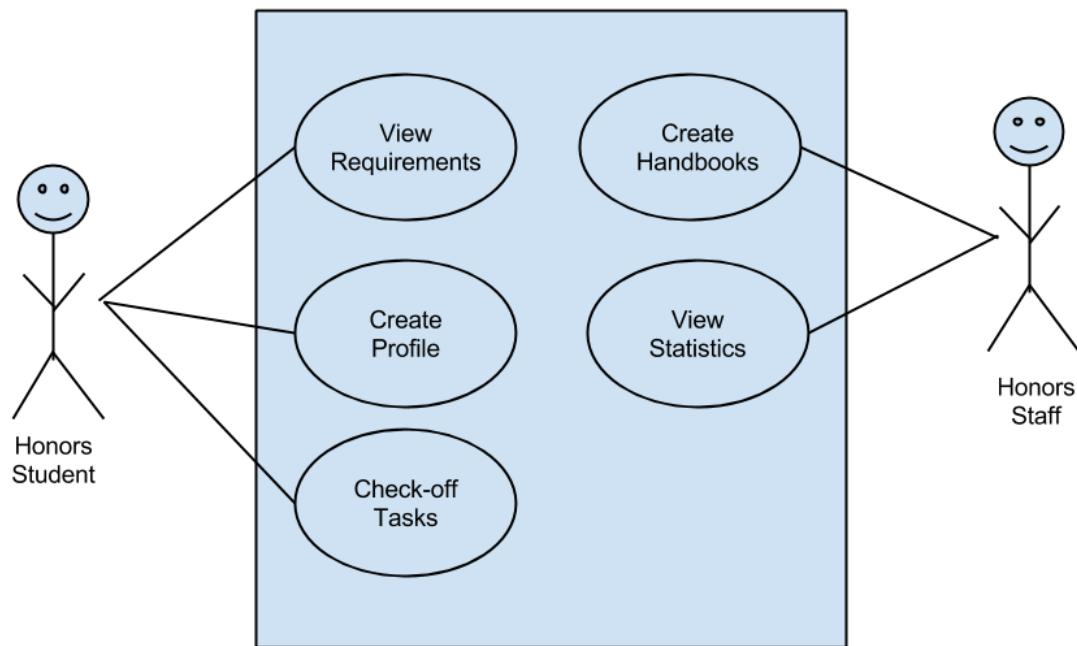
The system should not allow unauthorized users to view the sensitive information being stored.

Rationale: Items such as grades and EID are stored within this system and by law should not be viewed by those who do not have permission to do so and the students the information belongs to.

3.1 The system will require a login from students.

3.2 The system will require a login from staff.

Use Case Diagram



Use Case Specifications

1. View Requirements

Description: The student views completed, in progress, and not started requirements in multiple ways.

Precondition: The student has logged in.

Main flow of events:

1. Student selects which type of honors they wish to view checklist for or chooses to view only in progress requirements.

2. Student selects drop down options to view the individual tasks for each main requirement.

Postcondition: None.

Exceptions:

- 1a. Student has selected the type “Full Honors”.
System notifies student to speak with advisor for more information.

2. *Create Profile*

Description: The student creates a profile to hold their information and allow them to log in.

Precondition: None.

Main flow of events:

1. Student enters a username and password.
2. Student enters their EID.
3. Student enters their name.
4. Student selects the type(s) of honors they are pursuing.
5. Student selects which handbook they will be following.
6. Student enters their expected graduation date.
7. Student enters their major/minor.
8. Student submits profile information.

Postcondition: Student may change the type of honors, handbook, graduation date, and major/minor once the profile is created.

Exceptions:

- 1a. Username already exists.
System notifies student and prompts for new username.
- 8a. Student has not completed the full form.
System notifies student of missing information.

3. *Check-off Tasks*

Description: The student can check-off individual tasks for each major requirement under each type of honors.

Precondition: The student has logged in.

Main flow of events:

1. Student selects which checklist they would like to update.
2. Student chooses which task to complete and enters requested information about task.

Postcondition: Student may edit finished tasks and remove them.

Exceptions:

- 2a. Student completes task but requirement is not fully complete.
System notifies student of next task.

4. *Create Handbooks*

Description: Staff creates new handbooks for students to follow.

Precondition: Staff has logged in.

Main flow of events:

1. Staff selects older handbook to edit.
2. Staff adds/deletes requirements.
3. Staff saves the new handbook.

Postcondition: Staff may edit the handbook at a later time.

Exceptions:

- 3a. Staff does not enter all required information for a requirement.
System notifies staff.

5. View Statistics

Description: Staff searches for information about the self-reported information students provide.

Precondition: Staff has logged in.

Main flow of events:

1. Staff chooses which information to search for.
2. Staff runs the query.

Postcondition: None.

Exceptions: None.

Functional Requirements

Profile Creation

A new student user should be able to create a new profile.

Rationale: A profile is needed to securely interact with database information.

1.1 The system will have a form to enter information.

1.2 Information is stored in the database.

1.3 The system will validate user entered information.

Update Profile

A student user is able to change and update their registered personal information.

Rationale: A student's personal information may change over the course of use of this system, the stored personal information needs to be able to reflect those changes.

2.1 The system will allow the user to view the currently entered personal information.

2.2 The system will give the user a form to edit personal information.

2.3 Changes made from the currently updating student will be stored in the database.

Requirements Coaching

The student user should be prompted with coaching steps upon checking off a requirement.

Rationale: To help students understand the steps necessary to complete a requirement, and help guide them through the process.

- 3.1 The system should prompt the user with the appropriate coaching step when the user attempts to mark off a requirement.
- 3.2 The system to continue to prompt the user as coaching steps are completed until all coaching steps for a requirement are complete.
- 3.3 The system should provide the user with a way to mark a step as completed or incomplete.

View In-Progress Requirements

The student user should be able to view their in-progress requirements separately from the checklist.

Rationale: To provide a clear location for users to view their in-progress requirements.

- 4.1 The system should have a separate screen that lists the current in-progress requirements.
- 4.2 The system should allow users to view the progress of a particular requirement that is marked as in-progress.
- 4.3 The user should be able to complete a requirement from the In-Progress Requirements screen.

View Expanded Requirements

The student user should have the ability to view each sub-requirement needed to complete a given requirement, if the user desires.

Rationale: To keep the system clean for student users, the requirements are kept to a minimum size as a default; the full detail is available to the user upon request.

- 5.1 When the user clicks on a specific requirement, the system will display each sub-requirement as a dropdown list from below.
- 5.2 When the requirement is selected again, the system will hide the dropdown list.

View Requirement Description

The student should be able to view the handbook definition of a requirement.

Rationale: To give the students access to viewing the official handbook definition of a given requirement to limit potential confusion and ambiguity.

- 6.1 The full description will be displayed in a popup by clicking on a question mark by the requirement name.

View Honors' Checklist

The user should be able to view each type of honors' checklist individually.

Rationale: To provide a clear definition between different types of honors that a user is following.

7.1 The system should have different windows for each type of honors' a user is following.

7.2 The system should allow users to check off items on each individual checklist.

Completion States for Requirements

The student user should be able to easily differentiate between completed, in-progress, and not started requirements.

Rationale: By doing this we provide a clear definition of where the student stands on their way to completing their honors requirements.

8.1 Completed requirements will be green, in-progress requirements will be yellow, and requirements not yet started will be black.

8.2 The system should have clear difference between the different types of colors used.

8.3 The colors should change when a requirement is changed from not started to in progress, and from in progress to complete.

8.4 The requirements that are located on the in progress page will also be colored yellow.

Create Handbook

The admin will be able to create new handbooks that include default choices for the student to check off. Default choices include commonly completed requirements for a particular type of honors.

Rationale: There may be new/altered requirements for a new years' handbook.

9.1 The system will be able to import a previous handbook and edit requirements to reflect the new year; quantitative requirement changes will be altered this way.

9.2 The system will be able to handle newly introduced qualitative requirements.

9.2 The system will be able to introduce new "coaching prompts" matching the new requirements.

Student Statistics

The admin will be able search for information being documented by students.

Rationale: The admin would like to view certain statistics about the student population.

10.1 The system will be able to search the database for the number of students following a particular handbook year.

10.2 Search for the number of students pursuing a particular type of honors being pursued.

10.3 Search for the number of students declaring a particular major/minor.

Walkthrough

Honors Student

1. Create Profile - When you create a profile, you will be giving the following information:
 - a. username and password
 - b. EID
 - c. email
 - d. name
 - e. expected graduation date
 - f. handbook followed
 - g. type of honors pursued
2. Select a checklist to view. Possible options below:
 - a. University Honors
 - b. Departmental Honors
 - c. Highest Honors
 - d. In Progress
3. Press the arrow to show a drop down list of detailed steps for each requirement.
4. When you complete a task in a requirement you will be alerted of the next steps and the requirement you've started will be added to your "In Progress" page.

Honors Staff

1. Login with provided username and password.
2. If you wish to edit/create new handbooks:
 - a. Select the option to either create new handbook or edit an old handbook.
 - b. Edit as needed.
 - c. Save the handbook.

3. If you wish to view student information:
 - a. Select the information you would like to search for.
 - b. Run the search.

FAQ

Q: What do I do if I forget my Password?

A: Click the Forgot Password link on the login screen.

Q: How do I turn off/on notifications?

A: Go to the settings button and edit notification settings.

Q: How do I change what Honors type and/or year?

A: Go to the settings button and edit user profile.

Q: Is this app available on iOS or the Web?

A: No this app is currently only available on Android platforms, though future support for other platforms are planned.

Q: Can I use this app on my Tablet?

A: Yes, Android tablets only.

Q: Does the college recognize this app to be official?

A: No, this is a self reporting checklist designed to assist students in understanding requirements.

Q: Will the system save my information if I get a new phone?

A: Yes, just use your initial login username and password.

Q: Where do I get the app?

A: It is currently available in the Google Play Store.

Estimated Size of Program

This system is composed of two distinct programs for the different types of users to interact with: a mobile application for the student users to interact with the stored data and be coached through the process of graduating with Honors and a web-based application for the Honors staff to input and update the requirements.

The mobile application will have a number of activities and screens; editing notification settings, updating profile information, viewing handbook, viewing checklist, logging in, and creating a user account are all modules that will need to be created. Each of those modules will need an xml make-file, the java code for the UI, the JDBC code to interact with the database, and any image or sound files associated with the particular module. Outside of the individual modules, the application itself needs an xml file to prepare resources for loading and a main activity that maintains control of which activity is currently active.

Android application files have a size limit of 50 mb (extended Android applications have a file size limit of 4 gb), we expect our .apk to be under 10 mb.

The web-based application will be much smaller as it only exists for Honors staff to input new requirements and view statistics about the student population. There will be only four accessible .html pages for the admin interface: log in page, add new handbook page, update existing handbook page, and view statistics page. Although there will be only four front facing webpages, there will be numerous back end pages for data validation, database communication, website security, webpage generation, website styling, and resource manipulation.

Prototype Screen Captures

EMU Honors

Login

Username:

Password:

EMU Honors

Forgot Password?

Email:

EMU Honors

Thank you!

Your password has been sent to your email!

EMU Honors

University Honors

- ▶ Honors Credits 18/24
- ▶ Honors Experiences 1/2
- Community Service 30/40
- ▶ Star Lecture Series
- Research Workshop

EMU Honors

University Honors

- ▼ Honors Credits 18/24
 - General Education 12/18
 - Interdisciplinary 0/3
 - Major/Minor 3/3
- ▼ Honors Experiences 1/2
 - Cultural
 - Leadership
- Community Service 30/40
- ▶ Star Lecture Series
 - Attend Star Lectures 0/3
 - Reflection Paper
- Research Workshop

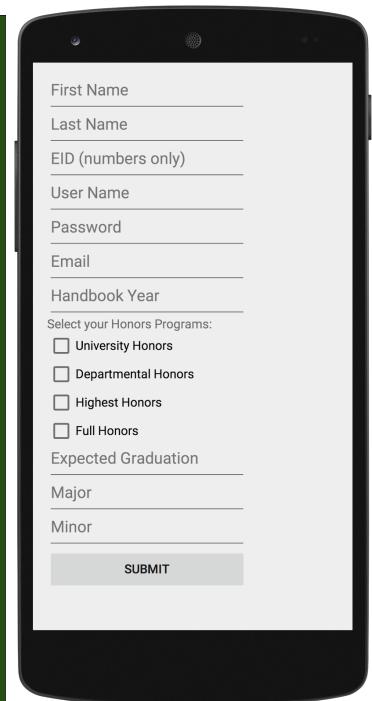
EMU Honors

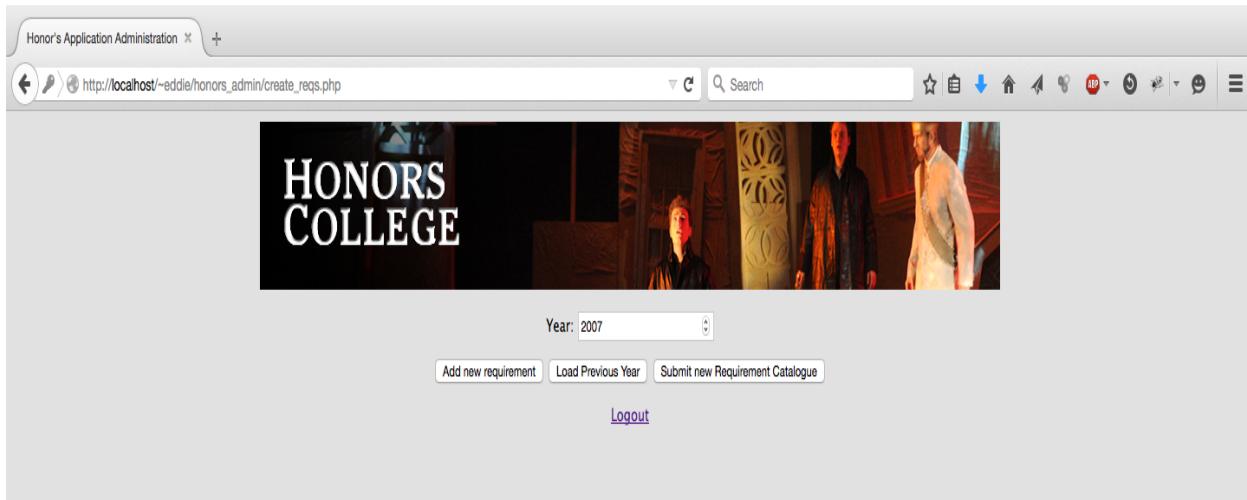
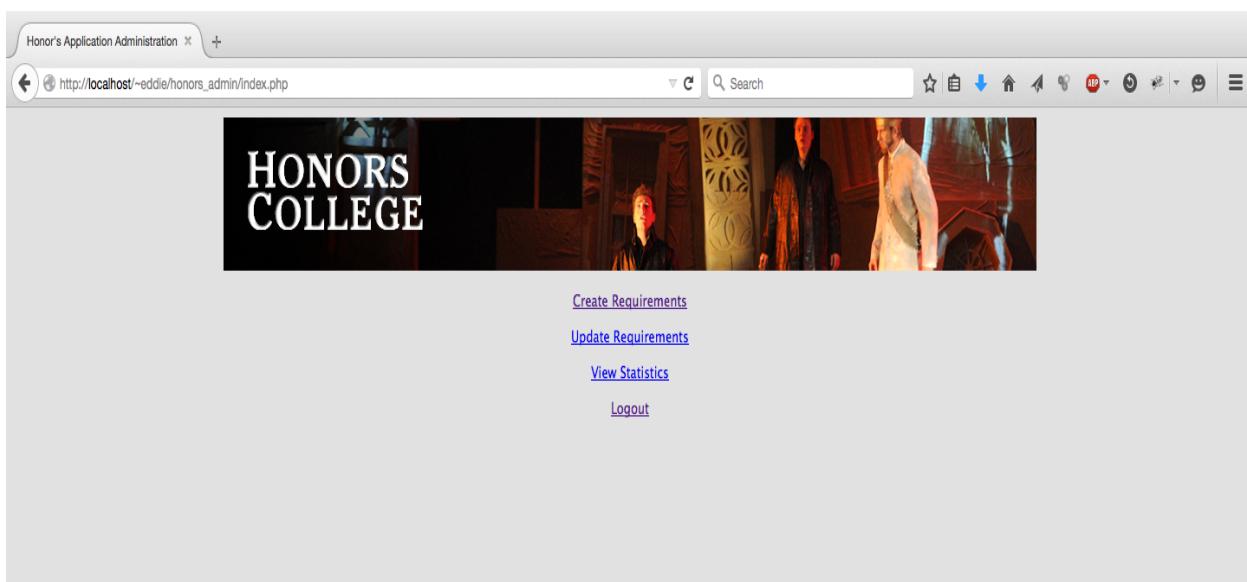
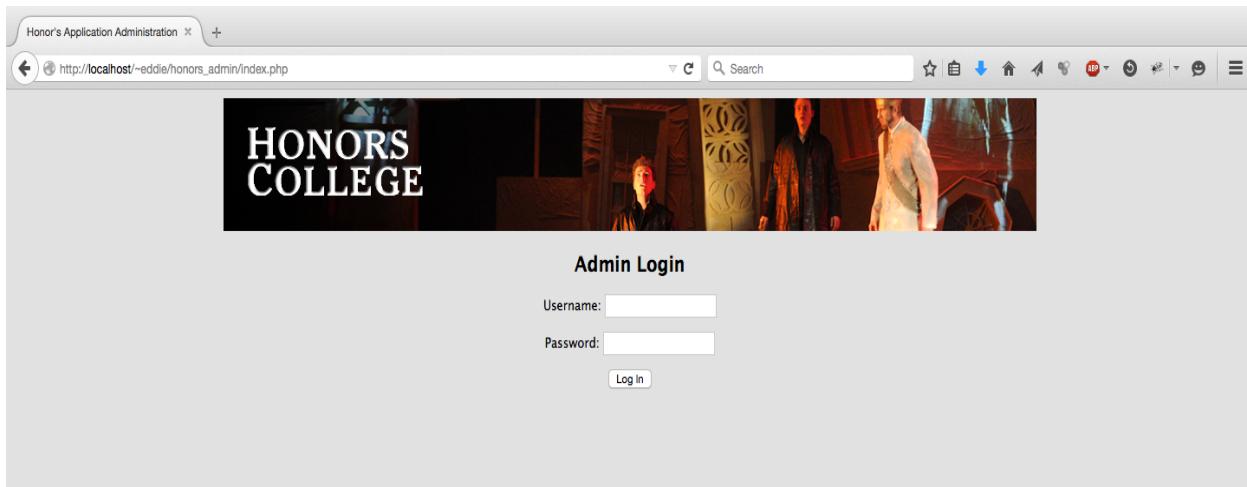
University Honors

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 - General Education 12/18
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- ▶ Honors Experiences 1/2
- Community Service 30/40
- ▼ Star Lecture Series
 - Attend Star Lectures 0/3
 - Reflection Paper
- Research Workshop

EMU Honors			
University Honors			
▼ Honors Credits	18/24	<input checked="" type="checkbox"/>	
◦ General Education	12/18	<input checked="" type="checkbox"/>	
■ Interdisciplinary	0/3	<input type="checkbox"/>	
◦ Major/Minor	3/3	<input checked="" type="checkbox"/>	
► Honors Experiences	1/2	<input checked="" type="checkbox"/>	
• Community Service	30/40	<input checked="" type="checkbox"/>	
► Star Lecture Series	0/3	<input type="checkbox"/>	
• Research Workshop		<input checked="" type="checkbox"/>	
► Honors Credits	18/24	<input checked="" type="checkbox"/>	
▼ Honors Experiences	1/2	<input checked="" type="checkbox"/>	
◦ Cultural		<input checked="" type="checkbox"/>	
◦ Leadership		<input type="checkbox"/>	
• Community Service	30/40	<input checked="" type="checkbox"/>	
▼ Star Lecture Series	0/3	<input type="checkbox"/>	
◦ Attend Star Lectures	0/3	<input type="checkbox"/>	
◦ Reflection Paper		<input type="checkbox"/>	
• Research Workshop		<input checked="" type="checkbox"/>	

EMU Honors			
University Honors			
► Honors Credits	18/24	<input checked="" type="checkbox"/>	
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• Community Service	30/40	<input checked="" type="checkbox"/>	
▼ Star Lecture Series	0/3	<input type="checkbox"/>	
◦ Attend Star Lectures	0/3	<input type="checkbox"/>	
◦ Reflection Paper		<input type="checkbox"/>	
• Research Workshop		<input checked="" type="checkbox"/>	





Honor's Application Administration

http://localhost/~eddie/honors_admin/create_reqs.php

Search

Year: 2010

Requirement Number 1:
Name: Star Lecture Series Number Needed: 3

Requirement Number 2:
Name: Honors Credits Number Needed: 24

Requirement Number 3:
Name: Study Abroad Number Needed: 1

Requirement Number 4:
Name: Exit Interview Number Needed: 1

Add new requirement Load Previous Year Submit new Requirement Catalogue Logout



Honor's Application Administration

http://localhost/~eddie/honors_admin/stats.php

Search

Display Statistics

Year Following	Num Students
2015	5983
2016	23
2017	512
2018	466

Type of Honors Num Students

University	116
Departmental	2
Highest	34
Full	2103

By Major:

Computer Science - Applied Num Students: 3054



Client Validation

- I certify that I have read this document in its entirety.
- I certify that I am satisfied with the description of the services to be provided.
- I certify that I wish for the project to be implemented as described in this document.
- I certify that the requirements presented in this document are tentative and may be subject to change due to potential scheduling constraints.

Comments:

Name: _____
Signature: _____

Date: _____

Witnesses:

Name: _____
Signature: _____

Name: _____
Signature: _____