

7 Assignment (10+2 Points)

Hinweis: Abgabe in {2, 3, 4}-er Gruppen.
Abgabe: 10.06.2017, 23.59
Email: Betreff "[Compsec] Ex7"
 (bitte nur .pdf oder .txt, kein .doc, .jpeg, etc)
 Source code: bitte inkl. signify Signatur

Exercise 21 (Real world access control matrix (3 Points)).

Consider the following file listing (left) taken from a Linux file system and a corresponding groups file (right).

drwxr-xr-x	alice	users	.	f	*:1000:frank
drwxr-xr-x	alice	users	..	bfct	*:1001:bob,frank,carl,tim
-rwxr--r--	alice	f	A	c	*:1002:carl
-rwxrw----	alice	bfct	B	ct	*:1003:carl,tim
-rwxr-----	frank	c	C	at	*:1004:alice,tim
-rw-r-----	bob	ct	D	other	*:99:
-r-xr-x---	tim	at	E		
-r-----r--	carl	c	F		

Model the permissions indicated by this file listing in an access control matrix using the following access rights:

$own \in P[S, O] \Rightarrow$ subject S owns object O .

$read \in P[S, O] \Rightarrow$ subject S may read object O .

$write \in P[S, O] \Rightarrow$ subject S may write object O .

$exec \in P[S, O] \Rightarrow$ subject S may exec object O .

$inh \in P[S, S'] \Rightarrow$ subject S inherits all rights from subject S' .

Solution:

	A	B	C	D	E	F	f	bfct	c	ct	at	other
Alice	<i>orwx</i>	<i>orwx</i>									<i>i</i>	<i>i</i>
Bob				<i>orw</i>				<i>i</i>				<i>i</i>
Frank			<i>orwx</i>					<i>i</i>				<i>i</i>
Carl						<i>or</i>		<i>i</i>	<i>i</i>	<i>i</i>		<i>i</i>
Tim					<i>orx</i>			<i>i</i>		<i>i</i>	<i>i</i>	<i>i</i>
other	<i>r</i>					<i>r</i>						
f	<i>r</i>											
bfct		<i>rw</i>										
c			<i>r</i>									
ct				<i>r</i>								
at					<i>rx</i>							