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| GAME3011 – Advanced Game Programming  Assignment 2 |

**Assignment 2: Lockpicking/hacking System (Due Sat, March 28 at 11:59pm)**

Even before a job applicant gets invited to a company for an interview or written exam, an applicant may be required to create a program or simple game in a short amount of time. While you are certainly getting more time than an applicant would (three weeks vs. 48 hrs perhaps), you will have to include all criteria in a short time frame.

For this assignment, you will be able to use your creativity more so than the last assignment as you are required to create the functionality for a prototypical lockpicking system. You are able to create a system for any era, be it medieval or futuristic and for lockpicking/hacking into any object or your choosing such as a door or chest. While the theme is open to you, the following criteria MUST be included in whatever prototype you create:

1. The goal of this system will be to allow the player to bypass the locking mechanism of some container or door using some type of minigame.
2. The details of this minigame will be completely up to you but the following MUST be included as inputs into the system:
   1. A difficulty/complexity level of the lock. Some examples are:
      1. Easy, medium and hard levels - but maybe more.
      2. A percentage of success.
   2. Tying into the above, the player will have some Lockpicking/Hacking skill that will somehow factor into a successful pick/hack.
      1. It will be up to you to come up with the details of this skill, as well as how it will tie into the lock complexity.
   3. A time limit to complete the pick or hack based on its difficulty.
3. In the design on the system itself, you will need to utilize these inputs but you should also test the hand-eye coordination of the player in some way. For example:
   1. Using both the mouse and keyboard at once to pick a modern or medieval lock.
   2. Click a node at the correct time.
   3. Listening for audio cues (time-permitting).
4. You are able to choose any platform/engine and it can be in 2D or 3D.
5. For the platform/engine itself, the only scene you need is the screen that would appear when the lockpicking/hacking minigame starts. So assume a different screen (2D or 3D) would appear that is different from the main gameplay.
6. For this minigame, you need only include proxy art but all the mechanics should function.
   1. You may also want to convey the complexity of the lock to the player in some way. You could include HUD elements for such or include it on the system.
   2. While I DID mention proxy art, if you were trying to pick a mechanical lock, the older the lock appears, the easier it could be to pick. You could just convey this in your mini design document, explained below.
7. Along with your system, you will need to submit a SHORT design document explaining your system and how you utilize the inputs and criteria.

**Marking Scheme: 20% of course grade**

The marking scheme will be as follows:

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| **Task** | **Possible**  **Marks** | **Description** |
| Difficulty Input | 4 | Your system contains different levels of difficulty/complexity |
| Skill Input | 4 | Your system has accounted for and utilized the player’s skill |
| Time Limit | 4 | Your system features a time limit for successful completion |
| Mini-game Scene | 4 | You’ve setup your minigame in your chosen platform and the player is able to interact with it effectively |
| Design Doc. | 4 | You’ve include a brief design document wherein you explain your system clearly and effectively |
| Total: | **20** |  |

Submission:

Filenames: GAME3011\_A2\_YourLastnameYourFirstname.zip

Subject Line: GAME3011\_A2

Submit Project on Blackboard  
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